

Handbook of Broadcasting

Here is a thorough revision and expansion of this very successful text. Approximately three-quarters of the book is new, and all recent developments in radio as well as extensive material on television, FM, and facsimile are included. Designed to give information concerning every field of broadcasting, the text tells how various duties are performed, including every activity in a radio station from announcing to production, from writing to technical operation. The treatment is factual and unusually comprehensive.

Special Features:

- pictures of all types of broadcasting microphones
- complete treatment of all types on programming
- microphone setups for AM, FM, and TV
- instructions for the announcer, the speaker, the actor, the producer, and the writer for both radio and TV
- four outstanding specimen scripts
- chapters on the business side of radio
- instructions in disc and tape recording
- chapters on radio news and sports-casting; radio law—the FCC, libel, and copyrights; and radio as a vocation

In effect a completely new text, the third edition of *Handbook of Broadcasting* reflects the instructive viewpoint of the teacher and the professional experience of the station manager.

NEW THIRD EDITION

Handbook of

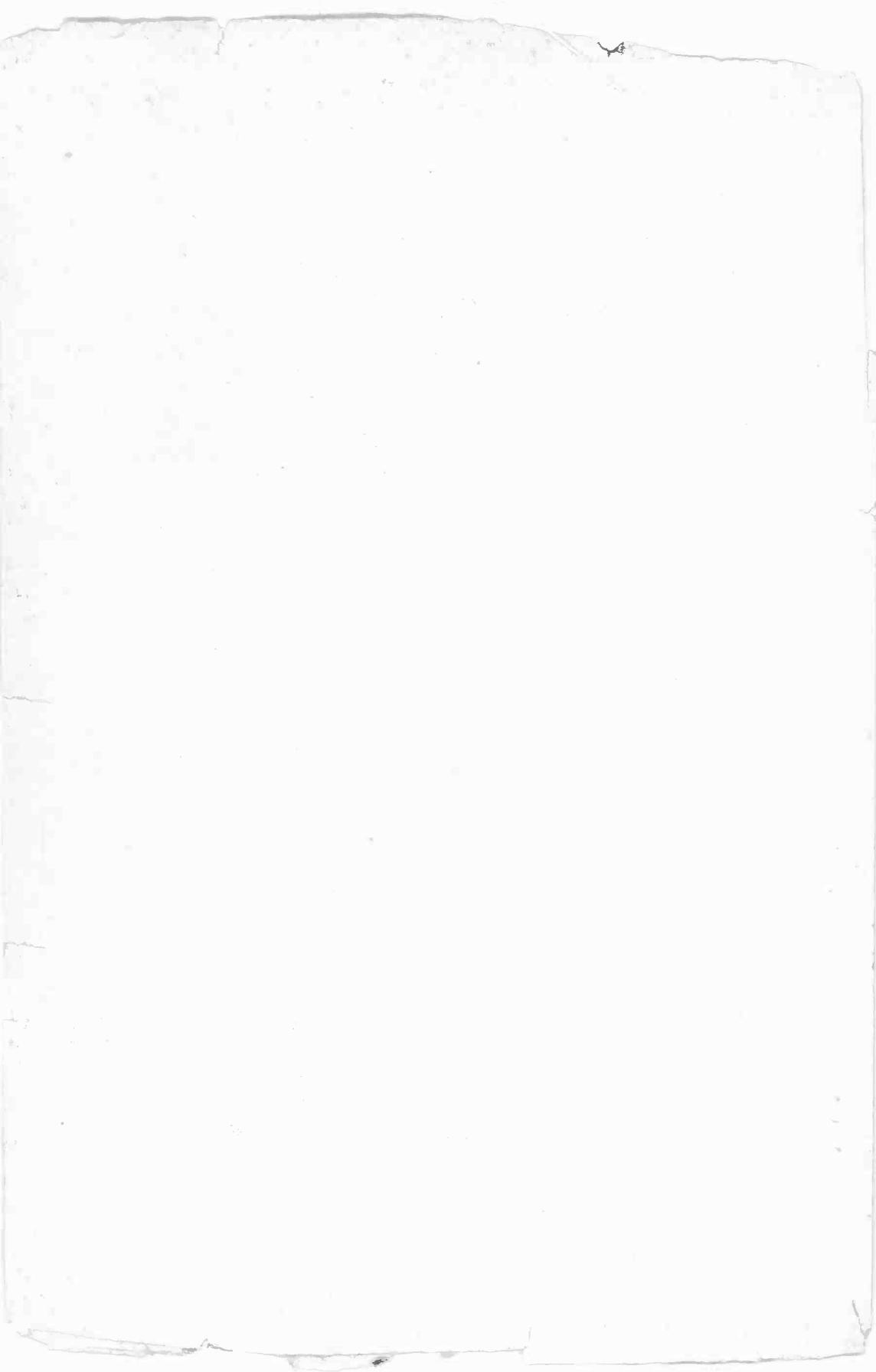
BROADCASTING

The Fundamentals of
AM, FM, FAX, and TV

Waldo Abbot

Associate Professor of Speech and Director
of Broadcasting, Manager, Station WUOM,
University of Michigan; Associate Editor
(Radio), *The Quarterly Journal of Speech*

MCGRAW-HILL BOOK COMPANY



HANDBOOK OF BROADCASTING

The Fundamentals of AM, FM, FAX, and TV

WALDO ABBOT

*Associate Professor of Speech and Director of Broadcasting,
Manager, Station WUOM, University of Michigan*

THIRD EDITION

NEW YORK TORONTO LONDON
McGRAW-HILL BOOK COMPANY, INC.

1950

HANDBOOK OF BROADCASTING

Copyright, 1937, 1941, 1950, by the McGraw-Hill Book Company, Inc. Printed in the United States of America. All rights reserved. This book, or parts thereof, may not be reproduced in any form without permission of the publishers.

PREFACE TO THE THIRD EDITION

Broadcasting is a profession made up of many specialized fields, and universities and colleges offer courses in as many as twenty-five of these. Any student who hopes to succeed in any one broadcasting field must have a thorough knowledge of the medium itself. The purpose of this text is to give that background in all the fundamentals of broadcasting. When the student has a basic knowledge of every activity in a broadcasting station from announcing to producing, from writing to the technical operation, he will select a specialized course for which there are many excellent textbooks listed herein. While I have endeavored to condense information concerning all the specialized fields into this text, I recognize the impossibility of giving comprehensive information concerning each field in one volume. The inclusion of basic material in all specialized fields resulted in the elimination of all editorializing or evaluating of broadcasting and its impact upon the audience.

When the second edition was printed, "radio" and "amplitude modulation" were synonymous. As the third edition goes to print there are many forms of broadcasting—amplitude modulation, wired, wireless, frequency modulation, transit radio, low power, television, closed circuit, color television, facsimile, and audio-fax. All of these offer a future vocation for the student. He is introduced to each in this third edition of the *Handbook*.

The AM techniques of speech, writing, and production have expanded and have been revised for frequency modulation and for television. New ideas and methods for advertising have been evolved for these new media. New equipment has been developed for the studio and for sound recording. Vocational opportunities are greater with increased salaries. Even the language of broadcasting has changed. Information concerning all of these developments is included and illustrated in the third edition.

The *Handbook* is used not only in classrooms but also in radio and television stations, advertising agencies, and newspaper offices. It is surprising to me how many copies go to foreign countries. Every effort has been made to write for the layman so that he who desires to be informed concerning the fourth largest industry in the nation will understand how programs are built and broadcast.

Many manufacturers have furnished the *Handbook* with up-to-the-minute photographs and specifications. *The New York Times* and Zenith Radio have given valuable assistance. Professional broadcasters have

criticized and corrected the copy in their respective fields. I also wish to express my appreciation to George Jennings, Director of the Chicago Radio Council (Station WBEZ), and Edwin F. Helman, Director of Radio, Board of Education, Cleveland (Station WBOE), who provided teachers' manuals and scripts for school broadcasting. Earl English, Associate Dean of the School of Journalism, University of Missouri, gave me excellent advice on facsimile. Dick Hull, Director of WOI, Iowa State College, described the first educational TV station. Material and a picture of the Chicago Round Table were generously provided by George Probst, Director of Radio for The University of Chicago. William McCall, of Radio Specialties, contributed from his research to the material on tape recording. Instructors and students in over fifty universities and colleges who used the second edition guided the revision and enlargement of the third edition. Mary Bell, a former student and now recording engineer for NBC, wrote a most comprehensive discussion of disc and tape recording. I have used but a small part of her article, and I hope that she will publish the entire article as a separate book. It would be most valuable to those who record. Members of my own WUOM staff have been consulted and have responded generously.

"The Goldbergs" was released for use in the *Handbook* by the author, Gertrude Berg, and Young & Rubicam. "CBS Is There" is included with the permission of the Columbia Broadcasting System and the author, Robert Lewis Shayon, who also wrote the foreword to the script. Permission to print the "Lone Ranger" script was granted by the Trendle-Campbell Enterprises and the author, Fran Striker. From the work of my own staff at WUOM was selected "Path of Glory," with the permission of the author, William Bender, Jr. William Stegath, Teaching Fellow in Speech at the University of Michigan, provided valuable information concerning FM technique.

The *Handbook* is based upon twenty-five years of experience in presenting programs over commercial stations and thirteen years of teaching radio. I have been very fortunate in having loyal and excellent students who now after graduation are in stations, networks, and agencies, and who have given of their experiences and observations to make the *Handbook* more valuable to their successors in the classroom.

WALDO ABBOT

ANN ARBOR, MICH.
October, 1950

PREFACE TO THE FIRST EDITION

This handbook is designed as a guide for teachers and students of broadcasting, for those listeners who are interested in learning how programs are planned and presented, and for those who may be called upon at some time to speak to "Mike." It is not a text in speech, English composition, education, or journalism, although all these subjects and others are considered in their relation to broadcasting. In some fields the information contained herein is purely introductory, for such topics in radio as education, advertising, and law are too extensive to discuss completely in the limited space allowance of a handbook. While I feel positive that the facts necessary to the student in broadcasting are contained in the following pages, broadcasting itself cannot be taught by textbook, correspondence school, or lecture methods. Microphone experience, either over public-address equipment or in actual broadcasting, is essential.

The most general criticism offered by my students, on whom this text was tried out in mimeographed form, was that it contains too many facts and too little humor. Possibly these eleven years of introducing educational programs have eliminated any tendency upon my part to be frivolous. I have read a talk for an absent speaker on "How It Feels to Be a Mother." I have taken the part of a moral degenerate in an interview with a psychiatrist. I have stood ready to read a dignified introduction of a former president of the University, who was publicly interested in birth control, only to hear the student orchestra, which preceded him, unwittingly blare forth the selection "Whose Baby Are You?" I have struggled to introduce in a conversational style the Curator of Lepidoptera of the Insect Division of the Museum of Zoology, and the Curator of Phanerogams of Basidiomycetes of the University Herbarium. I hope that the students who plod through this book will understand my resultant seriousness.

WALDO ABBOT

ANN ARBOR, MICH.
May, 1937

CONTENTS

PREFACE TO THE THIRD EDITION	v
PREFACE TO THE FIRST EDITION	vii
CHAPTER I. FUNDAMENTALS OF RADIO—AMPLITUDE MODULATION	1
Remote and studio origination—Microphones—Control console—Telephone radio lines—Antennas—Transmitter—Carrier wave—Ground and sky waves—Clear, regional, and local channels—Station coverage—Interference—Reception—Route of program—Radio vs. TV—Wired radio.	
CHAPTER II. FUNDAMENTALS OF RADIO—VERY HIGH FREQUENCIES	22
Frequency modulation—Low powered stations—Television—Closed-circuit TV—Color television—Facsimile.	
CHAPTER III. PROGRAMMING	46
Morning, afternoon, and evening programs—General requirements—Popularity of programs—TV programming—Mass or selected audience—Local features—Special-day programs—Filling time.	
CHAPTER IV. RADIO ANNOUNCING	59
Microphone position.	
CHAPTER V. RADIO SPEAKING	70
Basic problems—Style of delivery—Breathing—Position before microphone—Pitch and volume—Speed of delivery—The manuscript.	
CHAPTER VI. RADIO PRONUNCIATION	80
Drills—Classical music—Foreign names in the news—Regional dialects—Music pronunciation guides.	
CHAPTER VII. ARTICULATION, INTONATION, RHYTHM	89
CHAPTER VIII. NEWS PROGRAMS	94
CHAPTER IX. SPORTS PROGRAMS	108
The sports announcer.	
CHAPTER X. UNWRITTEN TALK PROGRAMS	116
Public events; special features—Round table—Radio interviews.	
CHAPTER XI. PREPARING THE RADIO ADDRESS	126
Vocabulary—Sentences.	

CHAPTER XII. RADIO IN THE PUBLIC SERVICE	134
Local community service—Medical and health programs—Serving the farmer—Religious broadcasts—Parent-teacher programs—Politics and government—Law enforcement programs.	
CHAPTER XIII. MUSICAL MIKE	148
Radio singing—Microphone position; amplitude modulation; frequency modulation—Vocal training—Instrumental set-up; amplitude modulation; frequency modulation—Music on TV.	
CHAPTER XIV. THE PREPARATION OF CHILDREN'S PROGRAMS	158
Writing for children—Educational programs—Program requisites—Stage plays adaptable for radio use (for children, grades I-VI)—Poetry programs for children—Performers for children's programs—TV for children.	
CHAPTER XV. BROADCASTS TO SCHOOLS	168
Program types—Preparing the program—Listener participation—Music instruction—Vocational guidance—Elementary science—Teaching history—Civics—Geography—Speech—Other radio classes—Teachers' guides—Teacher training—Visual aids by TV.	
CHAPTER XVI. WRITING THE RADIO PLAY	194
Plot—Announcer or narrator—The beginning—Characters—Dialogue—Effects—Production—Good taste—Manuscript—Adaptations—Submitting manuscripts—Dramatic writing for television.	
CHAPTER XVII. WRITING THE RADIO SERIAL	212
The adult serial—Juvenile serial.	
CHAPTER XVIII. DIRECTING THE RADIO PLAY AND THE ACTOR	221
Studying the script—Selecting the cast—Rehearsing the play—Studio audiences—The radio actor—Ability to read lines—Voice—Stage diction; radio speech—Acting—Microphone position.	
CHAPTER XIX. TELEVISION PRODUCTION	237
The TV actor.	
CHAPTER XX. SOUND EFFECTS	247
Manual sound effects.	
CHAPTER XXI. RADIO HUMOR	268
CHAPTER XXII. THE BUSINESS OF RADIO AND TV ADVERTISING	273
Service of the agency—Radio-time salesman—Television commercial.	
CHAPTER XXIII. WRITING COMMERCIAL CONTINUITY	285
Subject matter—Style-dramatized commercials—Length—Sentence structure—Rhetoric—Contests, give-away offers—Commercial announcements, F.C.C. regulations.	

CONTENTS	xi
CHAPTER XXIV. THE MAKING OF A RECORDING	302
Disc recording—Inside-out vs. outside-in—Cutting styli—Microscope— Reproducer—Recording techniques—Tape recording—Transcribed pro- grams.	
CHAPTER XXV. STATION PAPER WORK	317
Program and production forms, records, logs—Engineering forms, records, logs.	
CHAPTER XXVI. THE LAW AS IT AFFECTS BROADCASTING	327
Radio libel—Music—Copyrights.	
CHAPTER XXVII. RADIO AS A VOCATION	353
Studio staff—Announcer—Auditions—Radio writers—Musical staff—Pro- ducer—Actor—Technical staff—Advertising or sales department—Publicity —Staff turnover—Women in radio.	
GLOSSARY	373
Signals—Basic studio expressions—Abbreviations.	
SUGGESTED CLASS PROJECTS	383
I. Scrapbook—Periodicals.	383
II. Wired wireless or gas-pipe station	385
III. Visual aids	389
IV. Auditions—Announcers	391
V. Auditions—Actors	396
VI. Recreational reading with radio background	408
SUGGESTED CLASS ASSIGNMENTS	409
SPECIMEN PROFESSIONAL SCRIPTS	425
I. "CBS Is There"—Lincoln's assassination	425
II. "The Goldbergs"	438
III. "Path of Glory"	450
IV. "The Lone Ranger"	464
INDEX	481

FUNDAMENTALS OF RADIO— AMPLITUDE MODULATION

This handbook is intended for the student of broadcasting, not for the radio technician. That field of instruction is in the capable hands of the physicists and electrical engineers. Even a broadcaster, however, should know something of the medium that makes his profession possible. Let us trace the speech of an announcer from him to his listener.

Remote Origination

The announcer will either be broadcasting a special-event program (which is called a "remote") from a dance hall, an athletic field, a church, or some other location where the event is taking place, or he will be speaking from a studio located in the broadcasting station. If the program is a remote-control program, various acoustic problems will arise. There may be an excessive period of reverberation or an echo, or there may be a great deal of background noise. If he is broadcasting from a studio, the faults which are apparent in the remote-control broadcast have been corrected by acoustic engineers.

Studio Origination

When sounds are generated in an enclosure such as a room or a studio, the impulse that reaches the ear of the listener in the room comes from several places. Some of it comes directly from the source (50 per cent or less, depending upon the distance), the source in this instance being the announcer's vocal chords. Some comes from the ceiling, the side walls, and the floor by one or more reflections from these surfaces. In a hard-plastered room, where sound waves can reflect several times without being appreciably absorbed, a note may persist from 5 to 6 seconds after it has been sounded. A condition such as this, which engineers call "liveness," is intolerable in the majority of instances for broadcasting, and even conversation is difficult in such a room. To remedy this condition, sound-absorbing materials are placed on the surface of the room. There are

various materials and methods for acoustically treating such studios. In many new studios additional deadening has been effected by the elimination of flat surfaces upon the walls and ceiling. A "saw-toothed" or parabolic (Fig. 1) wall breaks up the sound waves reflected from it and helps further to diffuse the waves throughout the room. In other studios

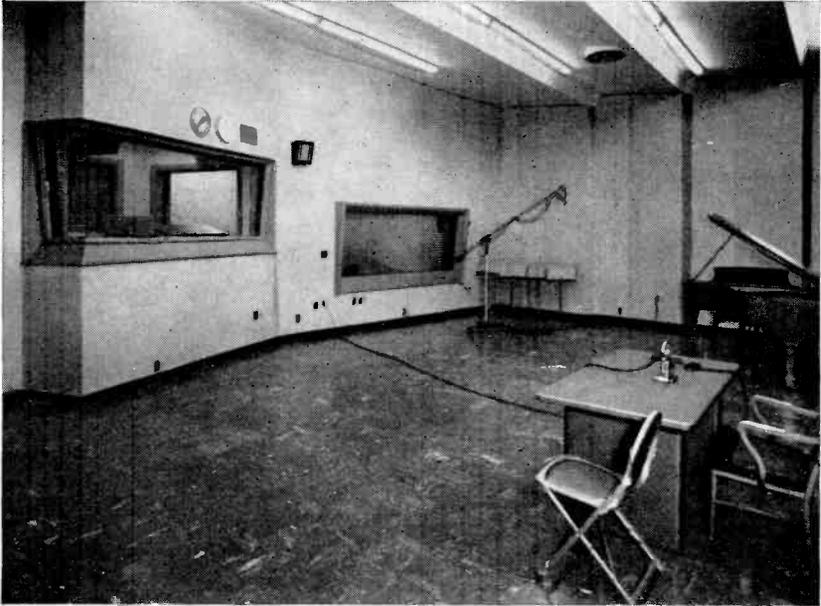


FIG. 1. Studio C-WUOM. This studio has two saw-tooth walls, the third (not shown) is parabolic. The fourth wall is angled to avoid having it parallel with the opposite wall. The control room is raised above the level of the studio so that announcers or actors will not obstruct the view of the control operator. The double glass in the window is tilted toward the floor. The two panes of glass are of different thicknesses to avoid vibration. A boom mike stand is seen in the background. (*University of Michigan.*)

the side walls are hung at an angle, slanting gradually from the floor to the ceiling.

It has been found that the most desirable period of reverberation for a radio studio is from 0.8 to 1.2 seconds. When the reverberation period is greater than this, the studio is "live" and sounds persist too long. When it is less than this, the studio is "dead" and sounds die out too soon. Singers complain that their voices seem to go into the "dead" room and do not come back. In order to create certain effects, studios are now being built with "live ends" and "dead ends." One student in an examination stated that the "live end" was where students were presenting a play—the

“dead end” held the faculty speaker. The live end is one in which the walls are hard-surfaced and flat, built for the purpose of reflecting sounds. The deliberate purpose of this arrangement is to introduce one relatively loud reflection into the microphone and help the naturalness of the pickup. An orchestra is placed with its back to the live end, which acts



FIG. 2. Revolving acoustic walls, C.B.S. These panels open and are reversed to liven or deaden the studio as required. (*Columbia Broadcasting System.*)

as a shell reflector. The presence of many people in a studio will tend to deaden it, since each individual's clothing absorbs the sound. Therefore it becomes necessary to provide means of varying the amount of sound-absorbing materials upon the walls in order that the reverberation period of the room may be kept right (Fig. 2). An excellent studio for the broadcasting of amplitude-modulation programs is an excellent studio for frequency modulation. Unfortunately the AM broadcaster is too frequently content with imperfect acoustics, the FM broadcaster cannot be.

Reverberation should not be confused with echo. An echo is the return of a sound by reflection after a short period of silence. Since the shortest interval of silence that the ear can detect is $\frac{1}{16}$ second, it follows that, for an echo to be present, there must be a difference of at least 70 feet between the rate length of the sound reaching the listener directly and that returning by reflection. Reverberation is the successive return of the

sound by reflection at intervals too short for the ear to detect so that the sound seems to be continuous as its intensity decreases.

In an acoustically treated studio the announcer speaks to a microphone. In a perfect acoustically constructed studio, particularly for FM, the microphone is placed where it best picks up the music or speech. It may be above or some distance from the artist.



FIG. 3. Bidirectional velocity or ribbon microphone. (R.C.A.)

His words are carried by sound waves from his mouth to the microphone. These sound waves travel at approximately 1100 feet a second. Each note in his voice causes air vibrations or sound waves. Each sound wave has its own frequency, that is to say, the number of vibrations set in motion per second. When these notes arrive at the microphone they cause the sensitive face of that microphone to respond at like frequencies and thus change the sound wave into electrical impulses.

Microphones

There are three general types of microphones in current use in broadcasting stations today. These microphones have many trade names, but

fundamentally those used for broadcasting are velocity, dynamic, and condenser microphones.

The velocity type of microphone is frequently called the "ribbon mike," and justly so, because its operation depends upon the vibration of a very thin corrugated duralumin ribbon suspended between the poles of a strong magnet. When the ribbon is set into motion by sound vibrations, small electric currents are developed in it which are then further amplified. The ribbon microphone is equally sensitive on the two opposite sides which represent the broad faces of the ribbon, while it is comparatively insensitive on the other two edges. It is an excellent type of microphone

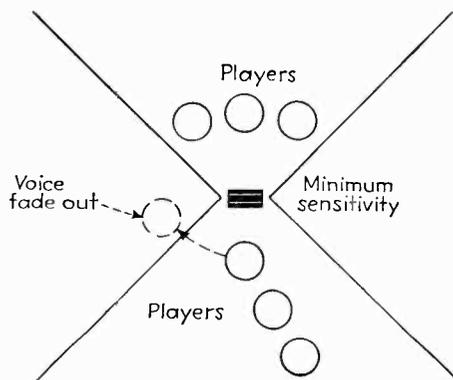


FIG. 4. Velocity mike fade-out.

to be used for a quartet or to be placed in the center of an orchestra. The duralumin ribbon is hung in the bottom of a V-shaped trough. The result is that speakers do not talk across this microphone, but into the trough. The velocity type of microphone (Fig. 3) is manufactured by the Radio Corporation of America and is of the standard broadcasting type.

The principle of the dynamic microphone is essentially that of the dynamic loud-speaker. It consists of a diaphragm on which is mounted a small coil of fine wire. This, vibrating in the field of a strong magnet, generates minute electric currents proportional to the incoming sound impulses. Its diaphragm is moved back and forth by the air or sound waves. This causes the coil to move in a powerful magnet field and electrical impulses result. The dynamic microphone may be constructed as either a directional microphone or a nondirectional microphone.

Figure 5 portrays the salt-shaker microphone developed by Western Electric. It is the microphone best liked by FM broadcasters. This is a high-quality microphone designed for general utility work in broadcasting,

including those pickups made outside regular studios. When upright and used in such a way that the speakers talk over the microphone, it is nondirectional, but when used as illustrated, with the swivel faced toward the speaker, it becomes a semidirectional microphone. Western Electric developed the Cardioid directional microphone (Fig. 6) which is really

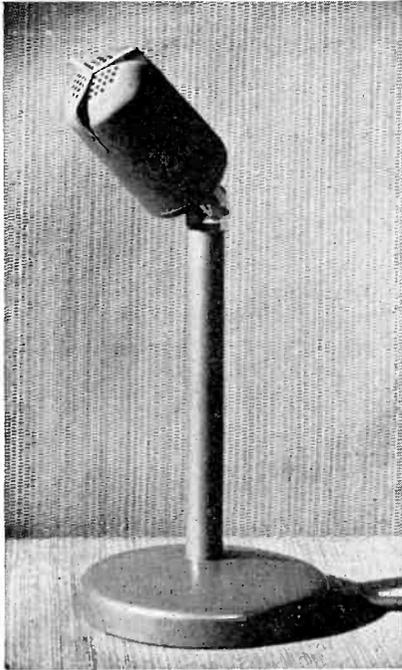


FIG. 5. Nondirectional salt-shaker microphone, dynamic type. (*Western Electric Company.*)



FIG. 6. The Multimike, a development of the cardioid microphone combining the features of the velocity and the dynamic microphones. (*Western Electric Company.*)

two microphones, a ribbon microphone and a dynamic microphone, each of which can be used independently or in conjunction with the other. This was the first instrument to combine not less than three pickup characteristics in one instrument. By the use of a small switch located at the base of the microphone, it is possible to convert this instrument into nondirectional, unidirectional, and cardioid or heart-shaped selectivity. Three other coverage areas designed to minimize reverberation are also possible with this microphone; Fig. 7 shows a diagram of three of the pickup areas for this cardioid microphone. Radio Corporation of America

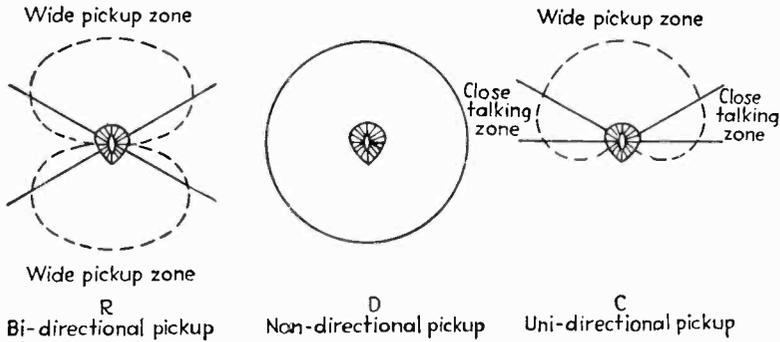


FIG. 7. Cardioid directional microphone.



FIG. 8

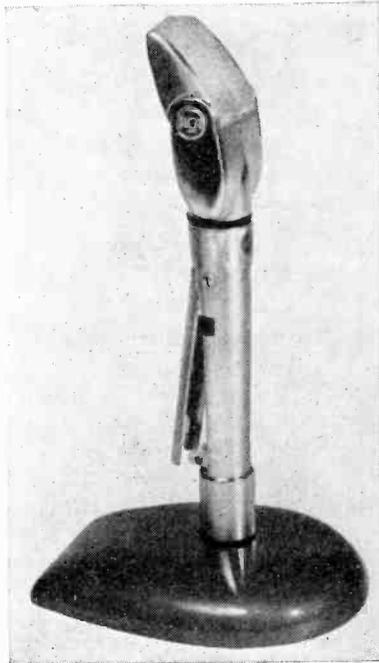


FIG. 9

FIG. 8. All-purpose microphone (two ribbons) with cardioid pickup. (R.C.A.)

FIG. 9. The miniature velocity microphone, Style KB-2C. This midget microphone has a sensitivity and output level comparing to those of the larger velocity models. This "Bantam" is ideal for remote broadcasts, conventions, etc. The built-in swivel makes it possible to tilt the microphone forward or back. (R.C.A.)

makes an all-purpose microphone consisting of two ribbon-type microphones operating in a common airgap (Fig. 8). This microphone also has the three pickups—bidirectional, nondirectional, and cardioid. The grills or screens on all microphones are designed for protection and wind screening.

Using lightweight magnetic alloys to reduce the size of microphones, RCA engineers developed a bantam-size unit which embodies the output and high fidelity of the larger types with a fraction of their weight.



FIG. 10. Tru Sonic model C-1C microphone system. Condenser type. The oscillator/demodulator (amplifier) unit is separate from the microphone. (*Stephens Manufacturing Corporation.*)

The Bantam is so small that it will not conceal the faces of singers and speakers. It weighs only 12 ounces, making it ideal as a portable unit (Fig. 9).

The Tru Sonic microphone system (Stephens Manufacturing Corporation, Fig. 10) is a condenser-type microphone with the auxiliary equipment in a separate unit connected to the mike by a coaxial cable. The Tru Sonic has a very high frequency response from 5 to 100,000 cycles, making it excellent for music. It is virtually blastproof. The employment of the single microphone pickup technique so widely advocated to achieve balance can be successfully effected with this system. The uncertainty in making a new microphone setup with a strange orchestra is banished. By simply placing this mike in front of the orchestra and mak-

ing a qualitative check, no more than one or two changes are required to achieve perfect musical balance with only the single microphone.

In conventional ribbon microphone setups the recording engineer, of necessity, exercises considerable control over the character of the musical pickup. This is incidental to his prime function of maintaining levels

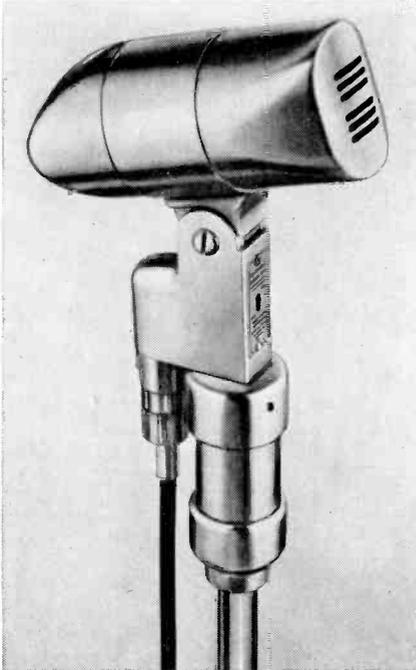


FIG. 11. Electro-Voice microphone, extremely high output level. Model 650 is shown. (*Electro-Voice, Incorporated.*)

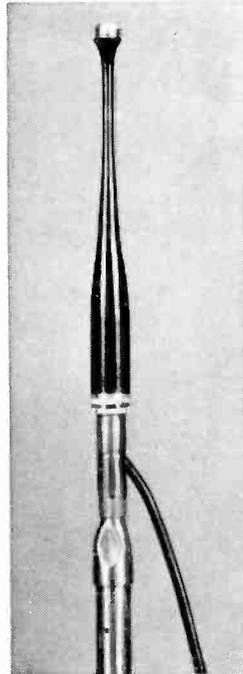


FIG. 12. Altec microphone, tiny in size and omnidirectional.

within the limits of the equipment. Emphasis and deemphasis of certain sections of the orchestra, and the modulating of portions of the score, are more properly the responsibility of the musical director. Ordinarily these two individuals evolve a composite interpretation, which not infrequently is an unsatisfactory compromise.

Another high-fidelity condenser microphone is the Altec (Altec-Lansing, Fig. 12). This, too, is a nondirectional or omnidirectional microphone of small size with tonal fidelity, full dynamic range, and negligible weight. The Altec also has its own power supply. It is greatly used upon athletic fields because of its lack of susceptibility to wind pressure.

The parabolic microphone attachment (Fig. 13) is used to directionalize a distant pickup. The microphone is placed in the focal point of the concave side of the bowl. The sound is reflected from the bowl to the microphone. Equipment of this type is used in convention halls and on gridirons.



FIG. 13. Parabolic attachment.

Control Console

The electric impulses that are developed in the microphone are carried to a control console (Fig. 14) adjacent to the studio in which the announcer is speaking. Here the control operator blends the output of microphones which are in use and amplifies the volume before it is sent out over special telephone lines. Special instruments calibrated in volume units (decibels), called "VU" by the technician, show the loudness of the programs at all times, and it is one of the duties of the control operator to keep the loudness within certain limits, namely, between 40 and 100 volume units. This is equivalent to -5 to -0 decibels. The

operator also checks the quality of outgoing music and speech by listening to it to see that no distortion is present. He formerly had to modulate sudden explosive sounds to avoid blasting; however, this is now accomplished automatically by equipment at the transmitter.

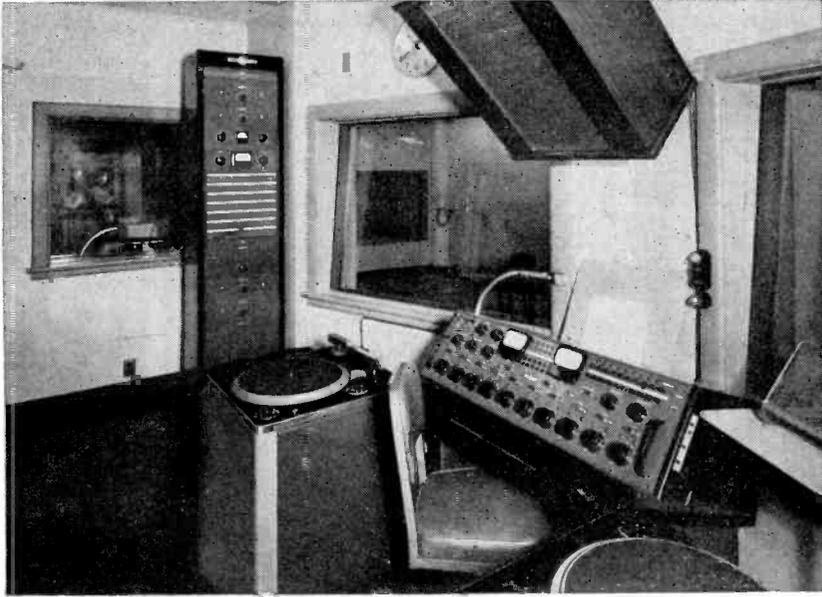


FIG. 14. Control console and rack, Station WUOM (Collins Radio). This control room serves two studios. WUOM has no master control. (*University of Michigan.*)

Telephone Radio Line

After the program has been amplified and monitored in the control room, it is put onto a telephone line. The electrical impulses are carried by this telephone line at approximately 30,000 miles per second. If the program is a network program, it is carried by these telephone lines to the various transmitters of the stations that compose that network throughout the country and is put into the air by the individual transmitters of these stations. If the program is a local one, it is sent by telephone line to the station's own transmitter.

In the early days of radio it was convenient to locate the transmitter on the same building in which the studios were housed, but it was soon found that this arrangement had several disadvantages, such as too much screening of the station's signal by large steel buildings in the neighborhood and unsatisfactory ground conditions. As a result, transmitters are

now usually located several miles outside the city, where conditions are better for maximum efficiency. The Columbia Broadcasting System built an island for its transmitter off the shores of Long Island, New York.

Antenna

The straight, vertical antenna has a height equal to 0.58 of the station's wave length. The steel structure of the tower is the actual radiating system. A high-power station will radiate power that will keep electric lights in the neighborhood of the transmitter burning even after they have been turned off. One chicken raiser kept the lights on in his hen house 18 hours a day using the radio station's radiated power. A necessary part of the transmitter's radiator is the system of ground wires that is buried in the soil around the base of the antenna. Although never seen by the visitors to the stations, these bare copper wires are laid out with great care at a depth of 6 to 12 inches beneath the surface in much the same pattern as the spokes of a wheel about the hub, each wire or spoke being almost as long as the antenna itself.

Transmitter

The transmitter proper (Fig. 15) consists of a quartz-crystal oscillator which generates the radio frequency (the quartz crystal to maintain the exact frequency, the number of kilocycles of the station). This

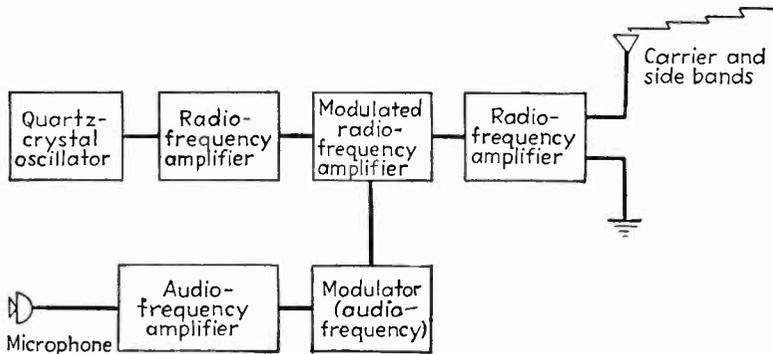


FIG. 15. Radio transmitter.

crystal oscillator is followed by several more stages of radio-frequency amplification which increase the power to a value suitable for modulation. The speech which comes from the microphone or incoming telephone lines is amplified by a series of audio-frequency amplifiers which terminate in a stage called the "modulator." This modulator in turn is connected to the radio-frequency stage previously mentioned. It is at

this point that the mixing of the audio frequency and radio frequency takes place. Further amplification follows, and the resulting power is fed into the antenna and radiated in all directions. This modulation or mixing process gives rise to other frequencies in addition to the carrier frequency, which is the frequency of the quartz crystal. These other radio frequencies, called "side bands," are located in the assigned channel on either side of the carrier and contain the speech of the announcer whose program we are tracing from his mouth to the radio listener. The Federal Communications Commission limits the width of this channel to 10 kilocycles.

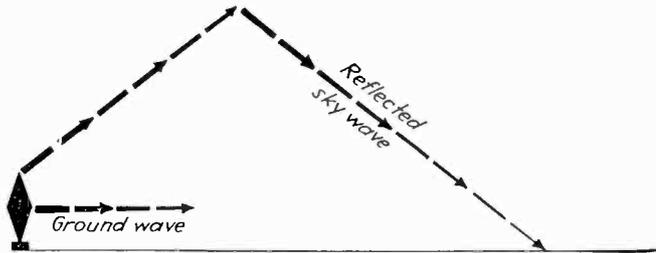
Carrier Wave

Every station has its own carrier wave located in the center of its assigned channel. These carrier waves vary between 550 and 1600 kilocycles for the regular broadcast band. These waves travel at the speed of light. All carrier waves travel at the same speed, but those having fewer kilocycles do not oscillate so fast as those having more kilocycles. A station operating at 550 kilocycles has a rate of oscillation of 550,000 cycles per second for its carrier wave.

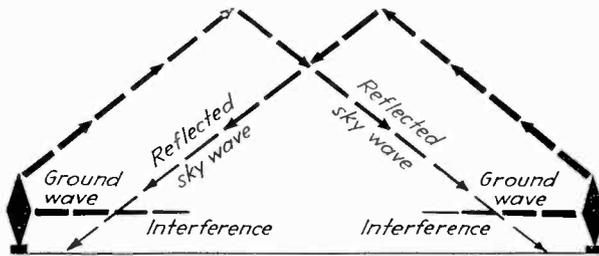
Ground and Sky Waves

The carrier waves which are sent out by the radio station may be divided into two categories; first, the ground wave, and second, the sky wave. During the daytime the sky waves have no effect upon the coverage of the station because they travel upward and are lost, but at night these sky waves play a very important part because they go up and hit the Kennelly-Heaviside layer and are reflected back to the earth. These reflected sky waves are evident usually only after sunset and extend the nighttime coverage of stations. The reflected sky wave is important only to the most powerful stations in the clear-channel classification. Such stations can be heard ordinarily during the daytime between 100 and 200 miles by means of their ground waves, but at night, through the medium of the reflected sky wave, they are heard at great distances because the sky waves are not absorbed by ground conditions as the ground wave is. The sky wave is not as dependable as the ground wave of the station, and generally this extended coverage is considered as the secondary coverage area. It is this reflected sky wave that causes fading, inasmuch as the fading area exists where the ground wave of the station interferes with the reflected sky wave of the same station. Despite the faults and unreliability of the sky wave, a very large proportion of the radio audience depends upon sky-wave reception for its evening programs. Local and regional stations do not benefit from their reflected sky waves

because they are located closer to one another than are clear-channel stations and, instead of having an area cleared of interference for their sky waves, they have merely an area in which their sky waves interfere with those of another station upon the same wave length. If a listener to a regional or local station has his receiving set near the outside limits



At night the coverage of the clear channel stations is extended by the reflected sky-wave



At night the coverage of local and regional channel stations is reduced because their reflected sky-waves produce interference with each others ground-waves

FIG. 16. Reflected sky wave—ground wave.

of the ground wave of a local or regional station, he will find at night that there is interference with another station because he is picking up the sky waves from one or more stations operating on the same frequency. Thus the coverage of a regional or local station is less at night than it is during the daytime, and the coverage of the clear-channel station is greater (see Fig. 16).

Clear, Regional, Local Channels

The 106 channels in the standard broadcast band are divided into three principal classes—clear, regional, and local.

1. *Clear channel.* A clear channel is one on which the dominant station or stations render service over wide areas and which is cleared of objectionable

interference, within its primary service areas and over all or a substantial portion of its secondary service areas.

2. *Regional channel.* A regional channel is one on which several stations may operate with powers not in excess of 5 kilowatts. The primary service area of a station operating on any such channel may be limited, as a consequence of interference, to a given field intensity contour.

3. *Local channel.* A local channel is one on which several stations may operate with powers not in excess of 250 watts. The primary service area of a station operating on any such channel may be limited, as a consequence of interference, to a given field intensity contour.

The number of channels of each class are as follows:

Clear channels	59
Regional channels	41
Local channels	6
	106

All countries are permitted to use all regional and all local channels subject to power limitations and standards for the prevention of objectionable interference. The clear channels were assigned definitely to the various countries. With only 106 channels available for broadcasting in the United States and with 2053 AM stations on the air in the fall of 1949, it is obvious that a great many of these stations have to be in the same frequencies, but by placing them far enough apart so that the ground waves of regional and local stations do not interfere and that the sky waves of clear-channel stations do not interfere, it is possible to obtain good reception from all these licensed stations. This is achieved by the Federal Communications Commission, which limits the power of the various stations and the hours in which certain stations may broadcast.

Coverage

Various stations are allotted a certain amount of power for broadcasting their programs. Those which have clear channels are generally allowed 50,000 watts; those in the regional classification do not exceed, under ordinary circumstances, 5000 watts; and those in the local category have a maximum of 250 watts. Under ordinary circumstances a station with 50,000 watts would be able to send its carrier wave approximately three times as far as a station with 250 watts. However, there are factors that determine the coverage of a station in addition to power. A station which broadcasts upon a low frequency, as a 550-kilocycle station, will go farther with less effort than a station which is broadcasting upon a frequency of 1550 kilocycles, because the latter carrier wave has to oscillate so many more times in covering the same distance. In an article by

J. M. Greene, circulation manager of the National Broadcasting Company, in *Printers' Ink*, April 26, 1940, the following illustration explains this:

To explain why one carrier wave travels farther than the other, let us compare them with two men, one tall and the other short, walking at the same speed along a soft, sandy beach. Each step absorbs energy and the result is that the taller man takes fewer steps (the radio station broadcasting upon the lower frequency) and is still going strong after the shorter man has given up (the radio station broadcasting on the higher frequency).

A second factor which determines the coverage of a radio station is the ground over which it passes. Various geological conditions affect the transmission and cut down the coverage of the station. Therefore the station which has the greatest power and the lowest number of kilocycles and broadcasts over the best ground conditions is the one that will be heard the farthest. Power is not the only factor in station coverage. It is entirely possible under certain conditions for a station operating on 250 watts to have a greater coverage than one operating on 50,000 watts. Ground conductivity alone can offset the advantages of both high power and low frequency.

Interference

Not only do such things as power, the frequency, and ground conductivity affect the coverage and reception of programs, but man-made conditions may affect it. Electrical disturbances caused by X-ray machines, power lines, etc., create disturbances which affect the signal received by the broadcasting set. High steel structures surrounding the antenna of the station's transmitter will affect its coverage.

As has been pointed out, radio signals travel farther at night by their sky waves than they do during the daytime. Therefore, in order further to avoid interference, the Federal Communications Commission grants licenses to certain stations which are located close to one another to broadcast with decreased power after sunset. More stations broadcast from sunrise to sunset than are permitted to air programs after sunset. There are other instances where stations share time, one station being permitted on the air for part of the day and another one for the balance of the day. These limitations permit the licensing of a greater number of stations.

Also in an effort to decrease interference between stations, directional antennas are sometimes installed. Under normal circumstances a vertical antenna will radiate almost equally well in all directions, but it is possible by proper modification to directionalize the radiation from an

antenna. The bulk of the station's power may be sent in one direction, as is done in radio airway beacons, or it may be kept from radiating in that direction and left free to traverse all the others.

Reception

The carrier frequency and side band (sometimes called "side frequencies") come through space to be picked up by the aerial of the receiving set. Radio waves travel through the air at the speed of light, approximately 186,000 miles per second. I can remember that in the early days of radio a professor would deliver his talk to the microphone and then dash into an adjoining room to see if he could catch his closing words from a radio receiving set. He never made it. If the announcer in a prize fight is talking to a person located in the 25-cent seats 500 or 600 feet away from the ring, and to a microphone, you who are listening to the program 500 to 600 miles away will hear his voice over the radio before it will be heard by the man who has paid his quarter. These radio waves, picked up by the aerial, are changed into electrical impulses (of the same frequency as the radio waves), which are conveyed to apparatus which tunes the set to the frequency of the station. After suitable amplification, these impulses go into a detector in which the speech of the announcer, in the form of electrical impulses of the same frequency as developed by the microphone, is extracted from the carrier and side bands. Thence these impulses are further amplified and conducted to a voice coil mounted in a magnetic field. This voice coil is attached to the paper cone of the loud-speaker. The impulses cause the voice coil and hence the cone to vibrate. The vibrations of the cone result in sound waves just like those that were projected by the announcer in the studio (see Fig. 17).

The phraseology I have used in this explanation (channels, bands) is that used by technicians, specialists in electrical engineering and physics. However, it does give rise to a misconception on the part of the layman. In reality there are no definite layers in the air. Possibly a better illustration to use in connection with broadcasting is that there are two stations, one represented by a red light and the other by a green light. When these stations are broadcasting, both lights are illuminated, and the air about them is filled with red and green rays representing their radio frequencies. Both colors are everywhere, just as their radio waves fill the air. Your receiving set is a filter which picks out only the red rays or only the green rays as you tune that filter (receiving set) to the station to which you desire to listen. The red rays do not go in a definite pathway or band, but go everywhere, up and down and around the light which is the antenna of the station. If the red or green light were made brighter

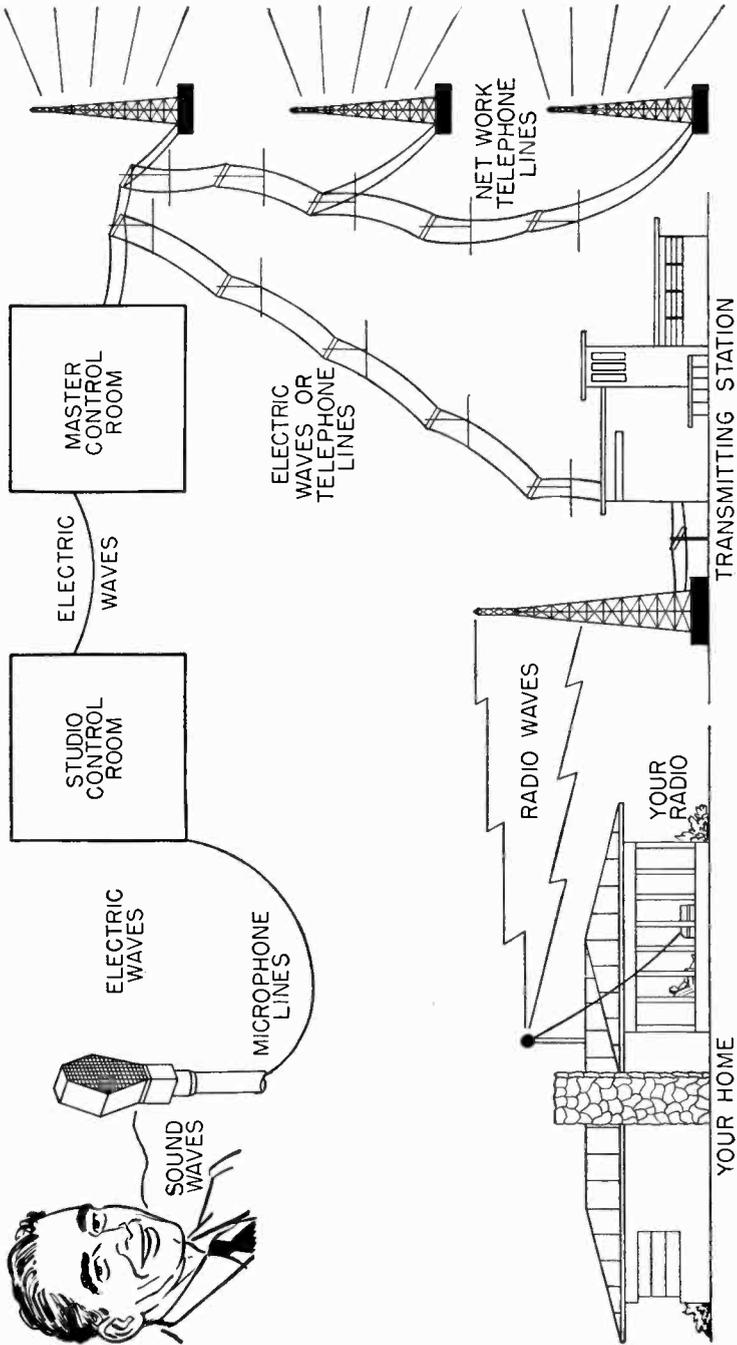


FIG. 17. The route of a radio program.

and dimmer according to some prearranged code, while the color was not changed, and the person watching the lights could interpret that message through the medium of a code, he would be using the light rays just as the receiving set picks up radio waves. The *intensity* of the signal is varied by the sound wave which is transmitted in the amplitude-modulated system of broadcasting.

Radio vs. TV

The unbiased radio forecaster recognizes the fact that radio will not be replaced by television. Television does not duplicate radio; it merely improves upon radio in one respect, its appeal to the eye. A new service replaces an old one only if it exactly duplicates it in every respect and then improves upon it. Radio does some things that television does not. Television requires concentration upon the screen. Radio permits you to work or play with a musical or speech background. Radio is used in 75 million automobiles. You cannot watch the TV screen and drive. In the summer, the beaches and picnic grounds are spotted with portable radios. TV is not a portable medium because sets are too bulky. TV will not reach the rural areas. There are thousands of miles of sparsely peopled areas where TV will never be feasible financially. The role of radio will probably be smaller and that of TV greater, but there will be more radio stations offering employment to students for many years to come.

Wired Radio

"Wired wireless," variously called "gas pipe," "carrier current," "limited-area broadcasting," and "wired radio," is not radio at all in the public conception. In "wired radio," sound waves are converted into electrical impulses which are carried over electric-power lines, gas, or water pipes instead of being transmitted through the air. The equipment used in "wired radio" is the same as that used in broadcasting through the air. A low-powered transmitter with a range not to exceed 200 feet is hooked to the power line or pipe that serves as an antenna for an ordinary radio receiving set which reconverts the electrical impulses into sound waves.

While no license is required at present for wired radio, the Federal Communications Commission has ruled that, even if a low-power radio-frequency device is exempt to licensing, it must nevertheless conform to certain technical requirements so that its emissions will not interfere with the regular radio services. Those operating such a system select a frequency not used in their locality, a frequency which will not interfere with any other station heard in the area. In other words, its emission must be measured expertly to make certain that there is no interference. The responsibility of assuring that the radiated energy does not exceed the

FUNDAMENTALS OF RADIO—VERY HIGH FREQUENCIES

Frequency Modulation

The difference between AM and FM broadcasting can be visualized something like this: Think of two different lakes, each with a machine in the center creating waves which cover the surface. On one lake the waves are exactly the same distance apart but they differ in height. Some are only tiny ripples; others are great, surging whitecaps. Regardless of their height, however, the distance from one to the other is exactly the same. The waves of such a lake are comparable with the radio waves used in AM broadcasting, for these waves transmit different sounds by variations in height or amplitude instead of in distance apart or frequency.

The machine or "transmitter" in the other lake causes it to be covered with a series of waves all exactly the same height but with varying distances separating them. This second lake is comparable with waves which transmit sounds in FM broadcasting, for such waves vary in frequency instead of their height or amplitude.

Broadcasting, both AM and FM, is transmitted by electromagnetic waves which emanate from the antenna of the transmitter. Such a wave is illustrated by the peaked line in Fig. 18*a*. The portion above the straight line represents plus voltage, that below the line is minus voltage. The distance between the peaks depends on the frequency of the wave. This carrier wave will operate a radio receiver at the one point on the dial which corresponds with its frequency.

To transmit sound on this wave, we can modulate it by combining it with another wave which varies in accordance with the sounds to be transmitted, as in Fig. 18*b*. The result of such a combination is amplitude modulation, represented by Fig. 18*c*. The differences between the heights of the peaks are the differences of amplitude of the wave as compared to its average value, indicated by the straight line. The waves remain at the same distance apart, or at the same frequency. The receiver converts these amplitude differences back into sound.

There are serious drawbacks to this method of transmission. Lightning, street cars, electrical motors, dialing the telephone, etc., create waves which are of the identical electrical type as the amplitude-modulated wave. They tend to decrease or increase the height of the peaks, and since the height determines the sound to come from the AM receiver, these "stray" waves come through your radio set, along with the program you are attempting to hear, to cause static.

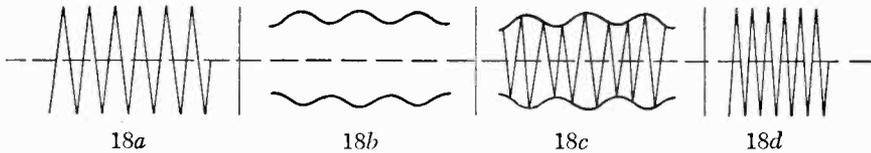


FIG. 18. Frequency-modulation channels.

However, these unwanted waves, which affect the height of the peaks, have virtually no effect on the distance between them—their frequency remains unchanged. This phenomenon was noticed as early as 1923 by Major Edwin H. Armstrong. He therefore began work on a new system in which the basic carrier wave is modulated, not by changing the height of the peaks, but by changing the frequency, or distance between them (Fig. 18*d*).

Static can act on the FM signal just as it does on AM, but it makes no difference to you, listening to your FM receiver. The FM transmitting station modulates the carrier waves by altering the distance between them. Your FM radio converts back into sound only these differences in the frequency of the waves, and this is not changed by the stray, or static, waves. The result is reception virtually free from static.

One of the basic differences between the two types of broadcasting is the low "signal to noise" ratio of FM as compared to AM. As you can readily understand, there is always some background noise in any radio signal—static, electrical interference, etc. For reasonably good reception of AM signals, the signal itself must be approximately 100 times stronger than the noise. In FM, a signal only twice as strong as the noise is a satisfactory signal, because of the "limiter" effect of the FM circuit. The effect of the limiter is to dampen the silence background noise in FM reception. Since there is no limiter in an AM circuit, the signal must be much stronger than the noise to insure satisfactory reception.

The problem of interference between stations does not exist for FM; there is virtually no limit to the number of high-power transmitters that can be operated within the frequencies assigned to FM broadcasting. For this there are a number of reasons.

One is a quality, as yet not thoroughly understood, inherent in FM. One wave will not interfere with another, even on the same band, unless the two have almost equal strength. The receiver will automatically select the stronger, and reproduce it perfectly, while blanking out the weaker completely; there is no double rendition of programs from different stations. Engineers have tested this characteristic with an FM receiver mounted on an automobile driven to a point approximately midway between two FM stations transmitting on the same frequency. The balance is so delicate that moving the car just a few feet will completely blank out one station in favor of the other.

Another important point is that FM waves tend to act like light and travel in straight lines. This limits the range of FM broadcasts, ordinarily, to a little more than twice the distance from the transmitter antenna to the horizon, which means that power stations on the same band only a few hundred miles apart do not interfere.

Additional insurance against overlapping stems from the fact that each FM channel is 200 kilocycles wide, or twenty times the width of an AM channel, and from the ruling of the Federal Communications Commission that stations serving the same area shall not operate on adjacent channels.

The idea that the range on AM is far greater than that of FM has proved to be inaccurate. FM stations have greater solid range than AM stations of the same power—particularly at night. The greater range of AM stations is a theoretical range. FM stations put out steady, unvarying signals to the limit of their primary service area. They are not interfered with by other distant stations, and they do not fade in and out as do “secondary” signals of AM stations on the wave lengths now in use.

The height of the FM antenna is more important than power. A 20-kilowatt FM station with a 500-foot radiator will get greater coverage than a 60-kilowatt station with a 300-foot radiator. In the case of frequency modulation the tower is merely a supporting unit for the radiator proper, which in the majority of cases consists of what are known as “bays,” or in some instances, “pylons” (Figs. 19, 20, and 21).

The use of an antenna, properly constructed, installed, and directed, determines whether or not more distant FM stations will be heard, as well as the quality of signal received from near-by stations. Unlike the old type of radio waves, frequency-modulation signals are inclined to travel in a straight line like a beam of light. As with light, the distance to which these beams will reach is largely determined by the height of the sending antenna, and the position of the receiving antenna. The AM long-wire-antenna catches the long waves but confuses the ultra-short waves of FM. These high-frequency short waves respond to the short

span of the FM antenna, a “folded dipole,” either directional or nondirectional, with or without a reflector. A dipole antenna looks something like a long paper clip. In general, and essentially with the reflector type, the antenna should be broadside to the station in order to get the strong-

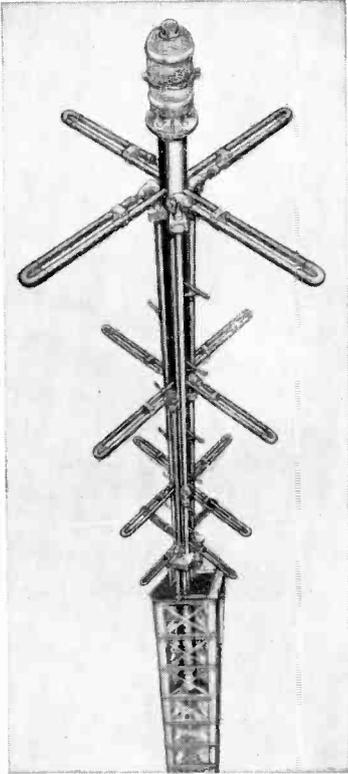


FIG. 19.



FIG. 20.

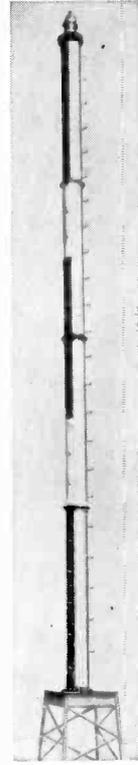


FIG. 21.

FIG. 19. Four-bay FM antenna. (*Wincharger Corporation.*)

FIG. 20. Three-section super-turnstile antenna. May be used for either frequency modulation or television. (*R.C.A.*)

FIG. 21. The pylon FM transmitting antenna shown here in four sections. It has a power gain of six. This antenna is strong enough to support a television antenna on the same tower. (*R.C.A.*)

est signal. The reflector, that is the single bar, should be back of the pickup element. The FM antenna should be mounted as high as possible. Avoid placing it near a wall, chimney, or other objects which may reflect or deflect signals. A two-wire 300-ohm lead-in cable is recommended.

With the permission of the F.C.C., it is possible to transmit programs from the studios to a distant transmitter by means of a studio-to-transmitter link known as "STL." This method requires installation of a low-power, very-high-frequency transmitter and parabolic reflector, and, at the transmitter, a similar reflector to receive the beamed or transmitted signals from the station transmitter and an associated receiver which converts the received radio signal back to sound frequencies.

Telephone lines have been developed to carry up to 15,000 of these frequencies so that frequency-modulated programs may be satisfactorily broadcast over a network of stations connected by telephone lines. The relay system, however, is more economical. An alternative to wire linked networks is a network in which a program is carried from station to station, not by wire but by radio, each succeeding station picking up the preceding station's transmission on a special relay receiver. Such a network can only operate if intermediate relaying stations are taking the program and sending out their signal. This method of network broadcasting is only practical in the case of frequency-modulation stations. A 5-microvolt signal is adequate; therefore, while the frequency-modulation program may not be received well in the home, it can be picked up with professional equipment for rebroadcasting. A 5-microvolt signal is possible for distances of 100 or more miles. The home receiver for reception required from 50 to 1000 microvolts.

The studio control operator need not ride gain on his program as carefully as is required in the case of an AM studio production. He may permit momentarily very high level passages, which would be intolerable to an AM transmitter, to go on to the FM transmitter and be transmitted by it. Because the over-all background noise level of an FM signal is much lower than in the case of AM, the control operator can also permit low-volume passages of speech or music to be transmitted at the original volume level rather than to increase the level of low passages artificially, as is necessary when feeding an AM transmitter. In FM, the signal strength is always constant; changes in volume, like changes in tone, occur by changes within the wave itself. Therefore, the full orchestral range in volume, as well as in pitch and tone quality, is transmitted and received with almost perfect fidelity. The width of the new FM channels has been adjusted to permit high-fidelity transmission, making more noticeable the high frequencies in the reception, with the result that the listener has to be trained to appreciate these frequencies rather than to rely upon the lower tonal qualities of regular broadcasting.

In making available channels for frequency modulation, the government set aside bands for educational purposes exclusively which adjoin the bands for commercial purposes.

The band between 88,000 and 108,000 kilocycles is set aside to accommodate both commercial and educational FM stations. Before the end of 1949, 750 commercial FM stations were on the air, and 68 additional FM stations were owned and operated by educational institutions.

In a number of cities, a frequency-modulation station has arranged with local transport lines to put frequency-modulation receivers into busses which pick up the programs of that station. The station sends out a supersonic signal just before each commercial announcement to increase the volume of the receiving set during the plug. This type of FM is called "transit radio." The station then finds it is easy to sell programs to local businesses which will be assured of an audience in these busses. Because of its freedom from static and interference, frequency modulation is ideal for this type of broadcasting. Some riders have filed suits to prevent being forced to listen to programs.

Also, for many years Muzak piped musical programs over wires to various cafés, bars, and restaurants for the entertainment of their patrons. Some of the Muzak programs are now carried by frequency modulation to these places which have sets with a set-frequency that will not pick up any other station; and any other frequency-modulation receiver, not built for the reception of these programs, will get a squeal when it attempts to pick up these broadcasts. In other words, the subscribing eating place has to pay a fee for such entertainment services and no one not paying such a fee can get the programs. This is the principle of "subscription radio."

Low-power Stations

In 1948, the Federal Communications Commission made changes in its regulations, authorizing low-power frequency-modulation educational stations using transmitters of 10 watts or under (Fig. 22). This low-power type of station not only makes possible a highly desirable service in hundreds of small school systems over the country but also provides a significant impetus toward the establishment of a full-power noneducational station. The low-power station operates exactly as does the frequency-modulation station except, because of its low power, it serves an area with about a 10-mile radius. It is, therefore, adequate for municipal school systems, and since the Federal Communications Commission granted the first permit for a 2½-watt station to Syracuse University, a great many boards of education, school districts, and other educational units have applied for licenses. At present, about 25 are in operation. The principal reason for these low-power stations is economical. A 10-watt FM transmitter, now being offered in the school market, ranges in price from \$1,500 to \$3,000. The total cost for equipment and studios

should not exceed \$6,000 or \$7,000. Applicants for the low-power FM stations are not required to submit the technical data required for a full-power station, and when the school desires to increase its power, all that it is necessary to do is to add new power stages and accessory equipment.

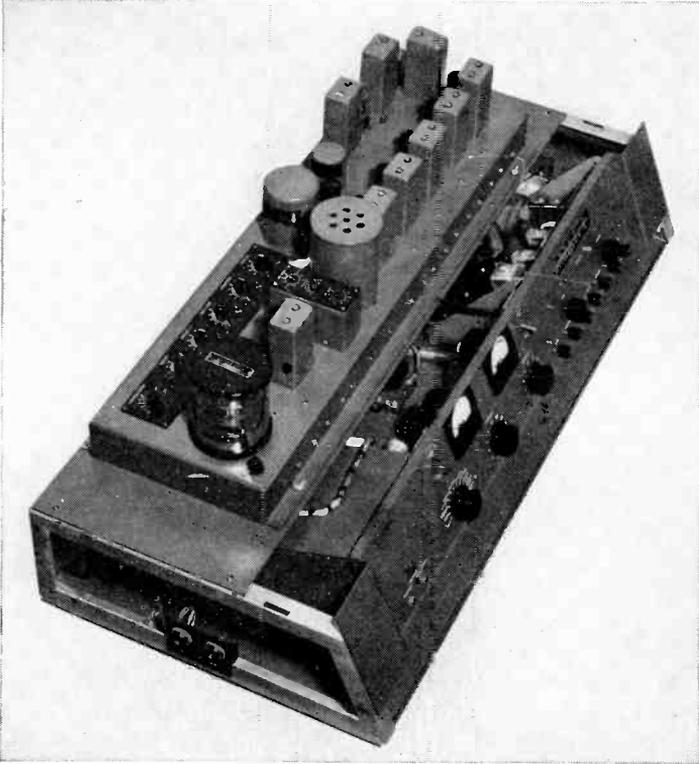


FIG. 22. Low-power 10-watt transmitter combined with studio console into a single unit. The upper part (ordinarily encased) is the transmitter; the lower section is the audio console and contains a receiver. (*Collins Radio Company.*)

Rules and regulations of the Federal Communications Commission permit great latitude in the number of air hours; and the station may go off the air during holidays and vacation periods.

Such low-power stations offer student and teacher the opportunity for practical experience that might be gotten in a full-power FM station.

The antenna can be placed upon the top of the school building in which the transmitter is located. Classrooms may be remodeled to be used as studios. In addition to the transmitter, the necessary equipment should include a program consolette, microphones and stands, recording equip-

ment, playback equipment, program monitoring and talk-back equipment, control relays, wiring, etc.

Various manufacturers give a special price on FM receivers to school systems. These receivers may be placed in classrooms and buildings throughout the community. Just as in the case of a full-power station, application for a license (No. 340) must be filed with the Federal Communications Commission. The manufacturer of the transmitter and the antenna to be used will give the necessary technical information. Call letters will be assigned by the F.C.C. Major Edwin H. Armstrong will issue a broadcasting transmittal license, since he holds patents covering FM transmitting equipment. It has been his practice to issue such licenses to educational institutions for a nominal fee of \$1. Low-power educational stations are affiliated with the National Association of Educational Broadcasters.

Television

FM radio and television are natural companions in the most important technical sense—the design and manufacture of receivers. Television uses a narrow-band form of frequency-modulation broadcasting to carry the sound that accompanies the picture; FM radio, as such, uses wide-band channels for better noise suppression consistent with higher fidelity. But both bands, technically, are closely related to each other, and one can be adapted to the other with only the smallest kind of expense.

To explain briefly how a picture is transmitted, a number of steps must be considered. Starting a telecast on its way is the electronic camera (Fig. 23) which scans the object or scene to be transmitted, using a standard lens and a pickup tube. The tube consists of a plate and an electron generator, or gun, controlling a beam of electrons. The plate is called a "mosaic" and consists of a screen on which millions of minute drops of silver have been coated with cesium to make them electrically sensitive to light. The coating transforms each of the silver globules into a miniature photo cell.

In action, the camera lens focuses the scene on the mosaic. As the light from the scene strikes the particles, small charges of electricity are created on them. Where the light is brightest, the charge will be greatest. Meanwhile, a beam of electrons projected by the electron gun sweeps back and forth across the mosaic, a process known as "scanning." The electrons change the image reflected on the mosaic into electrical values conforming in intensity to the lights and darks.

Present-day standards call for scanning a picture in 525 lines and transmitting 30 pictures, or frames, per second. Accordingly, an electron beam scanning a television picture moves in a series of 525 parallel horizontal

lines, which give the picture its definition. An idea of the process might be gained by visualizing an ordinary photograph divided into 525 horizontal segments, all equal. As the process is repeated thirty times a second, the scene appears as a moving picture without flicker due to the persistency of view.

The scanning process reaches its culmination when the electron beam strikes the electrically charged silver particles on the mosaic. The charges

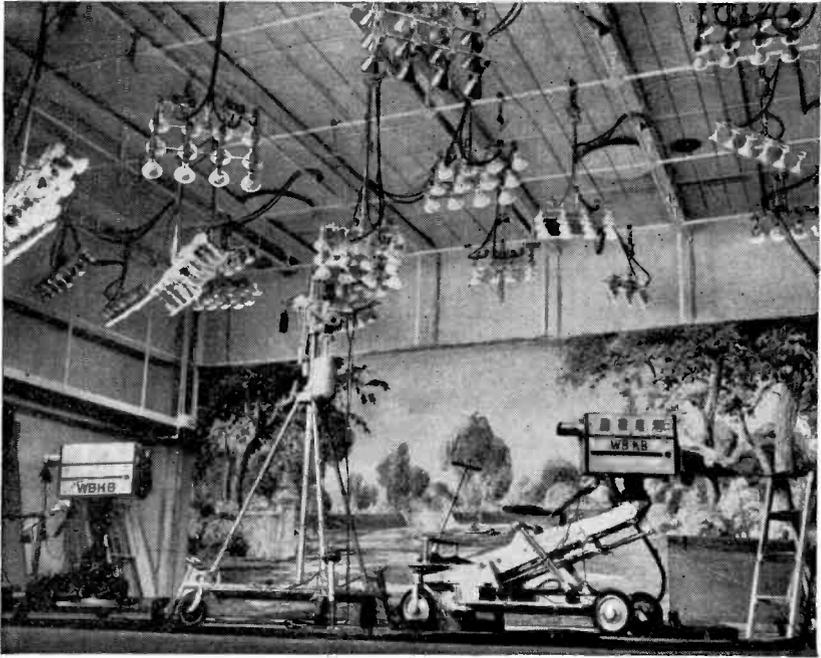


FIG. 23. Studio lighting systems, mechanically controlled, adapted to the most advanced lighting techniques for basic work, modeling, or back lighting, as well as specialized items of equipment needed in television operation, are shown in a typical studio layout. (R.C.A.)

are released and passed into an amplifier which magnifies them millions of times in order finally to form, or modulate, the wave flashed from the antenna of the transmitting station. The program is then on the air in the form of electrical impulses.

The television receiving system consists of a special antenna called a "dipole," a combination of tuning and amplifying circuits necessary to select the desired program and build it up to suitable strength after its trip through the air, and a kinescope, or picture tube, on the face of which the original scene is re-created.

After the incoming signal has been selected and amplified, it is led to the kinescope, where it enters the process of being changed into a picture. The kinescope is a funnel-shaped cathode-ray tube containing an electron generator, or gun; a number of coils which control the movement of the electron beam, and a screen on which the picture appears. The viewing screen, painted on the inside surface of the tube face, consists of a thin layer of luminescent material which glows with a bright fluorescence under the impact of an electron beam.

When the television program, still in the form of electrical impulses, is fed into the picture tube, the electron beam faithfully rebuilds on the viewing screen the image originally focused on the mosaic of the pickup tube. The luminescent material on the screen glows in proportion to the strength of the electrical charge which the incoming signal carried from the pickup tube, as the electron beam traces the 525 component lines into which the image is divided, thirty times a second. The image is thus reassembled on the viewing screen of the home receiver.

When a viewer tunes on his set, he captures a rapid succession of electrical impulses from the air which his television receiver transforms into scenes and images. Since the sound portion of a television program is broadcast simultaneously with the image, the result is complete co-ordination between the reproduced picture and accompanying sound.

Distributing programs over wide areas from entertainment centers like New York, Hollywood, and Chicago poses a problem since the behavior of television waves differs from that of the sound signal in AM radio. Broadcast at very high frequencies, they are not deflected back to earth by the atmospheric layers enveloping the earth, but pierce the "radio roof," going off into infinity at the horizon visible from the top of the transmitter, usually 50 miles off. Further, ordinary telephone wires cannot carry television signals, as in the case of audio broadcasting.

To meet the problem, technicians have developed two methods of "networking" programs, or carrying them beyond the service radius of the individual transmitting station. They are coaxial cable and radio relay.

Coaxial cable knots together all but a few short stretches of the existing television networks, which now extend west to St. Louis, south to Richmond, Virginia, and north to Boston and Schenectady. Several copper tubes about the diameter of a pencil are enclosed in coaxial cable, which is buried underground. When properly equipped, each of the tubes can transmit hundreds of telephone conversations or—when additional apparatus is installed—one television program. Amplifying units are spaced at intervals of a few miles along the route of the cable to prevent the electrical signals from fading over long distances.

Radio relays are low-powered, automatic stations situated about 25

miles apart between cities. The original signal is picked up by one relay, given additional power and directed in a straight line to the next relay point, and so on until the destination is reached. In this system the television signal is focused like a searchlight, and a clear line of sight must exist between the relay towers, which have directional antennas.

Iowa State College has set an example for other universities desiring to get into the field of television. With a minimum outlay, it has planned a transmitter house 3 miles from Ames which will accommodate three transmitters—one for AM, another for FM, and the third one for TV. The tower is of sufficient structural strength to support antennas for FM, and as it was designed for AM, it is insulated at the base. The initial operation eliminated the studio phases of television, with the result that the entire installation will be in the transmitter building requiring no STL link and, for the time being, no studios. Television programs will rely upon a 16-millimeter television-projection equipment. The initial plan calls for no TV cameras. However, in order to get local productions and events on TV, the station will have a 16-millimeter camera unit that will take motion pictures which can be rapidly developed and projected the same day. Such pictures can be taken in a theater or on an athletic field. In future development, the station will have field cameras and a mobile unit; the third step will then be to add the studios and studio cameras.

Under this plan, Iowa State College eliminates the biggest overhead in television, that of studio production. This first step would require an outlay of about \$25,000 for equipment but not including building, transmitter, antenna, antenna system, or labor. Compare this initial cost of \$25,000 with the all-inclusive cost of \$448,436 for the minimum TV station set up with only two TV cameras. This plan enables a university or a local TV station to start with a limited expenditure. While Syracuse University has no transmitter it does have a complete production unit, studios, monitors, and cameras, in which programs are produced for or by local TV stations.

Closed-circuit TV

Closed-circuit TV is rather like wired radio, for in it the television program is piped from room to room or from building to building over wires. An ordinary classroom can be used for a television room or studio. One or two TV cameras in this room would handle live-talent programs. Additional equipment would consist of a television film projector and pickup chain to handle motion-picture film, and a master television receiver to pick up programs from commercial stations. With this equipment, the school would be able to televise and transmit film, live talent,

and programs from commercial stations. This television system can be linked with other rooms in the building and with every other school in the city, either by coaxial cable or lines rented from the telephone company. The initial cost of coaxial cable would be greater. The cable or telephone line would run to receiving TV monitors in the various classrooms.



FIG. 24. Intra-store (closed-circuit) television. Dramatized commercial originating in the Higbee Company School Salon. The program was speeded considerably by having the camera switch from the salesman starting to fit the shoes on the model to the second girl at the right wearing the shoes being described. (R.C.A.)

Thus, through closed-circuit TV, a local TV wired network can be established. Furthermore, the school can install in its central television room a microwave transmitter which can beam the school's programs to a commercial station which will then rebroadcast the program throughout the area and bring the school directly into the home. This whole closed-circuit arrangement can be effected without license from the Federal Communications Commission. The closed-circuit technique is obviously the ideal setup for any school system which can afford it. The setup outlined, including a film pickup arrangement, a live-talent pickup arrangement, a microwave transmitter, and the master receiver, together with approximately 20 monitors in each of 5 schools, could be installed

for a reasonable sum. Stephens College in Columbia, Missouri, has a new television unit which includes a two-camera chain and a noncommercial closed circuit with receivers located only on the central campus of the college. A remote pickup unit which could pick up your local-interest events outside the buildings and beam them to a commercial broadcasting station would increase the cost. This remote pickup unit is the same that is used in handling baseball and football games, boxing, and wrestling.

This television closed-circuit method is used by a number of large department stores. The stores have a TV studio with cameras from which originate fashion shows, pictures of merchandise or of sales in other departments, bargains, cooking-school programs, etc., which are shown upon screens on other floors and in other departments of the store to induce people to explore the offerings of the day. This is strictly an "in-store" type of commercial television (Fig. 24).

Color Television

One of the latest contributions to the television field is that of color. In this country there are two major systems of transmitting and receiving color TV pictures. These two are known as the C.B.S. (Columbia Broadcasting System) and R.C.A. (Radio Corporation of America) systems. It is not the intention of the writer to explain the technical formulas or the multitude of experimental equipment, data, or knowledge that has gone into the perfection of these two systems. However, it must be borne in mind that both systems use the prime fundamentals of color photography. These fundamentals are developed on the basis of three colors, blue, green, and red. When these three colors are properly blended, reproduction of any color or combination of colors within the capability of the human eyes can be had.

The C.B.S. system of transmission and reception is known as the "sequential" system (Fig. 25). This method uses a revolving disc containing three alternate colored filters: red, green, blue; red, green, blue, etc. This revolving disc is placed between the camera lens and subject at the studio, and between the receiver picture tube and viewer's eyes in the home. Both discs are kept in synchronization so that when the red filter is in front of the studio camera lens there is also a red filter in front of the receiver picture tube. During this instant all light reflected from the studio scene appears on one side of the filter. This filter permits only red light or intermediate shades of red to appear on the face of the camera tube. The camera tube records the entire scene as viewed through a red filter or any of the other filters by a process called "scanning." This scanning action of the camera tube starts at the top and laces back and forth

to the bottom at the rate of 15,750 times per second. When it reaches the bottom the next color disc is brought into place and simultaneously scanned. The same is true for the third color disc; then the entire process repeats itself.

The scanning process produces a small voltage in the camera tube which varies in accordance with the solid or intermediate colors present with each filter. This voltage is amplified and transmitted into the air. At the receiver, these voltages are synchronized with the scanning action

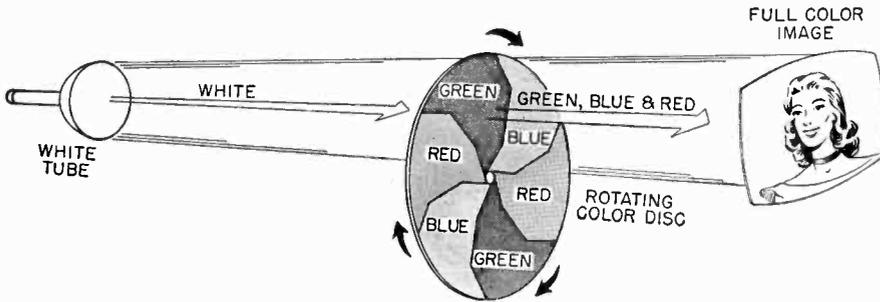


FIG. 25a. C.B.S. color television system.

of the receiver tube and also the revolving disc of filters. This synchronization occurs each time a station is tuned in. It must be remembered that this process occurs at an extremely rapid rate and does not produce flicker or blurring of colors. Each time a color filter is in place an entire scene is scanned for that color, or intermediate shades of it, and is completely wiped off before the next color disc is brought into place. The extreme rapidity of the changing filters does not produce a solid red, blue, or green picture. However, the residual effect upon the eye retina produces an image of the scene in its entirety of colors.

All motion pictures and television performances are in reality optical illusions. The rapid reproduction upon the screen of a series of single pictures gives the illusion of motion but, in each instance, a single picture comes to the motion-picture screen and the television screen at one time. This is the principle of C.B.S. color television. You get a picture in red, a picture in blue, a picture in green; but they come to the eye so rapidly that you get a composite illusion of one picture containing all three colors.

This system is for the most part mechanical and does not require bulky apparatus for either sending or receiving such as the R.C.A. system which we will discuss next. The adaptability of the C.B.S. system to the tremendous amount of black and white receivers is a costly and very

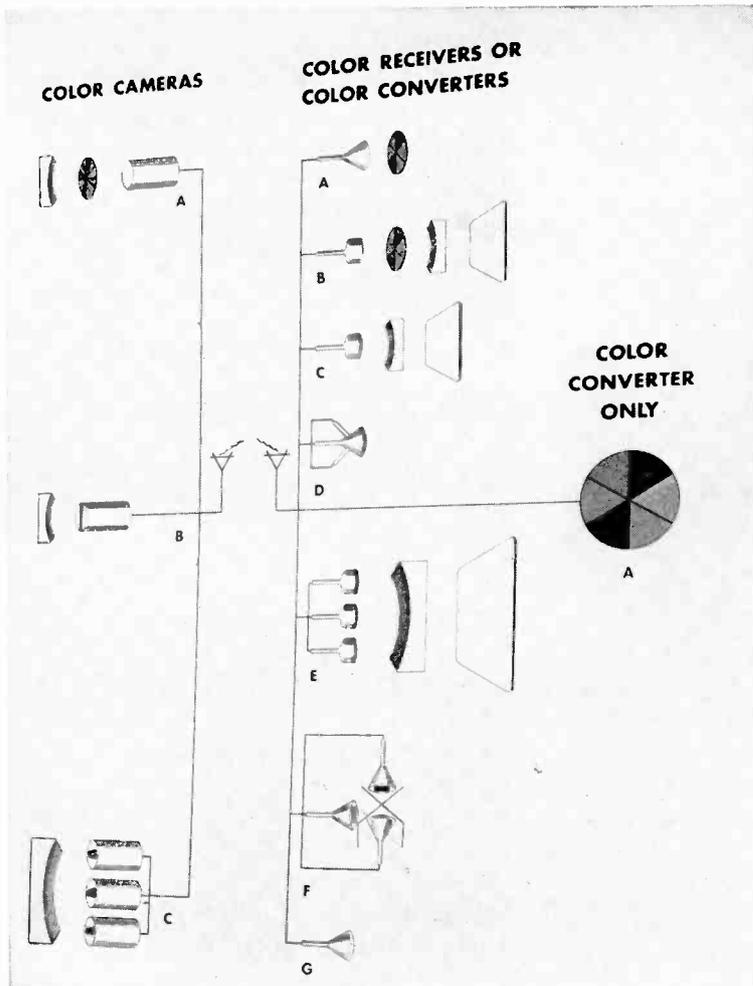


FIG. 25*b*. Chart illustrating the universal flexibility of the C.B.S. color television system. In the left column, *A* represents the present C.B.S. single-tube camera and lens with color disc; *B* is a C.T.I. type of camera, and *C* the R.C.A. 3-tube camera. All can be used in the C.B.S. color system; the C.T.I. and R.C.A. cameras, when and if they are perfected and made economically feasible.

In the second column, *A* represents the direct-view receiver for the C.B.S. system; *B* the C.B.S. single-tube projection-type receiver with disc; *C* the all-electronic C.B.S. projection-type receiver; *D* the Geer tube; *E* the R.C.A. 3-tube projection receiver; *F* the R.C.A. 2-tube direct-view receiver; and *G* a new tube, still to be developed, single gun and direct view. There have been many different approaches to this tube, and when it is finally completed and competitively feasible, it can be fitted into the C.B.S. color system, just as *A*, *B*, *C*, *D*, *E*, and *F* can.

D, *E*, *F*, and *G* can be used—when developed—more simply in the C.B.S. system than in any other, because of the simplicity of low switching rate of the C.B.S. system.

delicate installation, due to the high degree of synchronization of color filters.

The R.C.A. system is called "simultaneous" (Fig. 26). That is, all three colors are instantaneously transmitted at the same time. The studio end is made up of one camera with three individual camera tubes and a

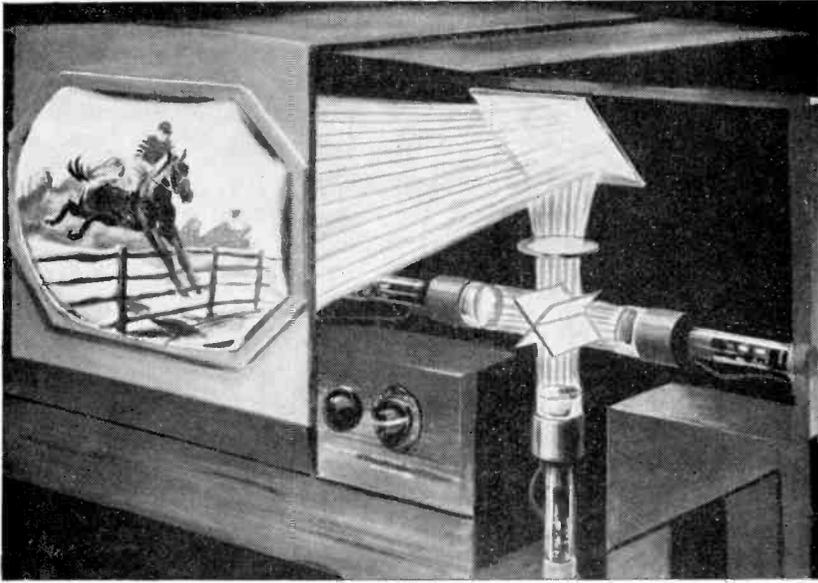


FIG. 26. The R.C.A. all-electronic method for combining three-color projection into a single reproduction by the use of small projection kinescopes and refractive optics. (R.C.A.)

dichroic lens system which allows the three camera tubes to focus on the same subject at the same time. Each tube has a different color filter in front of its lenses. The scanning from all three are combined, amplified, and transmitted into the air.

At the receiver end these scanning voltages are separated and fed into three small projection tubes. Each of these tubes projects its picture through a color filter identical to those in the studio camera. The projected pictures from all three are combined into one screen reproduction by a system of translucent refractive lenses whereby the entire picture is viewed in its entirety of colors. The entire system is electronic and requires a large bulky camera, transmitter, and somewhat larger receiver than the C.B.S. system.

The most important feature is that the total combined band width for the transmission of all color is 6 megacycles. Whereas, in the C.B.S. sys-

tem, the band width is 12 to 14 megacycles wide and cannot be reduced without loss of definition of color or loss of contrast. This narrowness of the R.C.A. system lends itself well to receiver design and allocation of a narrow band of frequencies for color television.

A very important feature of the R.C.A. system is that color television can be received with all black-and-white receivers by merely adding a converter to cover the higher frequency band of color TV. Since the black-and-white receiver does not have the band width required for that of color TV, the receiver will pick up only the green color band and audio. The green color will show up as black and white. This versatility of the R.C.A. system also means that the owner of a black-and-white receiver who wishes to purchase a color receiver may still realize some value from his present one.

R.C.A. also has a system using a tricolor tube which has some 351,000 phosphor dots on its face arranged in triangular groups of three—one blue, one green, one red. A metal masking screen with an equal number of dots is behind the tube. As each individual color signal is beamed through the gun, it goes through the masking screen and activates the appropriate dot on the tube. This tricolor tube is a consolidation of the three color tubes into a single unit and would eliminate any moving parts.

I have had the pleasure of seeing color television demonstrated, and its superiority over black and white is overwhelming. The resulting picture upon the screen has really a third-dimensional quality which has depth and fullness. It no longer seems to have the flat quality found in black and white. The demonstrations have included such things as the arrangements of flowers, fashion shows, and—most marvelous of all—a televised projection of an operation being performed in a surgical amphitheater which gave the color of the flesh, the veins, sinews, the blood, and, from the standpoint of the surgeon, was invaluable as a teaching aid.

The great problem in each of these methods seems to be that existing television sets must either be adapted for color or discarded entirely. Color television will be the home technicolor of the near future.

The Facsimile Process

Facsimile or "faximile" broadcasting methods closely parallel those of sound broadcasting and rely largely upon the transmitting and receiving facilities already installed by FM broadcasters and FM listeners. The scanning equipment used for facsimile transmission turns the subject matter to be broadcast into sound or audio-frequency electric current variations corresponding to its black, white, and shading. This "picture" sig-

nal is then broadcast by a conventional FM transmitter and picked up by the regular FM receiver in the home. Instead of feeding a loudspeaker, as when receiving musical programs, the received signal is used to actuate the facsimile recorder. The only changes necessary to broadcast facsimile instead of sound are to substitute scanner for microphone



FIG. 27. Facsimile scanner to the left and receiving unit to the right as used at the University of Missouri.

at the transmitter, an amplifier, and a monitor recorder; and to substitute a recorder for loudspeaker at the receiver. So that there need be no pause between breaks in changing from one page of copy to another, however, it is best to have two scanners, just as two turntables are used in transcription and radio broadcasting. The additional unit of the multiplex would need to be added at the transmitter.

After the news has been assembled, copy may be prepared on any typewriter, although the proportional spacing and type face of the IBM electromatic typewriter is considered to be superior. The headlines are hand set, proof sheets are run off and trimmed on a paper cutter, and

are then ready for composition. The final step consists of coordinating photographs, copy, and headlines. All of the material is then pasted to a master page by means of rubber cement applied to the left edge only of all copy. The page is wrapped around a sending cylinder and kept in place by a plastic holder (Fig. 27).

The heart of the scanner is the photoelectric cell or "electric eye." Its output varies in proportion to the light impressed on it. The scanner is a device for progressively submitting the copy to be transmitted to an electric eye. This is done by mounting the original copy on a cylindrical drum, which looks like an overstuffed piano roll, and rotating it (360 rotations a minute) spirally before a light source and a photoelectric cell. A ray of light illuminates a small area of the surface of the copy. A photoelectric cell examines a minute point in this illuminated area. One rotation of the drum thus examines a single fine line of copy. The photoelectric cell output then varies according to the shading of the copy, the minimum output occurring as the light is absorbed by black parts of the copy and the maximum output as most of the light is reflected from white parts of the copy. Thus an electrical replica of all the variations from black to white in a single line of subject matter is secured as the scanning drum goes through 1 revolution.

The optical system of the scanner, consisting of the light source and the photoelectric cell, is mounted on a movable carriage. This scanning device is mounted in a unit known as the "scanning head." The carriage is so geared to the rotating scanner drum as to move it very slightly further down the drum with each rotation, while maintaining a constant distance from its surface. This combination of rotating the copy and moving the scanning head slowly down before the copy results in successively examining its entire surface. The area examined at any one instant is less than a ten-thousandth of an inch square, assuring retention of fine details of shading in illustrations and good readable copy reproduction. Yet so responsive is a photoelectric cell to light changes that the entire surface of an 8-by-11½-inch page is scanned in less than 3½ minutes. The photoelectric current, suitably amplified, is used to modulate the FM transmitter which radiates the "picture" signal throughout its service area.

The receiver in the home or in a public place (Fig. 28) is tuned in the usual way to the station radiating the facsimile signal, or the set may be turned on by a signal from the transmitter. The home recorder is essentially a mechanism for marking the recorder paper in response to the received picture signal and feeding the paper to the marking device at a rate corresponding to the scanning.

For convenience in loading, paper for home recorders is supplied in

rolls, so that a continuous series of pages can be recorded without interruption or attention from the user.

The marking device is the printer blade, which makes electrical contact across the roll of recording paper. The replica of the transmitted "picture" signal is fed from an FM home receiver to the printer blade.



FIG. 28. Facsimile reproducer. (*University of Missouri.*)

A drum with wire wrapped around it is centered directly underneath the printer blade and makes contact with the underside of the paper. The printer blade-drum circuit thus follows the scanning path at the transmitter. One rotation of the transmitter scanning drum corresponds to one rotation of the home recorder. Since the current passing through the paper, which is moist and impregnated with iron, has a quantitative relation to the photoelectric scanning current, black and intermediate shading appears on the recorder paper as printed or drawn on the original copy.

With each line or rotation of the drum, the paper moves forward less than a hundredth of an inch. This motion corresponds to that of the scanning head moving down a line at a time as it scans the copy at the facsimile transmitting station. Continuing in this way, the entire page is reproduced as a succession of exceedingly fine lines which blend into a clear facsimile of the subject matter being broadcast.

To reproduce an accurate facsimile of the transmitted copy, the scanning and recording drums must not only rotate at the same rate but must be started off at the left margin simultaneously. This is accomplished automatically by means of a framing signal at the start of each page. The paper unrolls before the eye at just under $3\frac{1}{2}$ inches a minute. The recording paper is $9\frac{1}{2}$ inches wide. Copy may be reproduced over slightly more than 8 inches of its width, leaving margins at each side. This marking width was chosen to permit setting up news and features in four columns of standard newspaper width, allowing for column rules. The copy is divided into $11\frac{1}{2}$ -inch pages. Four of these can be sent and reproduced in a 15-minute broadcast period. Since 4000 to 4500 words can be set up in four pages, including heads and illustrations for attractive make-up, a facsimile newspaper can deliver several times the wordage that a radio commentator can speak in equal time.

The marking on the recorder paper cannot be erased because it is electrolytically deposited upon and into the Faxpaper. A cutting edge is provided at the top of the recorder so that the finished reproductions can be torn off into neat pages after being received. The only attention required of the home user is reloading the paper in the recorder humidor when the roll is used up, and inserting a new printer blade occasionally.

A Fax program may also be transcribed for a delayed broadcast, just as radio programs are transcribed; even the pictures may be transcribed. Audio-fax allows simultaneous broadcasting of sound and facsimile over a single radio channel. It accomplishes this with no depreciation of the FM audio range. Thus a picture may be transmitted by Fax and discussed orally by a speaker as it is reproduced for the listener.

I am very much impressed with the opportunity for using facsimile as a laboratory for journalism classes, particularly in colleges operating either FM or low-power FM stations. The facsimile broadcasts can be presented simultaneously with the regular FM programs from the same transmitter and radiator. In a school or college where the students of journalism do not issue a newspaper, they could put out two or three editions of a facsimile paper each day. They would have all the experience in gathering and writing news, in photographing events of local interest, and in the make-up of a newspaper sheet. This plan was in effect as early as 1949 at the University of Missouri. The expense would be slight in

comparison with setting up a press, linotype, and other newspaper printing equipment. Even if the college or the university does not have an FM station, the cost of a low-power FM station plus the cost of facsimile equipment would be far lower than the cost of a printing establishment and could be shared by various departments—music, speech, drama, journalism, engineering, etc. Just as radio programs may be transmitted over wires in wired radio, and television programs sent throughout a building by “closed circuit,” facsimile can be carried by wires.

SELECTED READINGS

AMERICAN TELEVISION SOCIETY: *The 1946 American Television Directory*, The Society, New York, 1946.

First annual edition. Contains some 50 articles on a variety of television subjects. In addition gives names of members and executives of the American Television Society, television stations, advertisers, agencies, producers, etc.

BENDICK, JEANNE, and ROBERT BENDICK: *Television Works Like This*, McGraw-Hill Book Company, Inc., New York, 1949.

A volume for the nontechnical people who just want to know what television is all about.

CAMERON, JAMES R.: *Television for Beginners: Theater Television*, Cameron Publishing Co., Coral Gables, Fla., 1947.

A nontechnical study of television from televisor to receiver. A short chapter on color television and a glossary of terms.

DUNHAM, FRANKLIN: *FM for Education*, U.S. Office of Education, Misc. Pub. 7, Government Printing Office, Washington, D.C., 1948.

Revised edition with up-to-date information on education's progress in utilizing its own FM frequencies.

DUNLAP, ORRIN E., JR.: *The Future of Television*, rev. ed., Harper & Brothers, New York, 1947.

Important television programs and practices from 1939 to publication date.

—: *Understanding Television*, Greenberg: Publisher, Inc., New York, 1950.

A popular treatise presented in a simple and clear style.

EDDY, WILLIAM C.: *Television: The Eyes of Tomorrow*, Prentice-Hall, Inc., New York, 1945.

A comprehensive analysis of television's development and its potential uses, based on practical experiences of the author.

FEDERAL COMMUNICATIONS COMMISSION: *Standards of Good Engineering Practice Concerning Other Than Standard Broadcast Stations*, Federal Communications Commission, Washington, D.C., 1945.

Contains rules and regulations on FM, television, and facsimile.

—: *Radio: A Public Primer*, Federal Communications Commission, Washington, D.C., 1947.

A nontechnical discussion of technical radio in aviation, police and marine radio, and television and FM. Also discusses radio censorship.

GABLE, LUTHER S. H.: *The Miracle of Television*, Wilcox & Follett Co., Chicago, 1949.

Although written particularly for the student by a scientist and inventor, its popular style will appeal to those interested in the history, operations, and possibilities of TV.

GOLDSMITH, THOMAS D., JR.: *The Truth about Color Television*, Allen B. DuMont Laboratories, Inc., Passaic, N.J., 1946.

HILLS, LEE, and TIMOTHY J. SULLIVAN: *Facsimile*, McGraw-Hill Book Company, Inc., New York, 1949.

Explaining the exciting new method of journalistic mass communication—facsimile: what it is and how it is being used today by newspapermen, radiomen, and industrialists.

JONES, CHARLES R.: *Facsimile*, Murray Hill Books, Inc., New York, 1949.

KEMPNER, STANLEY: *Television Encyclopedia*, Fairchild Publications Co., New York, 1948.

Gives key facts about television, as written by scientists, manufacturers, program producers, and promoters; also contains a section devoted to biographical sketches of people associated with television and a list of pertinent words and phrases.

KIVER, MILTON S.: *Television Simplified*, D. Van Nostrand Company, Inc., New York, 1948.

MARCHAND, N.: *FM*, Rinehart & Company, Inc., New York, 1948.

OFFENHAUSER, WILLIAM H., JR.: *16mm Sound Motion Pictures (A Manual for the Professional and the Amateur)*, Interscience Publishers, Inc., New York, 1949.

About a fourth of all air time today in television is taken up with 16-millimeter film.

RIDER, JOHN F.: *Television—How It Works*, John F. Rider, Publisher, Inc., 404 4th Avenue, New York, 1948.

ROWE, GEORGE: *FM For You*, U.S. Department of Agriculture, Washington, D.C., 1945.

A brief explanation of FM and the cost of building an FM station.

SAUNDERS, ALBERT C. W.: *Photofact Television Course*, B.V.K. French.

A clear, complete understanding of modern TV principles, operation, and practice.

SCHERAGA, MORTON G., and J. J. ROCHE: *Video Handbook*, Boland and Boyce, Montclair, N.J., 1949.

A complete handbook in 14 sections covering the history of TV, technical details, stations, program building, together with a data section, glossary, and bibliography.

SCROGGIE, MARCUS GRAHAM: *Television*, 2d ed., Blackie & Son, Ltd., Glasgow, 1948.

An English radio engineer explains "as simply as possible how modern television works, its difficulties and achievements and what its future may hold." Intended for the general reader with an interest in modern invention.

SPOSA, LOUIS A.: *Television Primer of Production and Direction*, McGraw-Hill Book Company, Inc., New York, 1947.

TYLER, KINGDON S.: *Telecasting and Color*, Harcourt, Brace and Company, Inc., New York, 1946.

A scientific story giving step-by-step procedures from inception of the program idea until its appearance on the receiver. Personnel duties also are discussed.

VAN DYCK, ARTHUR F., ALFRED N. GOLDSMITH, ROBERT S. BURNAP, EDWARD T. DICKEY, and GEORGE M. K. BAKER: *Frequency Modulation*, RCA Review, Radio Corporation of America, R.C.A. Laboratories Division, Princeton, N.J., 1948.

WOLFE, CHARLES HULL: *Facsimile Broadcasting—Modern Radio Advertising*, Funk & Wagnalls Company in association with Printers' Ink Publishing Company, Inc., New York.

YATES, RAYMOND F.: *New Television, The Magic Screen*, Didier Publishing Company, New York, 1948.

A history of television including its wartime uses.
Refer also to Selected Readings, Chap. XIX.

PROGRAMMING

The term "program building" in broadcasting may be applied either to the process of combining various entertainment and advertising units into an individual performance complete in itself, or to the task of arranging a series of such units into a sequence of acts for the day or the week. The problem of the program builder is to present entertainment that will hold the wavering attention of the great number of listeners; the income of his station depends ultimately upon that. To accomplish this he must consider the domestic and work habits and the attitudes, at various hours, of his listening audience. He must keep in mind the potential purchasers of the product to be advertised who will be reached during certain hours of the day. The program director of the network or of the local station, however, conforms to certain principles in the booking of the daily programs. The average radio station is on the air approximately 18 hours a day, from six o'clock in the morning until twelve o'clock at night; the director divides his day into approximately six parts of 3 hours each.

The local director should be less concerned with the quality of a single act than with the entire program for the day. In the majority of the stations associated with the various networks, the director aims to get variety and entertainment value by inserting contrasting local features between the programs received from the network. It is essential that he build up for his station a reputation for excellent programs in order to induce the listener to tune in and to stay tuned to that station automatically. To create this interest he must present a sequence of performances that are varied in character, all the time bearing in mind that different classes of people listen to programs at different times during the day.

The better practice is to avoid developing a type of listening audience, as this discourages certain sponsors. In building programs, however, the director is conscious of the strata to which his station appeals. In larger cities, where there are a number of stations, one may appeal to the "carriage trade," using fine music and educational features for sustaining programs. Another station will feature sports broadcasts and dance selec-

tions. In many cities one station will direct its programs to foreign-speaking audiences. The result is that programs are arranged to conform to the policy of the station as established by sponsors and listeners. No hard-and-fast schedule exists for assembling the daily offering.

Morning Programs

From six o'clock until nine in the morning the program director will arrange programs to appeal to the lower and middle class in the wealth bracket. During this period there is a great deal of activity in the home. The head of the family is leaving for work, children are getting ready for school, and the mother is preparing breakfast; there is little opportunity for attentive listening. The programs for this period should be cheerful, bright, and lively to start off the day. Announcements should be short and musical selections brief and popular. Talks during this period lose their value unless they are short, and each must be a complete unit in itself to be quickly digested with the breakfast. Fifteen-minute programs are preferred at this time; they will be largely musical. There may be broadcasts of morning news. The disc jockey participation program with a lively ad-lib show is a popular early morning type.

The farmer appreciates very early morning weather forecasts and farming information. Time signals are given frequently so that the man of the house and the children may be on time to work and school.

During the second period, from nine until twelve o'clock, the audience is largely housewives. While the mother is engaged in her household tasks, she will have the radio turned on and will be listening to shopping news or cooking recipes. Announcements may be longer during this period and the programs may be largely special features arranged for the feminine listener. It is during these hours that the majority of women are heard over the radio as announcers and speakers. Women may give long commercial plugs, may describe the latest fashions, discuss interior decoration, and carry the burden of the programs. Skits that will appeal to the housewife are the types that predominate during this period. The soap operas or daytime serials follow one after another for the housewife who works as she listens. A recording or an electric-transcription library furnishes selections appealing to the women; thus the presence of the station's orchestra is not required during the forenoon.

Afternoon Programs

The noon hour is not considered a valuable hour for commercial sponsors in metropolitan areas. During this time there is generally a news broadcast or a religious program. However, the rural listener is an excellent prospect for midday programs. In examining the programs of sta-

tions we find that weather reports, market news, crop conditions, and information of interest to the farmer are broadcast around the noon hours. Between twelve and three o'clock the listener is inclined to be more leisurely, with the result that longer talks and educational programs, traffic-court programs, and others of this type are broadcast in the early afternoon hours. The housewife is a good prospect for early-afternoon programs; this is the time for intimate chats concerning the personal problems of the mother, such as those dealing with health and reading, child care, or dressmaking. A series of soap operas frequently fill all periods from 1 to 4 P.M.

The late-afternoon programs bring the children to the radio, and their value as allies in an advertising campaign is not overlooked by the sponsors. It is a general principle that the commercial plugs in daylight programs may be longer than those in the evening programs. Daylight hours reach not only the feminine and youthful audience; there is an increasing tendency upon the part of masculine workers in small shops to turn on their radios and listen as they work. Consequently these afternoon programs, while they may appeal primarily to the feminine and youthful audience, must have qualities that will interest the workers as well. Of course, during this period there are sports broadcasts.

Evening Programs

During this time the broadcasting of news seems to be a feature of nearly all stations. There may be sports résumés and dinner-music programs. With the start of the evening-program period the length of commercial copy is reduced. The whole family comprises a potential audience in both rural and urban areas, with the result that programs in the early evening are designed to appeal to all members of the family and to all wealth brackets. During the winter months this period is the most valuable of the radio day; the charge for the broadcasting facilities is highest between seven and ten o'clock in the evening, with the result that sponsors endeavor to present programs of an excellent caliber.

There is a constant search upon the part of the program director for originality and distinctiveness in program types. There have been air waves of popularity from the quiz to the "give aways." In each instance the radio showman has overworked and exhausted the popularity of the type so that new ideas must be sought. After ten o'clock in the evening, entertainment of a light nature is stressed, with dance orchestras and musical programs predominating. As the evening grows later, sustaining programs are presented by the station and must be arranged in such a way as to build up a listening audience that will attract sponsors to these hours. Delayed broadcasts from the nets, which were tran-

scribed by the station, of programs presented earlier in the day are scheduled at this time. These consist of sustaining programs and in some instances of commercial programs which were delayed with the consent of the sponsor. In some instances where there is a time change from Eastern to Rocky Mountain time, these delayed broadcasts are an improvement in time for the advertiser.

General Requirements

All programs over the air are made up of music or talk; there are no other fundamentals than these from which to draw. The builder of programs must be ingenious in devising different arrangements. Music by itself for a long period is not advisable; it is much better to have the music interrupted by short skits or dialogues or monologues.

A radio program should be harmonious, that is, all features of the program should fit together smoothly. If the parts are not properly related, the result is discord and lack of effectiveness. In constructing the longer period for a sponsor, the builder may seek either a smooth harmony of entertainment or a contrast. As listening has been found to be an arduous occupation, there is a trend toward a contrast of component parts of the entertainment rather than a homogeneous linking of the whole. This results in a demand for variety in comedy, drama, music, and information; for unless the program contains a variety of entertainment features, certain members of its audience who demand those features will tune off. The tendency seems to be to present at least two features upon every program—an excellent orchestra and dramatics, music and a comedian, or amateurs. The feeling is that sponsors, by maintaining this formula in the building of their programs, gain a larger audience than if they presented merely a single feature. The program must start off in such a way as to attack the listener immediately and then must maintain that interest; however, the tempo of the musical numbers may be changed. The broadcaster must keep abreast of the thought, activities, and mental habits of the public. Audience interest is fickle. It is the business of the radio showman to give the public what it wants today. The program must be fresh and contain novelty from week to week. Dramatic surprises should be permitted so that the director may infuse new interest, new characters, and new entertainment ideas from time to time. As in every entertainment field, the impresario must constantly be seeking originality, ingenious combinations of old acts, new styles, unusual rhythms, or unique humorous situations, and his finger must be upon the pulse of public interest.

Radio networks and stations are at last beginning to realize that radio is an excellent advertising medium. They have preached this principle

to sponsors for many years but have not practiced it themselves. The result is that various commercial programs advertise other programs, and in some instances performers upon commercial programs wander from program to program to build up the listening audience for the net or station. Station breaks and plugs are given to hold the listener to the station for programs to come. The evening hours become more coordinated instead of being individual acts in the over-all radio show.

Cyclical or block programming is used both in daytime and evening hours. An audience is created for soap operas with the result that four serials will follow each other; music, instead of running for a single 15-minute program, will run from the best in popular music through operettas, semiclassical, and classical for a full hour or two. One evening may be devoted to "who-done-its," detective and mystery shows.

Each net and station is very conscious of what its competitor is presenting and schedules programs to try to steal the audience of the more popular show. When C.B.S. has Jack Benny on the air N.B.C. tries to steal his audience with an outstanding show. As a sponsor is hesitant in purchasing the period when another station has the big audience, every effort is put forth by the program department to originate a novel and competitive program. The weakest evening periods on the nets, 6 to 6:30 P.M. and 9:30 to 10 offer the best opportunity for competition by independent local stations. Not everyone likes an evening of mystery and murder, so the local station competes with music.

An extremely important factor in a musical program is variety. The musical director in choosing selections will avoid having series of numbers in the same key or rhythm. Such selections are generally chosen with an ear to their tempo, which is selected to fit the product being advertised. Even in the selection of musical numbers for a 15- or 30-minute program, variety is sought by the musical director in order that the appeal may be wide. Variety is essential in any program, regardless of the type. The hour at which the program is broadcast should be especially considered. The type of music played on an afternoon program should usually be different from that on the evening program. One must never forget the mood of one's audience. If the artist is a noted concert pianist, the public will listen to an entire program of his over the air, but these occasions are rare. Popular music is generally liked, but be-bop in most cases is disliked.

It is difficult for a program director to say how long a successful program should be. The broadcaster must remember that the length of the program is first of all determined by the amount of money the sponsor of the program wishes to spend. He must then try to find out which will have the greater advertising value—several short programs or fewer

long programs. In determining the length of each individual program or "act" in this variety show of the air, the director must recognize the fact that, regardless of the type of performance, the broadcast version should be shorter than it would be if it were presented visually to an audience.

The element of timing is vital. A few seconds one way or another can, and often does, spell disaster for the program director and result in the loss of a long-time contract with a sponsor. The program builder must have a fine sense of timing or tempo, for pauses are as important as situations and gags. The listener must be given time to digest and appreciate what he hears. The pause must be accurately timed as to its location and duration.

Popularity of Programs

Radio stations, advertising agencies, and special agencies conduct surveys to determine the popularity of programs, presentation types. Among the daytime programs 9 of the 10 most popular programs are soap operas; the tenth is a participation show featuring a radio personality, Arthur Godfrey. In the 15 evening programs found to be most popular in the survey ratings, the first is a fine dramatic show, two are mystery "who-done-its," two are comedy skits which build their audiences from week to week, two are quiz programs with name personalities, five are comedy-variety programs with music and an outstanding comedian, Walter Winchell with his news, Charlie McCarthy, and "People Are Funny."

Tastes vary from time to time; however, there is slight change evident in audience response to program types. Thus, the program type has less to do with its popularity than has its presentation. In order of wide appeal, popular music comes first, followed by comedy and drama. Then comes the sports broadcast, followed by classical music. The speech programs are next in the popularity ranking, then news, talks, religion, education, children's programs, special features, and finally women's programs.

The program builder should be familiar with all the programs that are being broadcast by various stations. He must evaluate their ideas and improve upon those that have been originated by others. He should have a complete knowledge of just about everything in the broadcasting station, particularly dramatics and music. He need not be the last word as a dramatic director but he should be surrounded by persons in that field who are capable.

TV Programming

Television today offers a growing variety of programs running from midmorning until late at night. The shows in the daytime hours mostly

follow the pattern of radio—women's features and popular musical offerings. In the afternoon there are the ball games and presentations for children. The major attractions which best exemplify the progress of television programming in the past year comes on after 6 o'clock at night.

All programs fall into two broad classifications: those originating outside the studio and those originating inside. Outside, the most effective programs are those which take the viewer to the scene of an event, such as a presidential address or a sports contest. Inside, the most successful shows are the drama productions and the up-to-date comedy offerings.

The programs offered on television cover virtually every facet of the entertainment world—vaudeville, drama, films, the dance, musical comedy, opera, quiz offerings, and discussion shows. The best of them feature familiar "names." The less successful usually suffer from a lack of visual values or from artists inexperienced in giving a sustained and spontaneous "live" performance.

A breakdown of programs presented by six stations during a single week—225 hours of TV programs—will indicate the different types of broadcasts.

<i>Type of program</i>	<i>Total hours</i>
Films	47½
Comedy-variety	35½
Children	35
Musical	24
Sports	22½
Interview-discussion	18
Women's Shows	17½
News	11½
Drama	8¾
Quiz	5
Religious	3
Educational	1½

In studio programs the quality varies sharply with the type presented. Actual practice before the camera has convinced television that it is going to have to follow its own course artistically.

As in broadcasting, comedy and variety appear certain to occupy a dominant position in television programming. Such shows already hold a commanding lead. The best use vaudeville as a base, but add sketches, an abundance of rapid-fire ad libbing and assorted high jinks that give the shows as a whole a note of spontaneity. Such a program places a high premium on a personality, who must hold the show together, pick up the lagging acts, and make the audience feel like a party to the conspiracy in make-believe.

Mass or Selected Audience

The commercial broadcaster aims his program day to appeal to a mass audience. Commercial radio is a mass medium in which broad appeal is inherent. Certainly the medium must be such as to attract all kinds of people in all parts of the country, and in different age, income, and educational brackets—all, almost all, the different kinds of Americans there are. A mass medium must concern itself with the common denominators of mass interest. Its basic appeal cannot be special or excessive or selective. Yet the listener is not a mass. The listener is an individual, and in terms of the construction of any audience, he is a segment of the totality of the listening public. It is the problem of the management, of the program department, to choose the menu for the many different-sided segments and to satisfy their average appetites for interests and needs. It does not cater to one listener.

The true function of broadcasting relates quite specifically to the community it serves. It bears upon the needs, the differential needs of that community. The function of the broadcaster is not to force his own opinions or attitudes upon his audience but to listen to the voices of his community which express the needs and problems of the individuals who are his listeners and to attempt to satisfy these voices.

Not all the listeners in the 39,281,230 radio homes like the same things. With the networks and big commercial stations vying for the mass audience, the independent local and the educational stations have easy picking in the minority groups. These stations can and do present the finest music, the best experimental programs, and local events. TV will reign in the metropolitan areas and around the largest cities in the state, but the great bulk of the population is beyond the horizon for television.

The independent station will go out after a share of a large potential audience or seek to attract the whole of a smaller group which it can more or less monopolize. Specialization in classical music poses a difficult problem. In any community there are always more people interested in dance music and comedy than there are in fine music. The station that expects to counter AM and television with good music must first make sure that the possible audience is large enough to become a market which will support the station.

The station which continues to specialize and hold an audience which is essentially its own will continue to attract sponsors. Unfortunately there is no magic formula for a specialized station. Success will depend upon individual initiative, imagination, experience.

Local Features

The alert program director will study the community in which his station is located and build programs to appeal to listeners. One Detroit station, recognizing the fact that that city had over 400,000 Polish listeners, has arranged programs in Polish for the listeners. Because of the large listening audience, this program is sponsored and the price that is charged the sponsor is more than that charged for the ordinary program in English. This station also presents programs in German, Czechoslovakian, Bavarian, and Italian. A foreign resident speaking these languages is put in charge of the program and sells time. The announcements are all made in the language and the musical portion of the program consists of recordings, which are generally obtained from the native land, and live talent from the local foreign settlement. These programs are presented at hours when the small station would find it difficult to compete with the excellent chain programs that are offered by local stations. They are very popular and have a distinct and positive audience. Frequently competition between various language groups makes for better programs. Nearly 400 stations now accept foreign-language programs.

A few stations are recognizing the fact that a large proportion of laborers work all night in the cities; thus some stations are on the air for 24 hours a day. One station broadcasts programs that would appeal to the owners of beer gardens between twelve and two o'clock in the morning, presenting 10 minutes of dance music, followed by 10 minutes of music of a character that will force the listener to sit at a table where it is hoped he will drink beer. Such programs also find sponsors among the all-night barbecue stands that are equipped to deliver food. The early morning programs from five-thirty on are excellent mediums to reach the invalid, the milkman, and the all-night worker. They largely consist of requested musical selections. Such programs furnish an excellent advertising medium, building up a listening audience for the station. This is one of the problems of the program director—the creating of an audience that will be a sales factor for daylight programs.

While the evening hours bring the finest programs from the networks, the local station relies upon the daylight programs for its greatest audience and income; consequently its daylight and evening rates are usually the same. In the evening the local manager must arrange special features, such as the foreign-language programs, local news broadcasts, and club programs, to attract the resident from the networks. Local merchants would be wise to recognize that competition is less during the daytime. A high proportion of existing radio stations are licensed to serve the par-

ticular needs of the areas in which they are located. Station managers are searching for good local-program material. The most important developments in broadcasting will probably occur in the improvement of local programs rather than in any change of national programs. The gauge for the successful program is threefold: "(1) the popularity of programs which compete with the one being evaluated, (2) the attractiveness of the first two or three minutes of the program, (3) whether the whole content of the program, rather than some part, holds the interest to the end."

Special-day Programs

Various transcription services prepare a special-day program for the use of those who have subscribed to its transcription library. Special-day programs may be arranged by local stations. There are patriotic and religious holidays, sentimental holidays, as well as national holidays. Many excellent scripts have been written for Memorial Day, using the theme of the Unknown Soldier. A brief sketch of this type follows.

THE UNKNOWN SOLDIER

ANNOUNCER: The scene is Somewhere in Heaven on Armistice Day. As the scene opens, Red is looking down upon the earth. National airs can be heard played by a band and the atmosphere is created of a dignified, solemn, imposing ceremony at the dedication of the Tomb of the Unknown Soldier being conducted below on earth. The presidents, kings, emperors, and rulers of the countries of the world are in attendance to pay tribute to the Unknown Soldier. Red is gazing attentively at the ceremony.

QUINTON: What's going on, Red?

RED: Big doings down there—bands, speeches, and everything.

QUINTON: Boy, that's a wonderful sight! Never saw so many people in one spot. What's it all about?

RED: That's the Tomb of the Unknown Soldier and all the "head men" of the world are there to—what do you call those affairs?

QUINTON: Memorial Service.

RED: That's it. I've been watching and listening for half an hour—all the presidents, kings, princes, generals, admirals, the Pope, bishops, rabbis—they're all there, from all over the world.

QUINTON: What's the idea back of it all? I'm sorry I missed it.

RED: It's great—the finest notion that came out of the lousy war. It seems that a little country preacher thought it up—with all the hate, blood, guns, gases, subs, propaganda running wild, he donated to the world this simple, wonderful thought. You know there were thousands killed in the big scrap that were unidentified and their folks never heard from 'em. This preacher

thought up the idea of picking one from the unknown bunch and burying him with great honors. You see, all the mothers of the missing thinks that's her boy—

QUINTON: And she's right—maybe it is her boy.

RED: (*Cynical laugh*)

QUINTON: Why the laugh—what's funny?

RED: That's me down there and all the world is around my tomb. (*Laughs*)

QUINTON: You lucky stiff, put it there. Glad and proud to meet you, kid. What's your name?

RED: Red.

QUINTON: Red—what?

RED: Just "Red."

QUINTON: Cut the kidding. What's your last name?

RED: Don't know—that's why I'm laughing. Never had any. On the square.

QUINTON: Never had a mother?

RED: Never knew who she was—or a dad either.

QUINTON: You don't mean to say you're a—

RED: Yes, isn't it funny, of all the thousands of guys unidentified they just happened to pick on me. The Unknown Soldier. I'm a real Unknown Soldier. When I tried to check up on myself I found out that I was left on a doorstep—raised in an orphan asylum—ran away—peddled papers—hung around the curbstones—worked in a factory—went to war and got knocked off in the Argonne.

QUINTON: What a break!

RED: Now you know why I laughed. But listen, kid! I know this is Heaven 'cause I got more mothers than any guy in the world!

Filling Time

The local station in a small community, where there is little talent, and the educational broadcaster have the problem of filling their time on the air at the least expense. Such stations average 84 hours a week on the air—336 quarter-hour programs, 52 weeks in a year. Their greatest blessings are the transcribed services which provide music and continuity. A station will use about 25 hours a week of transcriptions and additional recorded programs. Many popular selections are received free for use upon disc jockey programs as promotional advertising for the manufacturer. Victor, Columbia, Masque, Standard, MGM are but a few who provide "special purpose" current recordings.

These stations will subscribe to a news service—Associated Press, International News Service, United Press—and as a result will be able to present about 18 hours of news, market reports, sports, features, and commentaries.

Many excellent transcriptions are obtainable free from public-relations sources such as those of foreign nations—French, Dutch, and British. In

addition the various departments of the United States government will provide public-service programs which highlight the Army, the Treasury Department, the U.S. Office of Education, the Navy, and the Veteran's Authority. The advertising on these programs is in the public interest and is carried by the station gratis.

There are a number of manufacturers who provide free institutional transcriptions with only indirect commercial material such as Westinghouse's "Adventures in Research," and General Electric's "Excursions in Science." The educational stations in the region will gladly supply transcriptions of their programs to gain greater coverage and to publicize their institutions. Other nonprofit organizations also provide programs such as the American Medical Society and Alcoholics Anonymous.

These three program sources—transcription service and recordings, news service, and public-service program transcriptions—should account for about one-half of the weekly program fare.

SELECTED READINGS

BRYSON, LYMAN, ed. by WILLIAM C. ACKERMAN: *Time for Reason—About Radio*, George W. Stewart, Publisher, Inc., New York, 1948.

A series of informal talks originally in broadcast form intended to inform listeners about the problems and possibilities of radio. Contents include network operation, programs and policies, other points of view as expressed by guest speakers, and broadcasting as an instrument of enlightenment.

LANDRY, ROBERT J.: *This Fascinating Radio Business*, Bobbs-Merrill Company, Indianapolis, 1946.

Covers phases of radio with emphasis on social implications.

LATHAM, JEAN LEE: *Nine Radio Plays*, Dramatic Publishing Co., Chicago, 1940.

Appropriate for Washington's and Lincoln's birthdays, Hallowe'en, Thanksgiving, Christmas, Columbus Day, St. Valentine's Day, St. Patrick's Day, and Mother's Day.

LAZARSFELD, PAUL F., and PATRICIA L. KENDALL: *Radio Listening in America; The People Look at Radio—Again*. Prentice-Hall, Inc., New York, 1948.

Report on a survey conducted by the National Opinion Research Center.

NATIONAL BROADCASTING COMPANY: *Responsibility: A Working Manual of N.B.C. Program Policies*, The National Broadcasting Company, New York, 1948.

Latest compilation of N.B.C. program and advertising policies.

SCHRAMM, WILBUR, ed.: *Communications in Modern Society*, University of Illinois Press, Urbana, 1948.

Fifteen studies of the mass media. An over-all discussion by experts of the problems facing the press, radio, and motion pictures. Prepared for the University of Illinois Institute of Communications Research.

SIEPMANN, CHARLES A.: *Radio's Second Chance*, Little, Brown & Company, Boston, 1946.

A critical analysis of radio's strength and its weakness in the United States with a "Plan for the Future."

—: *Radio, Television & Society*, Oxford University Press, New York, 1950.

SPENCE, LESLIE: *Radio Listening*, Joint Committee for Better Listening, Madison, Wis., 1946.

One of the best aids to evaluate radio programs by individual or group listeners.

WALLER, JUDITH C.: *Radio—The Fifth Estate*, Houghton Mifflin Company, Boston, 1946.

A general survey of broadcasting, by the Director of Public Service of the Central Division of N.B.C.

WILLIAMS, ALBERT N.: *Listening*, The University of Denver Press, Denver, 1949.

Sparkling, up-to-the-minute criticism of radio, reflecting the author's twelve years' experience as a writer, director, and advertising consultant. The various chapters consider every phase of radio.

RADIO ANNOUNCING

Radio announcing, as a profession, has come of age. The day of the transient, station-to-station, journeyman announcer is past. Though all qualifications are not firmly established as yet, this is largely due to the fact that radio is still in a stage of transition. Television has added new requirements to the general confusion; and announcing, as a profession, needs unbiased analysis.

Announcers themselves have come to realize that training and experience must be an integral part of their equipment; that a good voice and a pleasing personality are not enough, as they might have been even five years ago. Many station managers still consider announcers as of little consequence, limiting initiative and authority to the minimum. This attitude may have been justified in the past, but today announcers must be considered as belonging to a profession which is fast gaining both dignity and respect, capable of attracting men and women of education and ambition. The more progressive stations have trained their announcers to shoulder responsibility and assist in planning programs. They have encouraged specialization in fields where the announcer seems to have particular aptitude. It is true that many of the top-notch announcers of today began with very little formal training and developed with the growth of radio, but they, more than any others, realize the potentialities of the profession and the need for adequate training.

Bernice Judis, vice president of WNEW, New York, says that "an announcer should be such a friendly voice in the house that the listener is tempted to answer him back." Like most things which sound easy, however, the mere fact that an announcer can do this requires a background of intensive training and specialized education, which must become so much a part of him that he and the listener both are unconscious of it. The radio announcer must also bear in mind that he is the station's representative while on the air. The listener judges the caliber and character of the station by its announcing staff. Therefore, voice and speech training are a *must* for success in announcing. The training

must extend beyond the limits of formal education. No one should consider radio announcing as a profession unless he has a healthy curiosity and interest in speech and in people. He must be ready and willing to practice, drill, and study every day for the rest of his life. Dramatic training is sometimes helpful but not essential, for the announcer must sound convincing at all times and this occasionally requires acting ability. Most good announcers have been either actors or singers. Graham McNamee, Milton Cross, and Jimmy Wallington were all singers before they became announcers. Don Wilson and John B. Daniels were actors. Pat Kelly, N.B.C.'s chief announcer, was both actor and singer, and Ben Grauer was a child movie star.

Here is a note of warning to the careless radio announcer who may tend to allow his lack of interest in or his disagreement with his announcements to reflect itself in his voice. An exercise in mental hygiene seems to be indicated for one who would be successful. As Milton Cross put it, "An announcer's voice must be healthy, well dressed, and cheerful." A continued conscious effort must be made toward that end. Many American colleges and universities offer excellent courses in speech training which provide drill in pronunciation needed to free the announcer from the handicap of regional dialect and local peculiarities. Here, he can study voice improvement, public speaking, and oral interpretation.

There is no better training for radio speaking than the reading aloud of all types of material. Stumbling over an announcement is an unforgivable sin on the part of the announcer. There may be brief pauses—the slight hesitancy used by speakers to emphasize the choice of a carefully selected word. Reading is a tremendous handicap to spontaneity, and the difficulty is emphasized in the announcer's case, for when a man is giving various items daily, in many cases repeating what he has read previously, the opportunity to wander mentally is all the more attractive. To avoid the trap of this too-easy job of reading words, one must concentrate upon the mood and the meaning of the words. Proper pause, stress, and intonation can be obtained only in this way. When the announcer or speaker has completed his radio address, he should be able to give a clear résumé of what he had just said.

William Shakespeare, although unacquainted with radio, once delivered some excellent advice to announcers when he said, "Speak the speech, I pray you, as I pronounce it to you, trippingly, on the tongue; for if you mouth it, as many of you players do, I had as lief the town crier spake my lines." To be acceptable to the radio listener, the announcer must avoid all forms of affectation such as gushing, evangelical exhortations, pleading sweetness, aggressive overemphasis, spiritual

ecstasy, and the precise pronunciation that results in an obvious division of a word into its syllables. Today, sponsors prefer the chatty, chummy type of announcing, like that of Harlow Wilcox, Harry Von Zell, and Arthur Godfrey.

If you want to be an announcer, Pat Kelly recommends a college liberal arts course, an English major, a course in speech, and as much acting as you can work in. The announcer needs training in mike technique which a small station can provide, though not so well as many colleges and universities do. More important than either schooling or dramatics for the beginner is a good education with an all-round knowledge of music, sports, current events, and books. Along with this he should have the ability to learn the actual mechanics of radio announcing. Radio announcing is nothing more than an attempt to communicate information; to make something known. Although the information may reach millions, it is directed to the individual listener, and the communication is complete only when the listener hears, comprehends, is interested, and then acts upon what he hears. If the listener does not act upon the announcer's message the communication is still not complete, because in radio, as in almost all other speech activities, the purpose is the stimulation of action. The action may be merely that of remembering something, or it may be that of doing something, but unless the announcer's message is acted upon there is no real communication. If you fail to send in your bottle top or fail to "stay tuned to your friendly station" then the announcer has failed.

A partial list of skills, evolved from many discussions, although not entirely inclusive, consists of communication of ideas and emotion, as well as projection of the personality through naturalness, vitality, friendliness, adaptability, and pronunciation. Voice control is a skill which depends upon pitch, volume, timing, and quality to a large degree. Many other skills can be developed and added to these, but here, briefly, are those which any announcer needs, plus whatever education and experience he can obtain.

An announcer can achieve complete success, in selling his idea to his listener, if he rethinks his copy and makes it his own without mechanically employing the techniques of phrasing and emphasis. By knowing and understanding technique he can fortify his natural ability for the occasions when he is obliged to fall back upon them as aids when the continual reiteration of an announcement has robbed it of its freshness.

Phrasing is indicated by inflection, and an inflection is either upward or downward in pitch. In the English language such pitch comes at the end of each phrase, uniting the words in the phrase and indicating by

the pitch movement whether the phrase is complete in itself or connected with what follows. A downward glide in the pitch usually expresses completion of the phrase; an upward glide, the opposite. Inflection can be varied to express any mood or emphasis, such as indecision, disbelief, a question, and courtesy. A circumflex inflection of the voice usually indicates insincerity or irony, or a state of mental confusion.

Emphasis can be achieved by variations in tone or volume. A phrase can be varied in this way to call attention to key words or can be increased in a crescendo, as in music, to gain the required feeling of mounting excitement and anticipation, as is sometimes used in variety shows. Emphasis can also be achieved by variation in timing. Time emphasis on a word or a phrase can be gained in the three following ways:

1. By the use of a pause after or before the word or phrase.
2. By prolongation of the sounds within the word or phrase.
3. By variation in rhythm.

Relaxation of the body may also contribute to the emphasis of speech. Within range of the microphone an announcer may move his arms or body, just as he would do to a visible audience and thereby gain more naturalness in his speech. Announcing and radio speaking, which is dealt with elsewhere in this book, have much in common; the rules for one apply also to the other. Genuine sincerity is, of course, one of the greatest attractions in any speaker, but it is especially to be desired in an announcer. The microphone is a sensitive instrument and records with utter fidelity the slightest variation in tone or meaning.

The pause, if well used, is one of the most effective devices an announcer can use, and it is often the most frequently ignored. Some announcers are still afraid of silence. They are convinced that the air must be constantly full of words. Sometimes this fear is conditioned by station managers who cling to the old methods and ideas of advertising. Newspapers learned long ago that white space has as much value to the advertiser as the printed word. The skilled and experienced announcer realizes that silence, if effectively used, is radio's "white space."

"Personality is reflected in the voice." We seldom think of personality except in positive terms, and the radio announcer is expected to have such a positive personality. That is, the listener enjoys hearing a voice which suggests naturalness, sincerity, believability, vitality, friendliness, and warmth as well as adaptability. The microphone picks up insincerity, disinterest, guile, and irritability very clearly. The beginning announcer may be nagged by qualms of mike fright and will realize all at once that he is addressing a mechanical instrument rather than an

audience. He must speak with his mind on time and on the second hand of the clock ticking off each breath. He must say words that are not his own in a voice which is supposed to sound natural. Under these circumstances this is difficult to do, but the words and thoughts must be mastered until they *are* his own. He must imagine that he is speaking to just one listener and direct his message to that one person, sell his thought to that person. He will help himself most by following the advice which actors and performers give themselves:

1. Everyone has had a similar experience and lived through it.
2. Don't think how you feel. Think of what you are about to say.
3. Assume a vital, positive, assured manner and you will be more apt to be just that.
4. Know what you are going to say so thoroughly that you are saying it before you have a chance to worry about it.
5. Breathe as deeply and naturally as possible.

The would-be announcer should listen carefully to the station with which he hopes to affiliate himself. He should try to emulate the better announcers of that station but never to imitate them. The beginning announcer may be a "nobody," but he is better as a nobody than as an imitation of someone else. To be natural, to be himself, the announcer must react normally to each announcing situation. This does not mean that he must be colorless. It is as natural to be gay, enthusiastic, folksy, or chatty as it is to be dull, bored, or aloof. Vitality is a personality trait most required of announcers, but even this can be overdone. Everyone who listens to radio is aware of this; in fact, many listeners would be happier if some announcers were not quite so vigorous and full of bounce.

The announcer should have a personality so varied that he can adapt himself and his announcing style to the constantly changing demands of the listener and the program. Listening audiences change from hour to hour, program styles often change every 15 minutes. The announcer must be ready to change with them without losing any of his individual integrity.

In the case of the radio announcer, the same individual is compelled constantly to change his style from one form to another, so that he is confronted with the difficult task of attempting to handle all types of public speaking equally well. Very few announcers specialize in one type of work. The average announcer must be prepared in the same day to give the dramatic ballyhoo of a spectacular program, to read the 3-minute commercial advertisement for a so-called health salt, to read the announcements for a program of classical music, and to introduce a

professor or a minister. All these variations and many more come as grist to his mill.

The announcer should be aware that styles in pronunciation change just as clothing styles do. He should keep his standards high but flexible, for what was correct yesterday may not be acceptable today or preferred tomorrow. The International Phonetic Alphabet, sometimes called the "IPA," transcribes all sounds of spoken language into symbols, each representing only one sound. At first glance, it looks like an entirely new alphabet and some announcers shy away from it because it looks difficult. It is simple and is being utilized more and more in radio, and is used in nearly all college-foreign language courses and in many speech courses in vowel and consonant drill.

An announcer must be more conscious of time than of any other element in broadcasting. Although he must constantly think of his listener and his message, he must always be aware of the clock and the constant sweep of the second hand. He must know how and when to take up the slack in a program when time is running short and how to stretch it out by prolonging phrases and other variations of speech. At first this is difficult to do unless one is born with a perfect sense of timing, as sometimes happens. Generally, however, it is knowledge which must be gained by constant observation and practice. It is one of the most essential skills an announcer can have.

The announcer's voice must be natural, a universal voice—one not tied to any locality or sectional dialect; he must have ability to be formal without being stiff, to be informal without gushing; he must be versatile in his ability to handle names, musical terms, and foreign words.

The National Broadcasting Company, in the pamphlet on *The Selection and Training of Radio Announcers*, states,

An announcer in the N.B.C. is expected to average well in the following: a good voice, clear enunciation, and pronunciation free of dialect or local peculiarities; ability to read well; sufficient knowledge of foreign languages for the correct pronunciation of names, places, titles, etc.; some knowledge of musical history, composition, and composers; ability to read and interpret poetry; facility in extempore speech; selling ability in the reading of commercial continuity; ability to master the technical details in operating the switchboard; a college education.

The qualities that make the best announcers are personality, charm, naturalness, sincerity, conviction, enthusiasm, spontaneity, accuracy, culture, and salesmanship, to which add a dash of voice with an excellent vocabulary, and you will have an ideal radio announcer.

The commercial announcer must follow the principles that are laid

down for radio speaking in general. However, he must also develop some special characteristics that are different from those used by the person giving a radio address.

Simply because all recognized announcers have good voices, it has been assumed that this is the most important requirement for the announcer. The ability, natural or acquired, to control the voice apparatus with which he is endowed is more essential than natural tone quality. Often the ability to control his voice earns for an announcer with meager volume and vocal equipment the reputation of having a good voice.

Physical relaxation of the vocal cords and of the muscles of the neck and throat is the foundation upon which all voice control is based. Without such relaxation, the tenseness of the throat muscles and vocal cords will limit the range of the voice and cause a readily detectable rasping quality; a breathy, harsh effect is imparted to the voice, and all opportunity for effective intonation is gone. Apart from the obvious restrictions of tenseness of the mechanism upon the voice, the listener is aware of the uneasiness, the strain, on the part of the announcer, and this destroys his confidence in what he hears. Tenseness is seldom obvious in ordinary conversation; therefore, it is obviously produced by a mild form of "mike fright." Even experienced announcers feel some excitement when they are addressing the mike, but they do not allow their feelings to tighten their throat muscles or to influence their speech. The best method of keeping mental strain at a minimum is to concentrate upon the material at hand, the script, the message to be given, the service that you feel you are giving to your listeners.

The position at the microphone is important. The best "punch" announcers talk up to the mike. Such announcers hold their copy above and beyond the mike and talk up with considerable verve. If the announcer talks down, his throat muscles are inclined to cramp and tighten. The man who is of average height seems to be more acceptable than one who is either very short or extremely tall. I have never been able to do anything in my classes either to lengthen or to shrink an announcer.

The students who have successfully placed themselves as commercial announcers are those who have practiced tirelessly in reading commercial announcements over the public-address system. It takes a lot of practice to gain naturalness and fluency. The average radio speaker has a very conversational style; the commercial announcer puts more punch into his delivery and, as a result, requires more voice volume and reserve breath.

The commercial announcer's sense of phraseology and immediate recognition of important words is essential. He must read his copy and

determine what his punch words and phrases are to be. He must vary his tempo and his volume accordingly. As a general rule, tempo is slightly decreased for a punch line and slightly increased for supplementary material. Of course, in such change of tempo, there must never be a loss of clarity in enunciation. If a phrase is speeded up, the words that are in that phrase must still be clear and distinct. When an announcement is to be given rapidly, and most commercial announcements are given with considerable speed, success depends not only in skimming lightly over unimportant words, but in knowing what words require stress to make the advertising message vivid and clear. In actual practice, many simple words are skimmed over by a commercial announcer. In the following simple spot announcement, the italicized words are those which can be effectively run together.

Clapp's Strained Baby Foods *are made from tender, select vegetables, rushed fresh from factory garden to spotless, sunlit kitchens where every step in their preparation is carefully supervised by hospital-trained dieticians.*

The sponsor or his advertising agency infrequently gives instructions to the announcer about emphasis and style of delivery, depending upon his individual interpretation. Here, however, is one announcement with instructions that appeared in *The New Yorker*:

ANNOUNCER: CIGARETTE STAIN ON YOUR FINGERS IS NOT NICE!
PELL MELL Famous Cigarettes are smoked wherever particular people congregate—because independent research proves that with PELL MELL there is noticeably less finger stain, or no finger stain at all. (*Pause*) Try PELL MELL CRITICALLY!

Note to announcer:

The first sentence of the above commercial should be read with great emphasis, particularly on the words "not nice."

In our previous instructions this was expressed by suggesting that "not nice" be said with a snarl. The *emphasis* gained by this instruction should be retained, but the tone of disgust should be dropped.

Keep the emphasis—but forget the snarl.

Effectively linking words together to bring out the meaning to best advantage is the secret of many an announcer's success. It is the keystone to his most important task—driving the sponsor's message home to the listeners—and often is the hardest feat to master.

The best means of mastering correct articulation for the punch announcement is simply to practice reading copy into a microphone for an unseen auditor, reading and rereading those passages which do not come through clearly until the articulation is satisfactory. Often it will be found that a single, short word is the source of difficulty, and that

this one word will have to be separated from the rest of the phrase by a very short pause. Often, too, the trouble will be not that the words in themselves are not clear, but that a definite pause is needed between phrases to allow a rush of facts to sink home in the listener's mind before continuing.

The importance of a winning radio personality to a commercial announcer can hardly be overemphasized. His responsibility as the personal representative of his sponsor requires that his speech introduce him as an individual rather than as a puppet. This individual must be affable. He must be attractive in one respect or another. He must project the picture of a person who would hold one's attention if he were talking in one's living room. Most important of all, he must be *different, individualized*. He must call to mind a definite image, not simply the idea of a man talking.

Proper breath control is more important to the commercial announcer than to the average radio speaker, because of the frequency in his scripts of punch lines which require more voice volume than ordinary conversation. He must be constantly prepared to deliver full volume when the script demands it. He should always be sure of a reserve supply of lung power to fall back on.

The application of this principle of suiting the style of delivery to the type of listening audience and the type of product explains alike the staccato, vigorous style of the sports announcer who "plugs" Adam Hats during a sports résumé at suppertime; the easygoing banter interspersed with the Fred Allen show; the weaving of plugs into the nonsensical plots of Jack Benny's program; and the dignified statement of sponsorship which opens and closes the United States Steel program.

Perhaps the newest and most interesting innovation in style in commercial announcing is the technique used on one of the "soap operas"—a technique which already shows signs of spreading. It is one of glorified informality, in which the announcer virtually twiddles his thumb in the listener's ear to the following words: "Well, ladies, you admit there's a definite problem connected with washing hosiery and delicate fabrics, don't you? Un-huh, I thought so. Well, you know, I've just got an idea you've never thought about using . . ." How far this new naïveté in commercial speech will go, and how successful the Little-Boy-Blue style of commercial announcing will prove, it is impossible to tell. However, it will be interesting to watch its progress.

Microphone Position—Frequency Modulation

Fundamentally, microphone placement in FM practice calls for location of the microphone at a point where the program may be heard to

best advantage by the human ear. Common AM practice is to play or speak directly into the microphone, in some instances closer than if talking directly to the person. Major Armstrong states it concisely:

For ordinary announcing . . . it is necessary to keep the announcer away from the microphone; otherwise one gets the effect, on FM, of having one's ear talked into from close at hand. . . . We have found that the FM technique consists mainly in putting the microphone where you would like your ear to be with respect to the orchestra when listening to it directly. . . .

In AM the announcer or speaker was placed in the correct position before the microphone. In FM he speaks from the most advantageous



FIG. 29. Announcer's setup. Program being broadcast over AM station through Bantam microphone on table and fed to FM station through microphone on boom. (*University of Michigan.*)

part of the studio and the engineers, by trial and error, locate the microphone where it makes his voice sound most natural. For this reason, it is best to have pulleys in the ceiling of studios for suspended mikes or to have mike booms that can be easily rolled about.

The type of microphone setup for speech in FM programs is to sus-

pend the mike above the heads of speakers or of the announcer at a distance of from 2 to 4 feet (Fig. 29). In some cases, speaking voices that have excellent quality and resonance when picked up for AM sound harsh and unpleasant when directed straight at the mike. It is desirable to work at a greater distance from a microphone in FM for speech than has been customary in AM broadcasts. Many FM announcers work the mike seated, with a microphone suspended about 2 to 3 feet away and fairly high for normal seated range. They are also directed to speak in a normal conversational tone without the projection that is normally used for AM work. The result is a nice, flexible, natural quality which does full justice to the voice and also gets us away from the driving quality which is so customary in ordinary commercial work. Of course, the studios must be of the best acoustic construction to avoid picking up room noise.

News reporters, speakers, and announcers would sound better on FM if they had a separate microphone, in a dual-operation program presented over both an AM and its associated FM station, set back 2 or 3 feet. It is all right for them to cuddle the AM mike, but it just does not do on FM.

It is difficult to overcome the established custom of announcers who have spent years broadcasting over AM stations of operating from 4 to 12 inches from the microphone. Voice waves at this distance (4 to 12 inches) from the mouth and the throat cavities do not create electrical impulses that correspond to the natural character of a particular voice. FM offers the most perfect fidelity to tone changes, and with the recently developed microphones, described in a previous chapter, the FM broadcaster is constantly striving for perfection.

SELECTED READINGS

GILMORE, ART, and GLENN Y. MIDDLETON: *Radio Announcing*, Hollywood Radio Publishers, Hollywood, Calif., 1946.

GOULD, SAMUEL B., and SIDNEY A. DIAMOND: *Training the Local Announcer*, Longmans, Green & Co., Inc., New York, 1950.

HENNEKE, BEN G.: *The Radio Announcer's Handbook*, Rinehart & Company, Inc., New York, 1948.

Designed to teach speech students the rudiments of radio announcing. Exercises are included along with drill material.

KILMER, BILL: *Announcing for Radio*, Sarcone Publishing Co., Des Moines, Iowa, 1947.

A basic guide for student announcers.

RADIO SPEAKING

Basic Problems

In discussing the problem of how to be effective via the microphone, my task really is to adapt modern principles of effective speech to their use in the particular case of radio. A study of speech principles will reveal the little-realized fact that, aside from a few allowances due to the mechanical limitations of a microphone, the best radio speaker is the one who follows most closely the dictates of a competent textbook on public speaking. The added difficulty that lack of a visible audience presents in broadcasting only increases the necessity of observing speech rules. The often-remarked fact that many good announcers know nothing of platform speaking, while many good platform speakers are a failure on the air, is not a refutation of my statement. Reference to a speech textbook would confirm the technique unconsciously used by these announcers, while an analysis of the so-called good platform speaker would show that his success grew more from showmanship and dramatics than from effective speech. A textbook on speech usually is divided into chapters devoted to advice concerning each type in turn: the argumentative speech, the humorous talk, or the expository discussion. Obviously, all these possible types of talks have their turn on the air.

An added complexity in the study of radio speech is the increasing attempt of radio-program planners to get away from straight speaking, through the use of other interest-catching devices. The interview, composed of questions and answers, is being employed to hold the listener's attention. Round-table discussions by a small group of authorities are used to gain informality and, at the same time, to make the speakers feel more at ease. Debates and dramatic skits are also heard over the air. All are interesting variations and require training different from that given to the orator.

The absence of a visual audience and the inability to aid his delivery by gestures is a serious handicap to the speaker. Allow me to make clear

just what the lack of a visible audience means to the speaker. First of all he notes the absence of circular audience-speaker responses. In any speech textbook one will find a discussion of the stimulation that an audience gives to the man addressing it. Public speaking is usually a type of circular social behavior, in terms of social psychology. The speaker first stimulates his audience, but we sometimes overlook the fact that the audience in turn stimulates the speaker. This circular process goes on throughout the entire speech, playing an important part in its success. Anyone who has done much public speaking will realize the subtle but potent influences the audience has upon the speaker. The best speaker is inclined to be the one most sensitive and responsive to these influences, one who has the "feel" of the audience and who adapts himself to it both in his manner and in the content of his material while talking. It is needless to point out that the radio has entirely broken the chain of this circular process for the speaker. Radio performers drafted from the stage and platform are the first to feel the handicap of this situation.

Another important psychological factor in broadcast speech as differentiated from platform speech lies in the distribution of a radio audience, for an audience divided into a series of small family groups deprives a speaker of all the advantages to be gained from interstimulation, so commonly noticed in crowd psychology. Those infectious waves of emotion that sway a large mass of people, seated elbow to elbow, are lost in radio.

Furthermore, radio listeners are entirely free of those social inhibitions, compulsions, and conventions which dull speakers often rely upon to keep a visible audience in their seats. People who would be embarrassed to walk out of an auditorium while some would-be spellbinder is speaking do not hesitate to shut off the radio speaker. These factors force the radio speaker to be more painstaking in the preparation and in the presentation of his talk, if he expects to hold his audience.

The radio speaker has only one set of stimuli to work with instead of two. He can use only the audible speech symbols and he has no appeal for the eye. To quote from the *Little Book of Broadcasting* put out by the National Broadcasting Company, "Few of us realize, until put to the task, the extent to which the eye and the ear, when working together, are influenced by the impressions that come through the eye. We early found by experimentation that, when the sense of hearing alone is involved, we have a very different and a much more difficult problem on our hands." The problem that must be met here is not merely that of more strenuous effort at good speech, but it also involves more careful attention in the writing of the speech.

Added to this complete dependence upon one set of stimuli is the fact that this concentration seems to help the auditor more easily to detect the mental attitude of a speaker. Harvard psychologists recently announced that insincerity seems to be detected more easily over the air than from the lecture platform.

As a last preliminary consideration of the subject, remember that practically all programs of every kind are prepared in advance to be read. Those which are extemporaneous are rare exceptions when compared to the general mass. This rule is due to several factors: (1) the necessity of split-second timing makes it imperative that a speaker be chained down to a definite timed manuscript; (2) lack of a visible audience makes extemporaneous speaking a difficult task for anyone, even if it were allowed; (3) self-imposed rigid standards as to the nature of material allowed on the air requires the station to ask for a manuscript in advance of its broadcast. The necessity for reading imposes a preliminary hurdle which must be jumped in attempting good public speaking on the air.

Style of Delivery

The cardinal principle of good speech is the use of a direct conversational tone. The whole emphasis is upon a sincere direct contact with the members of an audience, which will achieve the effect of face-to-face conversation. A moment's thought will reveal that this is exactly the effect the radio speaker desires to achieve. Many delivering their first speech on the air seem to forget the distribution of their unseen audience and to remember only its size. While they are usually impressed with the fact that their potential audience runs into the millions, they fail to realize that this large number is divided into smaller groups of usually not over three or four individuals. A radio speaker must consider the atmosphere in which his voice is to be heard. He must visualize a small family group, distributed about the living room, engaged in domestic tasks or pleasures. People thus situated resent an oratorical or strident tone of voice in a guest, seen or unseen. They want the radio voice to talk to them, not shout at them. The speaker must fill the role of a guest, not that of an intruder.

Proceeding on this understanding, we have only to ask ourselves what are the most effective means of speech in an ordinary conversation? What is the winning and attractive tone to use? The situation calls for an intimate and informal tone; insincere gushing is to be avoided as in everyday conversation. The speaker must be warm, sympathetic, and sincere, eliminating any trace of ostentation. There is no need to raise the voice—that instinctive lack of confidence in the microphone's sensitivity is entirely unjustified. A quiet, easy voice is the best.

Many speakers put too much stress on the need of adopting a personal style when broadcasting. A few of them go to the opposite extreme, which is also unacceptable; it is equally wrong to change to a colorless discourse, in which the voice loses power to express the variety of thought and feeling needed to give life to an address. A good speaker, well qualified to speak on a subject, should maintain a tone in keeping with his topic even though it is not personal or conversational. The effort to carry on an imaginary conversation may result in the loss of forcefulness somewhere between the microphone and the listener. Words have eloquence and power, but, if the speaker neglects to consider the cardinal principle that he cannot be seen and relies upon the animation of his facial expression and gestures and indeed of his whole body to hold the attention of the listener, he has gone too far in his picturing of the radio audience in order to obtain a friendly, personal intimate connection. Possibly it is better for the radio conversationalist to visualize the imaginary listener who is sitting opposite him during his radio address as being blind. Thus, in order to convey his thoughts and the emotions which he feels, he must express everything in his voice by variations in volume, in pitch, in intensity, by pauses, and by holding certain words.

Of course, to create the mood of a face-to-face conversation successfully requires the right mental attitude. The speaker must have a sincere interest in the material he is delivering and in the people who are listening to him. This must be especially remembered by the radio announcer, for the necessity of continually reading statements that he does not believe makes it easy for him to allow a tone of insincerity or boredom, the hint of a sneer, or an indication of a supercilious attitude to creep into his voice.

The necessity of reading from a manuscript adds greatly to this difficulty of maintaining a sincere conversational tone. Reading is both the easiest and the hardest manner of presenting a speech. It is the easiest because all one has to do is to read the words without any effort at choosing them except with the eye. But for that very reason it is difficult to read them in an interest-compelling manner. It is so easy getting the words that most people merely find them with their eyes, say them with their mouths, and permit their minds to wander away from the subject.

There is no better training for radio speaking than the reading aloud of all types of material. A person who is going on the air should sit down with a friend and tell that friend what he intends to say and then read a part of his talk. The listener can tell him just how his conversation differs from his reading style and tone. It would be a better test if the friend would close his eyes or turn from the speaker while listening. Of

course, the faults in diction, pronunciation, and construction which are frequent in conversation must be avoided in good radio talking. Unfortunately the radio address must be read, but the speaker should be so familiar with the material that he merely uses the manuscript as an outline. Talk from the paper, follow what is written, but do not worry about the exact phraseology of the written words.

It has been said that the system of college teaching by lectures "is a process whereby the notes of the professor become the notes of the students without having gone through the minds of either." This applies to most beginners in oral reading. The written symbols become speech sounds in a mechanical manner which in no way involves the understanding of the reader, with the result that they are produced in a steady patter totally devoid of expression.

Psychological experiment has shown that the muscles of the body respond in perfect accord with speech efforts. If one were to record in waves, on a strip of paper, the voice of a speaker and also the subconscious movements of any part of his body, for instance, the arm, one would find that these two curves agree. A close correlation exists between body movements and thought processes. When we watch a prize fight, we frequently become aware of the fact that we are duplicating the motions of the fighters, clenching our fists and tensing our muscles. Thus it is that, when we speak extemporaneously, our utterances are controlled by our thought processes and the correct grouping and stress are automatically achieved. While one is reading, one's speech organs are to a great degree controlled by the mechanical movements of the eye in following along the printed line. This uniformity of movement is reflected in one's delivery, and there is but one way to overcome this. That is to think what one is reading. By so doing, the influence of thought processes in controlling the speech organs can be made to overrule the mechanical influence of eye motion. A little practice will convince the most skeptical that thinking can easily solve most of the problems of oral reading. The grouping of words into thought units, the placing of emphasis, and correct pauses are easily achieved in this manner, and the rewards are well worth the time spent.

Simple Anglo-Saxon words are the best—the ones in every person's daily vocabulary. Some words are difficult to understand over the telephone or the radio. Excessive use of sibilants, the recurrence of words ending in the same sound, alliteration, and "tongue twisters" should be avoided. Where there is difficulty in enunciation, chop off a word and use it as a springboard to leap into the next word. Dwell longer on the vowels of important words than on those of relatively unimportant words; for example, usually you should give more time to nouns, adjectives,

verbs, and adverbs than to other kinds of words, especially the articles and expletives.

Inflections of the voice are vital to the good radio speaker for they give what he has to say color, life, and emphasis. Do not allow your delivery to have a seasick wave of equal highs and lows. The rising inflection is far more effective than the falling inflection, except for humorous effect, because it suggests "I am going on."

If the use of quiet gestures will help your delivery, by all means use them. Point your finger at an imaginary listener. Shake your fist. A smile is heard over the radio because it changes the quality of your voice. A person a thousand miles away will "hear" you lift your eyebrows. Do not neglect these aids to speech. Make no gesture or movement, however, which might cause the extraneous sound. Do not shake the hand that holds the manuscript paper. Do not rub an unshaven chin. Do not smack your lips or snap your fingers. Do not sigh or pound the desk, for these sounds will not be understood by the distant listener. Here is the lament of a radio announcer:

I introduced the Duchess of Dundee
Over the facilities of WABC.
Her organs internal
Made noises infernal
And everyone thought it was me.

The most important thing for the radio speaker is that he should have a pleasing personality and be able to project this personality through the air to his audience. He should carry his eye picture of a scene through his mind and into his speech. He must never forget his listener in his own enthusiasm but should project this enthusiasm into the air. He must find interest or thrill in the scene that he is describing and give the same feeling to his audience. He must have a purpose in his speech or his description and know exactly what he intends to convey to his listening public.

Breathing

Groups of words count more in a radio talk than individual words. The listener picks up phrases and clauses that constitute thoughts. The wise radio speaker does not rely on ordinary punctuation, but goes through his manuscript and marks off groups of words which, put together, bring out his thought. These groups should vary in length to avoid monotony but none should be too long for natural breathing. Correct breathing is natural breathing in the sense that it is free from physical restraint and conscious self-control. While the orator can take

a deep breath through his open mouth, such an intake is clearly heard over the radio. Consequently the radio speaker must inhale more quietly and deliberately through the nostrils or above the tongue. The radio speaker should never permit himself to exhaust his breath entirely but should breathe quietly and naturally. Frequently speakers are hampered with tight-fitting collars or belts, which should be loosened to allow greater freedom in breathing. Do not breathe directly into the microphone, for you will sound like a windstorm if you do. Stand erect with squared shoulders, with your head up so that your throat will not be cramped, and with feet flat on the floor.

Position before the Microphone

It is unwise to give definite rules on how far from a microphone a person should speak. The rule would have to be changed for different types of microphones, for different voice qualities, for the acoustics of different studios, and, if more than one speaker is on the program, with the placing of the speakers. However, if you are alone on the program and have learned to control your volume, 18 inches is about the right distance to be away from the ribbon type of microphone or the other modern types. Talk to a person who is presumably about 4 feet away. If you are to be confidential or sentimental in your style, you may talk very low and close to the microphone. This is the principle of crooning which is used by some singers and frequently by announcers. The majority of microphones are directional, and the speaker must talk either at an angle to or directly into the mouthpiece. In every case, have a test before going on the air to determine where you should be placed in relation to the microphone. Also have the microphone placed at the right level so that you may comfortably talk directly to it. Physical comfort is essential. When you have an immediate as well as an invisible audience, use more than the conversational volume but stand a little farther from the microphone than for ordinary announcements, in order that the proper volume will enter the instrument.

Moving about the studio before the program goes on the air is certainly better than sitting rigidly with eyes glued to the "On the Air" sign. Place yourself in a comfortable position before the microphone. Some people prefer to sit, feeling that they will be more conversational in such a position; but the diaphragm of the seated speaker is cramped and, consequently, those who are giving longer radio addresses prefer to stand. Do not lean upon the pulpit while giving a long talk because you will have to straighten up in order to rest your muscles and when you straighten up you unconsciously recede from the microphone, so that the listener has the impression you are leaving. Maintain the same dis-

tance from the microphone all the time that you are talking and do not throw your voice from side to side away from the microphone as you would upon the platform. Do not rock back and forth while talking because when you come forward your voice will become very strong and as you sway backward it will become faint.

If it is necessary to cough or to sneeze, turn as far from the microphone as possible. While the platform speaker may pause and take a drink during the delivery of his address, the radio speaker would broadcast the sound of swallowing the water if he did the same thing. Do not play with a lead pencil, rolling it between the hands. The rattle of paper before the microphone sounds like sheet-iron thunder. If you are to use a manuscript or an outline, be careful not to rattle it. Do not allow the paper to touch the microphone and by no means bump into or handle the microphone or its standard in any way.

Pitch and Volume

In radio the matter of volume is of utmost importance. If one speaks too loudly, the control operator must reduce the volume by mechanical means, thus interfering, to some degree, with its transmission in perfect naturalness. If one speaks with insufficient force, the control engineer must amplify it mechanically, again producing an effect that is not entirely natural. It is important also not to use too great a variety of emphasis, producing sudden peaks in the energy delivered to the microphone. The volume resulting from the overemphasis of a word or syllable may be too great for the apparatus to carry adequately. The control engineer, taken unawares, is unable to neutralize the effect mechanically and what is called a "blast" results. This is an overloading of the sensitive apparatus and a discordant rattle in the transmission and reception results.

The microphone magnifies the qualities of the voice. If the microphone and loud-speaker are properly adjusted, free tone has its resonance enlarged. The good voice then comes over with all its qualities enhanced. A speaker with such a voice may stand close to the microphone and talk intimately into it. A speaker with a voice of less pure quality gets a better effect by standing at right angles to the microphone. The volume of voice that the speaker may use varies with the distance from the microphone. As the volume of the voice is varied, the speaker should move back and forth from the microphone. The rasp of the metallic voice and the twang of the nasal are always magnified; when the current of transmission is too great, they come over with ear-splitting harshness. Excitement and nervousness are obvious and cannot be minimized.

The student of speech, the minister, the actor, and the stump speaker

have all been trained to throw their voices to a far-reaching audience, but when they come before a microphone they must learn to retain all the vibrant qualities of the strong voice, yet maintain a level of volume that will not force the control operator to impair their tone qualities by mechanical means. There are many points in common in the correct techniques of addressing a visible audience and in speaking over the radio but the factors of pitch and volume are decided differences. The pitch of the voice of the public speaker is inclined to be raised a tone or two. If you were in a great hall speaking very loudly, the volume would be considerably greater, and the pitch would be perhaps three or four tones above the conversational level. The radio speaker, on the other hand, must keep his pitch down to his conversational level.

A good radio voice must have proper placement, range, flexibility, good control, and proper pitch. The pitch best suited to radio, owing to the fact that the microphone favors certain vibration frequencies, is baritone for men and contralto for women. The dangers, encouraged by reading, that the voice will fall into measured and rhythmical patterns with set inflections at regular intervals must be avoided. Voice variety of the proper sort is as important as the voice itself.

Speed of Delivery

Speakers vary greatly in the speed of talking. Some speak much faster than others, and the sponsors of programs may receive complaints about the difficulty of following them. A commercial station generally sells a 1-minute announcement and limits the topic to 100 words. A speedy delivery tends to reduce sincerity. News commentators frequently get as high as 225 words a minute. However, the best speed to maintain for the longer radio talk is about 140 words a minute. Franklin D. Roosevelt spoke between 110 and 135 words a minute. The one variable factor that sometimes upsets all the advanced estimates of length is the emotional tension. This factor frequently affects the speaker's natural tempo. The radio address should never be given too fast, because it is hard for one who is listening and unable to see the speaker's lips to follow the talk. Speedy delivery also results in slurring, in the dropping of finals, and in the speaker's getting ahead of himself in his manuscript, with the result that he stutters or loses his place. On the other hand, too slow a delivery may make an audience restive. Suit the rate of utterance to the weightiness and importance of the material, not only to a passage as a whole, but to particular paragraphs, sentences, and phrases within the passage. The result will be not only a pleasing and *logical* (not mechanical) rate variation, but also that justly applauded quality of vocal composure.

One should rehearse at home to determine the preferred rate of delivery for each manuscript. The split-second requirements of the radio require that the speaker time his copy before going onto the air and maintain the speed of the rehearsal in actual delivery. The actual time of a 15-minute program is 14 minutes and 30 seconds, the remaining 30 seconds being used for technical shifts from program to program. The announcer's introduction and conclusion generally require 1 minute, reducing the actual speaking time to 13½ minutes for a 15-minute program.

The Manuscript

The manuscript should be double spaced in order to allow for easy reading. It should be clean so that it will be easy to follow. It is best to have it typewritten. Be sure that the pages are arranged correctly so that you will not have to search for the correct page when you are before the microphone. Do not clip the sheets together. Use a type of paper that does not easily rattle. Onionskin paper is perhaps the worst. Typewriter bond paper is decidedly noisy. The pulp copy paper used in newspaper offices is probably the best. When you have completed reading a page, let it flutter to the floor. Do not attempt to slide it to the bottom of the pile, for this will be heard.

SELECTED READINGS

BORCHERS, GLADYS L., and CLAUDE M. WISE: *Modern Speech*, Harcourt, Brace and Company, Inc., New York, 1947.

HERENDEEN, JANE EFFLE: *Speech Quality and Interpretation*, Harper & Brothers, New York, 1946.

A study of the three essentials of speech education—theory, method, and material.

HERMAN, LEWIS, and MARGUERITE SBALLET: *Manual of Foreign Dialects*, Ziff-Davis Publishing Company, Chicago, 1943.

— and —: *Manual of American Dialects for Radio, Stage, Screen, and Television*, Ziff-Davis Publishing Company, Chicago, 1947.

An authentic source for the dialect enthusiast. Contains 30 foreign dialects with character studies, speech peculiarities, and examples of phonetic monologues.

HOFFMAN, WILLIAM G., and RALPH L. ROGERS: *Effective Radio Speaking*, McGraw-Hill Book Company, Inc., New York, 1944.

KARR, HARRISON M.: *Your Speaking Voice*, rev. ed., Griffin-Patterson Co., Glendale, Calif., 1946.

A textbook based on a system of voice culture, with practical advice and exercises from notable artists.

RADIO PRONUNCIATION

The standard of pronunciation, enunciation, and articulation required of radio announcers, radio news commentators, and masters of ceremony of radio programs does not tolerate inaccurate, careless, or slovenly diction. Good radio speech must be clear, precise, and correct and must be devoid of provincial and even colloquial pronunciation. The student who aspires to a career in radio cannot begin too early to mend his pronunciation.

The first requirement in improving one's pronunciation is an ability to hear the slight variations in enunciation which distinguish the correct from the incorrect pronunciation. The ear must be trained to detect the difference between the correct pronunciation of "catch," which rhymes with "patch," and the incorrect pronunciation, which rhymes with "fetch."

The second requirement is an ability to make the same distinction in one's own speech. The organs of speech must be trained to enunciate the difference between the correct pronunciation of "any," which rhymes with "penny," and the incorrect pronunciation, which rhymes with "skinny."

Last, the student must acquire the habit of using discriminatingly correct pronunciations in his everyday conversation.

Drill

In a drill to acquire the correct pronunciation of frequently used words whose pronunciations often disclose a careless and inelegant diction, use the word concerned in an expression or sentence which includes its correct rhyme word and repeat the expression or sentence over and over again until the correct pronunciation becomes automatic. The following sentences are illustrative:

- | | |
|---|---|
| 1. He did not <i>seek</i> to join the <i>clique</i> .
(<i>Clique</i> rhymes with <i>seek</i> , not sick.) | 3. The car <i>looks de luxe</i> .
(<i>De luxe</i> rhymes with <i>looks</i> , not spooks.) |
| 2. Don't <i>rebuke</i> the <i>Duke</i> .
(<i>Duke</i> rhymes with <i>rebuke</i> , not spook.) | 4. He <i>bade</i> the <i>bad</i> boy go.
(<i>Bade</i> rhymes with <i>mad</i> , not made.) |

WORD	CORRECT	INCORRECT	WORD	CORRECT	INCORRECT
	RHYME	RHYME		RHYME	RHYME
	WORD	WORD		WORD	WORD
<i>across*</i>	toss	tossed	<i>err</i>	burr	air
<i>again</i>	pen	pin	<i>feat</i>	feet	fate
<i>am</i>	jam	gem	<i>fete</i>	fate	feet
<i>and</i>	sand	send	<i>fish</i>	dish	mesh
<i>any</i>	penny	skinny	<i>flew</i>	moo	mew
<i>asked†</i>	masked	past	<i>flute</i>	boot	cute
<i>assume</i>	fume	doom	<i>for</i>	or	fur
<i>aye (yes)</i>	pie	pay	<i>friend‡</i>	bend	hen
<i>bade</i>	mad	made	<i>from</i>	Tom	sum
<i>because</i>	pause	buzz	<i>gap</i>	tap	tape
<i>been</i>	din	den	<i>gape</i>	tape	tap
<i>begin</i>	tin	ten	<i>get</i>	bet	bit
<i>beyond</i>	fond	fund	<i>ghoul</i>	pool	pole
<i>blew</i>	moo	mew	<i>goal</i>	pole	pool
<i>blue</i>	moo	mew	<i>grew</i>	moo	mew
<i>brick</i>	slick	neck	<i>gross</i>	dose	toss
<i>bruise</i>	booze	fuse	<i>guess</i>	less	kiss
<i>bury</i>	berry	hurry	<i>gum</i>	glum	gloom
<i>can</i>	pan	pin	<i>grin</i>	pin	pen
<i>catch</i>	patch	fetch	<i>hoax§</i>	jokes	tax
<i>cent</i>	dent	dint	<i>hundred</i>	Mildred	thundered
<i>chew</i>	moo	mew	<i>if</i>	cliff	cleff
<i>choose</i>	booze	fuse	<i>ink</i>	sink	"enk"
<i>clique</i>	seek	sick	<i>inquiry</i>	wiry	bleary
<i>clue</i>	moo	mew	<i>instead</i>	bed	bid
<i>college</i>	edge	itch	<i>jowl</i>	howl	hole
<i>corps</i>	store	corpse	<i>juice</i>	goose	abuse
<i>creek</i>	week	wick	<i>June</i>	spoon	hewn
<i>cruise</i>	booze	abuse	<i>just</i>	must	mist
<i>crux</i>	trucks	spooks	<i>last||</i>	past	lass
<i>de luxe</i>	looks	spooks	<i>loot</i>	boot	cute
<i>dew</i>	mew	moo	<i>lure</i>	pure	your
<i>did</i>	lid	led	<i>lute</i>	cute	boot
<i>do</i>	moo	mew	<i>many</i>	penny	skinny
<i>doughty</i>	gouty	throaty	<i>maybe</i>	baby	webby
<i>dour</i>	tour	sour	<i>men</i>	ten	tin
<i>drew</i>	moo	mew	<i>merely</i>	dearly	barely
<i>droll</i>	dole	doll	<i>mess</i>	less	kiss
<i>drought</i>	out	mouth	<i>mien</i>	mean	main
<i>drowth</i>	mouth	out	<i>milk</i>	silk	elk
<i>due</i>	mew	moo	<i>miss</i>	kiss	less
<i>duke</i>	rebuke	spook	<i>mix</i>	sticks	necks
<i>dune</i>	hewn	soon	<i>most||</i>	ghost	dose
<i>duty</i>	beauty	booty	<i>nap</i>	tap	tape
<i>egg</i>	peg	vague	<i>nape</i>	tape	tap

* Don't add a t.

‡ Don't drop the d.

|| Don't drop the t.

† Don't drop the k.

§ Only one syllable.

WORD	CORRECT	INCORRECT	WORD	CORRECT	INCORRECT
	RHYME	RHYME		RHYME	RHYME
	WORD	WORD		WORD	WORD
<i>new</i>	.....mew	.....moo	<i>suite</i>	.....sweet	.....boot
<i>next</i> ||	.....vexed	.....necks	<i>swell</i>	.....bell	.....bill
<i>nude</i>	.....feud	.....food	<i>tell</i>	.....bell	.....bill
<i>our</i>	.....sour	.....are	<i>them</i>	.....hem	.....hum
<i>pen</i>	.....ten	.....tin	<i>thick</i>	.....slick	.....deck
<i>plague</i>	.....vague	.....beg	<i>think</i>	.....pink	....."thenk"
<i>poor</i>	.....tour	.....sore	<i>this</i>	.....kiss	.....less
<i>pour</i>	.....sore	.....poor	<i>to</i>	.....moo	.....mew
<i>pretty</i>	.....witty	.....Betty	<i>too</i>	.....moo	.....mew
<i>program</i>	.....telegram	.....glum	<i>toot</i>	.....boot	.....cute
<i>queerly</i>	.....dearly	.....barely	<i>true</i>	.....moo	.....mew
<i>rather</i>	.....lather	.....other	<i>tune</i>	.....hewn	.....soon
<i>rid</i>	.....bid	.....bed	<i>two</i>	.....moo	.....mew
<i>rinse</i>	.....prince	.....sense	<i>was</i>	.....rahs	.....buzz
<i>room</i>	.....whom	.....fume	<i>wash</i>	.....josh	.....harsh
<i>root</i>	.....boot	.....foot	<i>went</i>	.....dent	.....dint
<i>rout</i>	.....bout	.....boot	<i>what</i>	.....dot	.....rut
<i>route</i>	.....boot	.....bout	<i>when</i>	.....pen	.....pin
<i>rude</i>	.....food	.....feud	<i>where</i>	.....bear	.....whirr
<i>rule</i>	.....fool	.....mule	<i>which</i>	.....itch	.....etch
<i>sent</i>	.....dent	.....dint	<i>whole</i>	.....pole	.....hull
<i>set</i>	.....let	.....lit	<i>will</i>	.....mill	.....wool
<i>shoe</i>	.....moo	.....mew	<i>win</i>	.....pin	.....pen
<i>sure</i>	.....your	.....fur	<i>wish</i>	.....fish	.....bush
<i>since</i>	.....prince	.....fence	<i>very</i>	.....berry	.....hurry
<i>sink</i>	.....pink	....."senk"	<i>worst</i> ||	.....first	.....nurse
<i>sit</i>	.....lit	.....let	<i>yes</i>	.....less	.....kiss
<i>slew</i>	.....moo	.....mew	<i>you</i>	.....moo	.....mew
<i>soot</i>	.....foot	.....boot	<i>your</i>	.....tour	.....per
<i>stew</i>	.....mew	.....moo	<i>youth</i>	.....tooth	.....smooth
<i>such</i>	.....dutch	.....fetch			
<i>suit</i>	.....cute	.....boot			

ADDITIONAL WORDS

1. *Bogey* (bogeyman) rhymes with *fogy* (an old fogy).
2. *Chic* (smart) is pronounced *sheik* (Arab) not *cheek* or *chick*.
3. *Chute* (laundry) is pronounced *shoot*.
4. *Elm* is pronounced as one syllable to rhyme with *helm*.
5. *February* is pronounced *Feb'-roo-ary* not *Feb'-u-ary*.
6. *Film* is pronounced as one syllable, not *fill-un*.
7. *Folk* drops the *l* to rhyme with *joke*.
8. *Golf* has the *o* in *odd* and the *l* is pronounced; it is not *gulf* or *goff*.
9. *Height* drops the *g* and *h* to rhyme with *bite*.
10. *Honk* (a horn) has the *o* in *odd*, not the *u* in *hunk*.
11. *Hoof* rhymes with *proof* and does not have the *oo* in *foot*.
12. *Kowtow* (to toady to) drops the *w* in the first syllable to rhyme with *go*, not *cow*.

13. *Length* rhymes with *strength*, with the *g* pronounced.
14. *Logy* (dull, heavy, tired) rhymes with *fogy* (an old fogy).
15. *Often* is pronounced *Off-en* without the *t*.
16. *Poem* is pronounced *Po-em*, not *pome* to rhyme with *home*.
17. *Quote* is pronounced *kwote*, not *coat*, with the *w* sounded.
18. *Roof* rhymes with *proof* and does not have the "oo" in foot.
19. *Sophomore* is pronounced *Soph-o-more*, not *Soph'-more*.
20. *Stodgy* (slow, dull) rhymes its first syllable with *Dodge* (automobile)
21. *Strength* rhymes with *length* with the *g* pronounced.
22. *Student* rhymes its first syllable with *mew* and its last with *dent*.
23. *Sword* drops the *w* and is pronounced *sord*, to rhyme with *ford*.
24. *Tuesday* rhymes its first syllable with *fuse*.
25. *Wednesday* rhymes its first syllable with *lens*.
26. *Who* drops the *w* to rhyme with *do*.
27. *Whom* drops the *w* to rhyme with *boom*.
28. *Whoop* drops the *w* and is pronounced *hoop* to rhyme with *stoop*.
29. *Whose* drops the *w* to rhyme with *snooze*.
30. *Yolk* (egg) drops the *l* to rhyme with *joke*, not *elk*.

The rhyming exercise is satisfactory for monosyllables, but cooperation by two students is more efficient and more enjoyable for practicing the correct pronunciation of more difficult words. Using a story such as is told in *You Don't Say! Or Do You?*,¹ one student can read the following one-page chapter while his critic, facing him, can check on the correct pronunciation, which is given on the reverse side of the page.

"Coming to the musicale tonight, Jim?" asked Peary, as they strolled along the deck with Professor Bayard.

"Will they have any calliope or xylophone numbers?" grinned Jim. "I like plenty of action."

"It's not very probable," smiled the professor, "but if you want life and movement, the *Anvil Chorus*, from *Il Trovatore*, and the stirring *Soldiers' Chorus* from Gounod's *Faust*, should appeal to you."

Scanning the program, he continued, "A string quartet offers Tschaiakowsky's *Andante Cantabile*, and the Chopin *Berceuse*. For the violin, we have Dvořák's *Humoresque* and the *Meditation* from *Thais*; and the cello offering is the *Song to the Evening Star*, from *Tannhäuser*.

"If you like tenor solos, you'll enjoy *Rudolph's Narrative*, with its glorious love motif, from Puccini's *La Bohème*. The soprano number is one of the most beautiful melodies in opera—*Knowest Thou the Land*, from *Mignon*. I was fortunate enough to hear it sung by Geraldine Farrar. There are excerpts, too, from the opera twins, *Pagliacci* and *Cavalleria Rusticana*."

"Didn't they include the *Sextette* from *Lucia*?" asked Jim, adding, with a grin, "I guess I know my opera."

"After an hour of classical music," Peary said, laughingly, "you'll probably be so homesick you'll want Verdi's duet, *Home to Our Mountains*."

¹ E. F. Tilden, Melrose, Mass.

(Accent the syllable printed in italics. When two pronunciations are allowable, they are given in order of preference.)

musicale	mew zih <i>cahl</i>	not <i>mew</i> zih cal
calliope	ca <i>lie</i> o pee	not <i>cal</i> le ope
zylophone	zi lo fone	not <i>zill</i> o fone
Il Trovatore	Eel Troh va <i>toh</i> reh	not Il <i>tro</i> va tore
Gounod	<i>Goo</i> no	not <i>Goo</i> no
Faust	<i>Fow</i> st	not <i>Faw</i> st
Tschaikowsky	Chi <i>kof</i> skee	not Chay <i>kow</i> ske
cantabile	cahn <i>tah</i> be lay	not can <i>tab</i> ih le
Chopin	Sho <i>pan</i>	not <i>Sho</i> pan
Berceuse	Ber <i>serz</i>	not Ber <i>soose</i>
Dvořák	<i>Dvor</i> zhahk	not De <i>vor</i> ak
Thaïs	Tah <i>ees</i>	not <i>Tha</i> is
Tamhäuser	<i>Tahn</i> hoy zer	not <i>Tan</i> haus er
cello	<i>chel</i> o	not <i>cell</i> o
motif	mo <i>teef</i>	not <i>mo</i> tif
Puccini	Poot <i>chee</i> nee	not Poo <i>se</i> ne
La Bohème	La Boh <i>em</i>	not La Bo <i>heem</i>
Mignon	<i>Meen</i> yon	not <i>Min</i> yon
Farrar	<i>Far</i> rar	not Far <i>rar</i>
Pagliacci	Pahl <i>yat</i> chee	not Pal e <i>ah</i> che
Cavalleria	Cah vahl-lay <i>ree</i> a	not Cav al <i>le</i> re a
Rusticana	Roos tih <i>cah</i> na	not Rus tih <i>can</i> a
Sextette	Sex <i>tet</i>	not <i>Sex</i> tet
Lucia	Loo <i>chee</i> a	not <i>Loo</i> sha
Verdi	<i>Vair</i> dee	not <i>Ver</i> de

Any person broadcasting over a medium that penetrates to the four corners of the continent, however, cannot satisfy all his listeners in his use of the king's English. In this country there is no fixed standard of pronunciation that is nationally recognized. If large bodies of educated people are using a certain pronunciation of a word, that form is good American usage and has a chance of becoming accepted in our national speech. Correct pronunciation is like correct behavior, depending upon the custom of the educated and conforming to public taste. If this doctrine seems to open the door to degraded pronunciations, it must be remembered that the so-called correct pronunciations have been accepted upon the same basis. The dictionaries record the usage of large bodies of intelligent and cultured users of speech. A degraded pronunciation of the past decade may be the accepted form today. Dictionaries go out of date as rapidly as the public accepts new standards. Possibly the only criterion to which pronunciation should conform is set up by Whitman, "The subtle charm of beautiful pronunciation is not in dictionaries; it is in perfect flexible vocal organs and in a developed harmonious soul."

A speaker should ask himself, "How shall I pronounce the word?"

and "How good are the reasons for pronouncing it some other way?" In answering the first question, the speaker will consider two elements: the placing of the accent and the sound of the letters, which may be affected by their relations with other letters. Both the accent and the sound element are of equal importance if the pronunciation is to be understood by, and be pleasing to, the listener. Here the speaker will find his first difficulty because, if rules are obeyed, the word may prove to be an exception to the rule. Such rules found in dictionaries and handbooks are confusing. It is better to study the pronunciations as given by the phonetic key in the dictionary and then to follow the crowd. A good dictionary will tell us what the majority say, what the correct fashion is—except, of course, that the dictionary is always at least some years behind time. Pronunciation also varies from district to district, from class to class, from individual to individual, in proportion to the local, or social, differences that separate them. Announcers must remember that the intelligent listener's ear is always right. Yet the pronunciation must never be wholly wrong; it must be justified by authorities or by the usage of the majority of the listeners who are to be pleased.

Notice that the best announcers will not add letters to the word that are not in it—"idea" is not "idear"; they will pronounce the word as it is spelled—"nothing" is not "nothin"; and they will not slur words into one another—"don't you" must not be broadcast as "donchew." Possibly these are not so much faults in pronunciation as laziness in the use of lips, jaw, and tongue for articulation. Although on the stage "been" is like "seen," the American *Standard* and Webster's *New International* decree "bin." "Either" and "neither" give up that long *i* under popular pressure in favor of long *e* and are "ether" and "nether"; the public likes to hear words its way. While the announcer is advised to use the dictionary pronunciation that most closely conforms to immediate public usage, he must not compromise to the extent of deliberate mispronunciation. Probably a neutral pronunciation is best, for, while "cement" may be pronounced "sēm' ent" (as some authorities incline to prefer), such pronunciation will be considered by the average listener as evidence of ignorance or affectation.

When the radio writer finds that he has included in his script a word whose pronunciation is difficult or doubtful, he should refer to a thesaurus for a satisfactory synonym, because the announcer is rigidly bound by the script.

Classical Music

Titles of musical compositions and names of composers should be pronounced with the correct foreign intonations. The larger network

stations require of their announcers a knowledge of foreign languages. The announcers in smaller stations frequently have to rely upon the pronunciations given by the directors of their orchestras, who, it is presumed, have a musical education or foreign training. The World Broadcasting Company sends out with its transcribed programs a pronunciation sheet to be followed by the local announcer. Those who listen to classical and operatic music are critical of the announcements and are familiar with the names and titles; hence, the foreign pronunciations will not be foreign to their ears. Regardless of the research done by the announcer and the care with which he pronounces the foreign names, he will be criticized by his listeners.

Foreign Names in the News

Probably the news commentator faces more foreign names than does the announcer of operas. The news commentator is speaking to a more general audience, however, and it is permissible for him to Anglicize the names of places mentioned. Few listeners would recognize the names of cities in Europe if they were given their correct foreign pronunciation—in fact, the foreign spelling in many instances is different from that with which we are familiar. The announcer should be permitted to exercise his judgment as to whether his audience will better understand “Venice” or “Venezia,” “Florence” or “Firenze.” In most cases all will agree that the names should be spoken as they are spelled and pronounced by the majority of radio listeners.

Foreigners in the day's news, on the other hand, are best introduced in their native pronunciation. It is only courteous to pronounce a man's name so that he will understand it himself. “Pierre” should not become “Peer” when he is introduced to the radio audience. We are all inclined to be rather fond of our names, and incorrect pronunciation of them is decidedly distasteful.

Another problem that confronts the announcers is the matter of place names. It is not enough that these men know the correct foreign pronunciations of these names and phrases; they must know the Anglicized version of them.

Regional Dialects

It would be well to preface any discussion of regional accents in announcing with the following excerpt from N. Denison's article, “Why Isn't Radio Better?”:¹

Whatever its duties and obligations to the public may be, broadcasting in America is a profit-making enterprise whose first necessity is to pay its way. The broadcasting industry has a definite commodity to sell. The most elementary

¹ *Harper's Magazine*, August, 1934.

law of merchandising requires that the seller remain on good terms with the customer.

The announcer is the salesman on the program. Thus he has to be very careful not to create a feeling of antagonism. An easy way of doing this would be for an announcer in a Jasper, Alabama, station to use an irritating New England accent or even a pronounced Midwestern twang. As far as some people are concerned, there is still a civil war on.

Emancipation of language is a throwing off of belittling localisms and a finding of a common denominator. There is a very considerable difference of opinion among speech experts as to the desirability of an absolute standard of so-called speech. Many of the foremost authorities feel that it is far better and far more practical to strive for a standard of accepted speech which will admit of slight differences but agree in essentials and be easily understood throughout the English-speaking world.¹

Avoid local terminology that would be lost upon distant listeners. That the top-line radio announcers do speak a common language greatly impresses Kenneth McKean.

Despite the fact that their homelands may be hundreds or thousands of miles apart, the radio announcers have no local speech. . . . The pronounced localist cannot get a job as radio announcer nowadays. It is speech which is a little of everything, a speech which is perhaps a little different from that of any one locality but which is strange to none. It is *the* American speech, and there won't be any other henceforth until the broadcasting systems decide to change it. You will find that the most highly cultured people of America, England, and the Continent speak very much the same, but that the speech of less cultured people is characterized by provincialism in pronunciation and rhythm. American speech is already the most geographically homogeneous in the world. Nowhere else in the world can the same speech be understood by all, over so large an area, as in this country. Our dialects are nowhere found in the extreme variations characteristic of other tongues. So the radio here is in a comparatively fortunate situation. While the mere demand for uniformity for its own sake should not be pushed, there seems to be no justification for catering to what sectional idiosyncracies of speech do exist in this country. Strictly local stations are inclined to cater to the dialect of their regions. Well-educated men may be chosen as announcers but, as they have been educated in the district they serve, they speak its language. The audience must be sold and the best way to appease the radio customers is by naturalness in dialect. This is to be found in the form of educated speech as applied to the dialect of the region.

Time was when the pronunciation of New England was thought to be far superior to that of the rest of the country. This superstition, however, is virtually dead. The persons who use the New England pronunciation are relatively so few in number that they may almost be said to speak

¹ F. Purell, "Radio and the Language," *Commonwealth*, Apr. 10, 1929.

a special dialect. The aristocratic period has passed; we are now on a thoroughly democratic basis. Hoosier and Wolverine, Badger and Sucker may hold up their heads when they use their native vowels, and the Southerners, who have always been justly proud of their beautiful speech, need no longer take the trouble to defend it. Districts still guard their local tendencies to dialect, and listeners may resent any effort made by announcers to force them to standard usage.

The individual claims many birthrights, not the least of which is his right to speak his language as, subject to the good will of his friends, it pleases him to do; perhaps next in importance must be ranked his right to think whatever he pleases of any style of speech that is different from his own. Radio is bound to have some effect on the national speech. This does not mean that the effect will be a standardization of speech in the dialect pattern of one particular group, such as the stage. It means a colligation of all the finest points of the speech of all regions. This would seem inevitable. Speech is a matter of imitation; we speak as we hear it spoken. It is only natural that we should gradually and perhaps unconsciously evolve a speech containing some qualities of all the dialects heard over the radio.

MUSIC PRONUNCIATION GUIDES

- BAKER, DR. T.: *A Pronouncing Pocket Manual of Musical Terms*, G. Schirmer, Inc., New York.
- ELSON, L. C.: *Elson's Music Dictionary*, Oliver Ditson Company, New York. Pronouncing aids.
- FARJEON, HARRY: *Musical Words Explained*, Oxford University Press, London, 1933.
- HUBBARD, W. L.: *American History and Encyclopedia of Music*, Irving Squire, Toledo, Ohio, 1908.
- THOMPSON, OSCAR: *The International Cyclopedia of Music and Musicians*, Dodd, Mead & Company, Inc., New York, 1949.

SELECTED READINGS

- BENDER, JAMES F.: *NBC Handbook of Pronunciation*, The Thomas Y. Crowell Company, New York, 1944.
- GREET, W. CABELL: *World Words*, Columbia University Press, New York, 1948.
- KENYON, JOHN SAMUEL, and THOMAS ALBERT KNOTT: *A Pronouncing Dictionary of American English*, G. & C. Merriam Company, Springfield, Mass., 1947.
- NEEDLEMAN, MORISS H.: *A Manual of Pronunciation*, Barnes & Noble, Inc., New York, 1949.

Listing "about 5800 words selected as commonly mispronounced" which "are everyday (or spoken)." The unique feature is that "three systems of notation are used—the simplified, the diacritical, and the phonetic."

ARTICULATION, INTONATION, RHYTHM

Articulation

Closely related to the subject of pronunciation is that of correct articulation. The prospective radio announcer does well to practice speech before a mirror, or to watch the lip, jaw, and tongue action of the experienced announcer or singer, and then obey the rules for a pure and distinct speech. If an individual has a definite speech defect, my advice to him is to prepare himself to go into the sales or writing staff of a station rather than to attempt to prepare for announcing or dramatic work. In many instances, however, the individual with a slight fault can by conscientious work not only overcome that fault, but build himself into a better speaker than one who is not forced to work for perfection.

The criticism frequently given in auditions is that a voice is thin and nasal, that it has no depth. Such speakers are not originating their speech at the diaphragm. A listener can almost "see" the generation of the speech as he listens to the loud-speaker. The flexible lips, jaw, and tongue are to be used to form the sound, but it must float up from the diaphragm.

When the sound arrives at the mouth, the speaker should use his articulating organs; otherwise the criticism will be that he is lip lazy, that he has a tight jaw, or that his articulation is blurred. If the throat feels tight, open the mouth as wide as possible without stretching and attempt to yawn. There is no better throat relaxation.

Lack of clarity through a guttural or mixed quality of speech is sometimes caused through overtenseness of the jaw muscles. Since every normal individual uses a clear strident tone when he is excited and shouting, evidently the essential element is mental. Create a mental picture of an exciting automobile wreck or of a football game. Get the vivid picture well in your mind. Then describe the incident as vividly

as possible. Do not allow your excitement to decrease. Make it a short description at first and increase its length with repetition. If you feel that your excitement is decreasing, stop and start over.

Certain of the vowels, such as those in "way," "cat," "it," and "my," are formed at the front of the mouth. The same vowels in other words and additional sounds are created at the middle of the tongue, for example, "above," "but," and "bird." The location of the formation of the letters can best be determined by "feeling" the sounds in the mouth. Pucker the lips for sounds that come from the back of the mouth like those in "go," "put," "rule," "hole," etc. Don't be afraid to make faces when you are speaking before the microphone. Certain sounds require jaw action, such as those in "father." There is a tendency on the part of the neophyte before the mike to tighten his jaws, with the result that there is no richness in his articulation. Before going on the air loosen up your face. Waggle the jaw up and down repeatedly; do not try to control its movements more than is strictly necessary to insure motion.

The microphone gives the speaker greater opportunity to speak clearly, for it saves him from straining his voice into a twanging nasality or from effort in the throat. Stage actors and public speakers are apt to strain and at the same time reduce the volume of their speech by the use of the tongue, with the result that resonance is interfered with. On the other hand, the person who first addresses the microphone and is impressed by the necessity of modulating his volume will often be affected by constraint and tenseness, which cause jaw tightness. The best articulation results from freedom from all inhibitions and coordination of all vocal controls: throat, nose, jaw, lips, tongue, and breath. The correct use of these speech factors is best studied in a course in linguistics.

A low, well-rounded voice is one of the prime requisites of pleasing speech; hence pitch and quality have an integral relationship. A high-pitched voice is thought typical of a scolding woman; in a man it is considered effeminate. High pitch itself is not nearly so undesirable as the quality that goes with it. The public does not object to high pitch as such. It does object to the harshness of tone of a high voice and to the amplification of this harshness that present broadcasting and receiving facilities seem to produce. When we speak slowly we usually have a lower pitch than when speaking fast and we are better understood. The overtones may be removed and the quality considerably improved by humming during practice.

I am very much in favor of social intercourse for radio announcers and speakers. Each must develop a personality and the ability to project this personality through the air. Those who are successful at this will find that they no longer merely read their copy. Be somebody; make

yourself a personality. Your voice reveals the personality you are. The best radio announcers seem to be men who have seen something of life and show it in their speech.

Sincerity is vital to the announcer as well as to the speaker. Compose a speech of about 2 minutes on the subject in which you are most interested. If possible, make it a speech advocating a course of action. Try to persuade someone to do something in which you have a tremendous interest. It is best, at first, to have someone actually to talk to. Plead violently. When you have succeeded in this, transfer the same feeling to less and less interesting subjects. Bodily alertness is equally important. Before beginning to speak always breathe deeply, and use your body to develop a sincere delivery. Mental alertness is the final step in this road to vitality. A few minutes of stimulating reading, before speaking, is good practice for gaining vitality, as is also an argument, mental or oral. If mind and body are thoroughly alert and eager, if the speaker can feel a burning sincerity (at least for the moment), and if he feels that he is talking to someone directly, there is every reason to suppose that his voice will be vital.

It is apparently no accident that so many singers have found permanent employment as radio announcers. Singing by its very nature helps to vary the pitch of the voice. Sing two or three songs a day, any tune at all so long as it takes you a little bit higher or a little bit lower than you go in ordinary speech. Then try to speak the words of the song while remembering the tune.

Your breath intake is very noticeable through the microphone, but it will be less so if you are calm. Take a few deep breaths before you start your radio speech. The radio speaker must know how to breathe and how to control that breath. The breath stream must directly and clearly contact the resonators of the mouth and at the same time form indirect, but true, contact with the resonators in the nose and in the face frame. Any tension or stiffness of the neck and head, any rigidity of the upper chest and shoulders, has a tendency to produce harshness, thinness, and rigidity of tone. Therefore breathing must be free and relaxed. At all times the speaker must strive for freedom of the head, neck, and upper chest. Any exercises designed for relaxing these parts will serve the speaker in good stead, for once he is relaxed he can begin the business of control—the business of learning to talk *on* the breath, rather than with the breath. Learn to space your speech and do not attempt to say too much on one inhalation. Breathe freely, breathe normally, and breathe frequently; do not exhaust your breath.

In certain words the articulation must be snapped out, while in others the sound is prolonged. It takes longer to utter "see" than to chop off

"sit." Practice the long vowels and consonants. Wriggling the nose will help in the pronunciation of "news," which is apt to be pronounced "noose." The yodler uses the correct method for pronouncing the diphthongs that require two shapes of the mouth. "Way" is pronounced "wā-i"; "my" is clearly heard when it is emphasized to "ma-i."

In speech, as in many other social conventions, it is easier to explain what disqualifies than what qualifies. It is easier to choose a speaker by observing his bad spots than by noting his good ones. It is surprising what an effect a small detail can produce upon the whole. Has he poor voice quality? Is he too nasal? Is he monotonous (not giving a sufficient variety of voice pitches)? Is he drawing (not giving a sufficient variety of sounds)? Is he slipshod (underarticulating *t*'s and *d*'s)? Is he pedantic (overarticulating sounds)? Is he clerical (using certain unusual details of intonation)? Does he speak from high up in the head, from back in the throat, or from the nose? The acceptable speaker launches his volume from the diaphragm and forms his sounds in a flexible mouth. Each vowel requires a distinct shape of the mouth. Tongue, lips, and jaws are all used. He is advised to practice vowels and consonants with spoken words and in song to improve the articulation. "Nasal," "thin," "shrill," "metallic," "twanging," "throaty," "muffled," "growling," "furry," "breathy," "full," "rich," "free," "resonant," "unobstructed," and "clear" are adjectives used to describe various voices.

Rhythm and Intonation

There is rhythm in all well-constructed speech. The easiest way to be unintelligible in a language is to speak it in wrong rhythm. Rhythm, and rhythm alone, is often the determining factor in intelligibility. What the English call the "American drawl" and what Americans call the "British clipping of syllables" are in reality differences of rhythm.

Speech is an affair of rhythm and intonation, and these all have to do with sound. Our speech has a clear-cut system of long vowel sounds and short ones, and a very decided feature which we call the "accent," without knowing precisely what accent consists of. English speech is pre-eminently a speech of strong rhythm, long and short sounds, long and short pauses between sounds, clear-cut vowels, and obscure vowels. Just as there is a peculiar English rhythm, so there is, although we are not generally aware of it, a purely English speech melody. We are so used to it that we are usually oblivious of its existence and generally ignorant of its nature. But it is there, and we are wide awake indeed when we are suddenly presented with a speech melody that is unfamiliar. We sense it at once; there is probably no aspect of this speech business to which we are so sensitive as we are to this intonation factor. What we call "expres-

sion" in reading is really the finesse of putting intonations, accents, and rhythms onto the bare words so as to make them resemble speech.

Rhythm requires thought, and, if the speaker thinks about what he is saying, his rhythm will be smooth. If he is reading, that material must have been written with thought units varying in style and length. Do not break thought units. Seek the most effective groupings of words by means of gestures or tapping.

Criticism and Analysis

The importance of a competent teacher to check on results and quality cannot be overestimated. No person is competent to correct his own vocal faults. Even great singers take lessons occasionally. The student should be encouraged to work by himself but this should never be allowed to take the place of competent guidance.

The only way in which the radio speaker can get a convincing criticism of his voice is for him to have an experienced teacher of speech analyze a recording of his speech. The disc record permits him to make a short cutting, listen to it, pick out the faults, and attempt to correct them in the next short cutting. A student is inclined to be skeptical of criticisms by teachers of faults which are not obvious to him, but the recorded talk will accurately deliver to his ear matters of articulation, enunciation, pronunciation, and rhythm. The tone quality may not be perfect but variation in tone will also be obvious. Such recordings may be taken home and used for constant analysis.

Students of speech have found the magnetic tape recorder helpful, inspiring, and enjoyable. With such a device the student delivers to the microphone a 1-minute announcement or speech which is preserved as local variations in the magnetization of a steel tape. By turning a switch the recorded speech is immediately played back. At any word the voice may be silenced for analysis and then the speech resumed as many times as desired. Turning another switch erases the recording and prepares the tape for a new recording. This method is admirably suited to practice techniques, but the recording is not kept to evidence improvement.

A combination of recording equipment and motion pictures is used in many speech classes to show to the student the use of lips, jaw, and facial expression in perfecting enunciation and intonation. There is always a problem in timing, but the results, even if imperfect, are worth the experimental efforts of the teacher and student.

NEWS PROGRAMS

There are many types of news broadcasts, each one presented in a different manner and prepared in a different style. Probably the most elementary type of news broadcast is the one presenting news carried by the wire of the Associated Press, the United Press, or the International News Service. These various services were originally organized to service newspapers, and the items that came over the teletype were written in newspaper style rather than radio style. Consequently, radio reporters found it necessary to "process" such items, making them hearable rather than readable. Now, however, both the Associated Press and the United Press offer prepared radio news services designed for oral delivery. News items are also transmitted by wire by the Trans-Radio News Service. Programs made up from these sources stress facts and, at regular intervals, comments of an analytical character. Other sources for news include items adapted from newspapers. This is a legal procedure, since stories have no property rights after publication unless they are copyrighted. The larger broadcasting stations maintain their own bureaus in Washington and other national capitals, which are used as the basis for the manuscript prepared by the local commentator. In many instances the commentator will endeavor to bring in a personal touch by commenting upon his own experiences in the country concerned in the news, or his acquaintance with and observation of individuals. In many progressive stations there are facilities for gathering local news. Quite a number of my students at the University of Michigan have sent to their home towns, in which there were radio stations, news of the students from those towns who were attending the University. Such service upon the part of the students gave them a contact with the local station which was helpful after graduation.

Then there are the news commentators, who take the news of the day, relate it to happenings of the past, and to those of the probable future, and analyze its significance. These broadcasts are given in a less formal manner by the speaker, who puts a great deal of his per-

sonality into such presentation. The news that is presented by the commentator may be colored by his own attitude or by the policy of either his station or his sponsor, if he is sponsored. Because listeners were tuning in a program, commentators formerly were inclined to save their most important item for second place. An item of national or international aspect is considered most important. In recent years, however, a different practice has developed. The commentator begins with the major headlines of his broadcast. The announcer then reads the commercial, followed by the commentator with the complete detailed stories. This system is tailor-made for the listener. Before the commercial he is advised as to the exact content of the broadcast. Thus fully informed, he can change programs if the prospectus fails to interest him. The result is that the headlines must be selected to hold the listener's attention for the expanded news reports and comments. The conversational news of the commentator is not so immediate as that presented in press news reports. Some commentators speak extemporaneously from notes, cleverly changing their pace and pitch to conform to the content of the items and to make a change of subject. As the radio listener has been taught to visualize what he hears from his receiving set, it is difficult for him to jump from a New York item to Paris and then back to Washington. The news commentator writes his material so that the listener can visualize the scene, feeling that he is an eye-witness.

During the course of his program the news commentator includes some human-interest stories. It is good practice occasionally to insert short, bright, and fast-moving items between long news features; however, no monotonous pattern should be created. As the editor of the invisible newspaper, the commentator must have a sense of what will appeal to the greatest number of his listeners. The commentator must not allow his items to cause alarm or anxiety for the safety of friends or relatives of the listeners.

In the past, the news commentator sometimes brought in a few lines of commercial plug for his sponsor in the midst of his remarks. This is now taboo among broadcasters. The Code of the National Association of Broadcasters permits only two commercials, opening and closing, per 15-minute broadcast. The announcer now delivers the commercial announcements near the beginning and end of the broadcast only. In this way the commentator is freed of commercialism.

Another type of news commentator is the one who talks about industry and what is going on within it. His material is of the feature-story variety, and it does away with the requirement of a narrative news lead. He dramatizes what he sees; thus it is best that he first see what he discusses. Frequently, he is sponsored by the industry he describes.

Also, there are the programs that deal with topics and personalities of current interest, given by "columnists" who are not so much concerned with the news of the moment as with anecdotes, inventions, or gossip. Some of them are merely answering inquiries that have been mailed to the commentator.

News is dramatized on some programs. "The March of Time" and the "Farm and Home Hour" were among former broadcasts of this kind. The most recent form of this type of broadcast dramatizes the week's news with stress on its social, political, and economic implications. Such a program as the National Broadcasting Corporation's "Living 1950," illustrates this trend. The American Broadcasting Corporation features broadcasts falling into this general category by specially commissioned writers, with such shows as "Communism U.S. Brand" by Morton Wishengrad.

Trying to tell a news story in dramatic terms takes practice, but a finished product makes an absorbing program. As in any form of drama, the suspense factor is important; important scenes should end with plenty of punch to sustain interest.

One common device is used to achieve the realistic effect of a narrator's voice backed by less important incidental conversation. When, as a writer, you want to bring this main voice into prominence (the narrator perhaps), write in parallel columns, with the narrator's speech on the left, and background words on the right. Keep in mind that news drama must have conflict and suspense, make the conflict clear at the outset, and complete the picture with well-identified characters. Remember that natural, easy conversation will make your characters become flesh-and-blood people in a real-life drama.

During the Second World War, news broadcasts dominated the radio day. Because of their popularity, every conceivable type of news broadcast is being tried out in peacetime. News programs devoted to local, church, society, health, and education items are tried out. The microphone is taken into the marriage license bureau, the traffic court, police department, to the railroad station to broadcast the departure of a famous train filled with famous travelers. There are garden, labor, sports, civic, and campus news programs. There are news programs especially designed for children or for women, programs which contain only human-interest stories, and those which are titled the "Sunny Side of the Street," the backwoods philosopher type. The person who can think up a new and popular news program is assured a place in the air.

The great problems of the news broadcaster is that his program is a daily feature. Newscasts run from 12 to 18 per day in 5- or 15-minute programs. Most stations broadcast four major daily newscasts; the

morning 8 o'clock news informs the office worker before he leaves, the noon-hour news sums up morning and early afternoon events. The six o'clock news is designed to jibe with the dinner hour, and the late, 11 o'clock, is a résumé of the day's happenings. Finding material to fill all this time is a real problem; new methods of presentation constitute an even greater challenge. Most news commentators are former newspaper men who have developed a sense of news values.

The elements that enter into the selection of what is called in the newspaper "front-page news" are the same for the radio commentator as they are for the newspaper editor. Briefly, these may be considered as the *conflict* between man and other men, or with animals, things, ideas, or the elements. There must be some sort of conflict. The second element is the fact that people are always interested in placing themselves in the role of the character who is making news. Consequently, an item about an individual or in which an individual plays a part in the conflict is better. The news should be of interest to a widely separated audience.

The "here and now" quality of radio news is an important requisite. If an event "just happened" radio alone can report it immediately. Television can literally be "on the spot" to give the story in some cases. Equipment has been brought to the scene of a fire or riot in time for the action to be televised to the video audience. That's what the radio audience wants—immediate news. Thus the radio and the newspaper have clearly defined respective news functions. In one sense, they do not compete but complement each other. Radio quickly sketches the picture, the newspaper can use sufficient space to fill in the background with all additional details.

Action is important in radio news. The listener interest in a conflict of any kind has already been mentioned and conflict means action. The four main news categories are local, state, national, and international. Radio's job is to bring to its audience up-to-the-minute major developments on all four levels. These divisions became customary in wartime and remained as a legacy for a well-balanced newscast. The particular interests of a listening area should be considered. In a highly industrialized area, news of a special manufacturing process or labor problems would have appeal. In local stories, "follow-through" is a must. The community is alerted when a child is bitten by a rabid dog. Listeners will also want to know what medical treatment was given, how successful it was, and whether complete recovery was achieved. Thus, follow-through is obligatory in many cases under libel laws in court cases.

That brings us to "human-interest" stories, important for their uni-

versal appeal. If such a story involves an amusing twist it is even better. Local incidents are particularly good. Many stations and sponsors require that their broadcasts combine information with entertainment, and consequently humorous and human-interest stories are interspersed between the more significant items or are used in the conclusion of the broadcast.

The United Press warns its radio affiliates to avoid "gruesome" stories; court trials with unpleasant angles, particularly of sex; birth control, unless handled with care; divorces, except those of famous personalities, and with these the sex angle should be avoided; crime, only outstanding cases, and then minimized; capital punishment, except that which has resulted from trials that have been in the public eye. This does not mean that all unpleasant cases or unpleasant items are discarded. It does mean that as far as possible the radio reporter attempts to avoid being an alarmist. This undoubtedly is the result of the radio's whole-family audience. Furthermore, in the selection of news the radio editor must take into consideration that he may be held for libel, blasphemy, immoral publication, contempt of court, or sedition, and select items to avoid any such charges. The time of day when the news is to be broadcast influences the selection of items: cancer, reptiles, false teeth are not topics for a mealtime broadcast.

Of course, accuracy is essential in the report of the news commentator, for the newspaper seems to be a sworn enemy of radio news reports and delights in any opportunity to point out the untruthfulness of such news items. An inaccurate radio news item cannot be killed as it can be in a newspaper, and a correction sometimes does more harm than the original statement. The news selected should have a diversified appeal for both masculine and feminine listeners. If the news is based upon some previous report, it must be tied up with what has gone before. The commentator cannot assume that the listener has heard the previous news report and consequently must summarize very briefly.

Radio is a means of communication ideally suited to the pace of modern life. It reduces news to its simplest terms and gets it across in a small capsule of time. A complex situation of world-wide importance will be dealt with very fully by a newspaper. But many individuals may have neither the time nor inclination to study such an analysis with sufficient care to gain a clear understanding of the related events. The radio news version should make it relatively easy for the listener to grasp the significance of such events. As the United States assumes a role of increasing prominence in world affairs, it is essential that the nation be well and accurately informed. From knowledge comes understanding, and this is the vital ingredient of the "one-world"

concept. The radio writer can further this aim by making the message clean-cut and simple. Public attention and esteem is the result of such effort.

Like all other forms of continuity for broadcasting, news must be written for the listener. This requires that the reporter should always be concerned with how his material will sound. He will find if he reads from a newspaper that there are many words which are difficult to enunciate and sentences that are so complex that they would be lost in the ear of the audience. He must keep in mind that radio news is told by a storyteller and must be written in the form of an oral story. At the outset the radio news reporter tries to get friendly with his listeners; consequently the "yellow" or "shocker" story should not be used as an opening. The news program is considered by all stations to be educational and informative, but even the educational program must be entertaining to hold the listener's attention. In the preparation of news copy consider the listener's interest angle and attitude, not your own.

As in other forms of radio writing, the selection of just the right word is all-important; because of the time limitation every word must have real value from an informative or picture-producing standpoint. Too many adjectives are inadvisable, although simple adjectives frequently make the scene more vivid. For instance, it is better to say, "It is a bitterly cold morning," than merely, "It is a cold morning." This is where good radio jibes with good showmanship. Words that catch and hold your listener's attention are essential. Radio news must compete for attention with countless diversions—conversation, reading, household duties and activities. Verbs are particularly helpful in portraying action and in creating a mental picture and should be chosen with that in mind. Words with double meanings should be avoided. The reader of copy can differentiate between two words that sound alike but are spelled differently and have a different meaning; however, this is not at all possible for the radio listener. If there is the slightest chance of a misunderstanding, change the word, because your audience is decidedly critical. Some words are hard to pronounce over the air, particularly those containing sibilant sounds like "reminiscences." If possible, a synonym should be found for all such cumbersome words. This means that many expressive and descriptive words are eliminated from the radio commentator's vocabulary. Form the habit of eliminating these tongue twisters by reading over your work to yourself. This will also help you to build a good vocabulary of oral words.

Some of the instructions given by news agencies to their correspondents are equally applicable to the writer of radio news copy. For in-

stance, the following hints from the United Press Service may well be considered:

- Send* something—don't always "transmit" or "dispatch" it.
- Call* a person, or persons, or a meeting—don't always "summon" them.
- Buy* something—don't always "purchase" it.
- Leave* some place—don't always "depart."
- Act*—don't always "take action."
- Will*—not always "is going to."
- Arrest* or *Seize*—not "take into custody."
- Show*—don't always "display" or "exhibit."
- Get*—don't always "obtain."
- Need*—don't always "require."
- See*—don't always "witness."
- Can*—not always "is able to."
- Help*—not always "aid" or "assist."
- Hurt*—not always "injured."
- Break*—not always "fracture."
- Build* and *Building*—not always "construct" and "construction."
- Meet*—not always "confer," "convene," or "hold a conference."
- Doctor*—not always "physician."

Among journalists it has become customary never to draw attention to the fact that information is lacking. This very fact may be of interest to a radio audience—and may be one step in the follow-through process mentioned before. If there has been a local jail break, for instance, residents want to know if the prisoners are still at large or if any one district is even suspected as a possible hide-out. There is no reason to avoid a negative news lead of this kind.

An important requirement of radio news is repetition. The first sentence of a story may contain the essential facts, but perhaps key words have only attracted the listener from another simultaneous interest. Now that his undivided attention is yours, give him one or even two more chances to get the story straight by presenting the facts in varied forms.

Don't give the listener your opinion of an item before you present it; that is not reporting. News is "good," "bad," or "interesting" according to how you look at it, so get into the story immediately so the listener may pass judgment.

Avoid introducing a story by asking a question. Instead of writing, "Who will win the Big Ten Championship? that is the current question tonight"; say—"The question—Who will win the Big Ten Championship—is current tonight."

All regulations concerning offensive material, immorality, and sex

should be observed, and anything that is offensive to any race, sex, or creed should be avoided. A word that has recently come into disrepute is "blood." In a recent broadcast of a prize fight, when one of the contestants was given a bloody nose, it was announced that his nose was red. Other words, like "bugs" and names of vermin, should be avoided. The newspaper reporter is very much inclined to use stock phrases; trite expressions should be avoided. An interesting story about this practice is "Calloway's Code" by O. Henry. Certain words are overworked; for instance, "rush" is too frequently used in place of "hurry" or just plain "go." Reporters and radio men consider that all kinds of motor cars are "high-powered." We are guilty of failing to differentiate between the verbs "can" and "may." There is some redundancy in news reports; for instance, only a grand jury can indict and it is unnecessary to state that a certain man was indicted by the grand jury. Transitional words and connectives in writing are placed in the body of a sentence; however, for radio they are generally placed at the beginning of a sentence. If they are placed in the middle of the sentence, the thought is broken for the ear.

The broadcaster is particularly interested in making his program sound like fresh news. He attempts to give the impression that the action of the story is immediate. Various devices are used to accomplish this purpose; fresh angles should be sought which will make the use of the present tense possible. The radio listener is accustomed to bulletins taken from the wire and expects that all news is of the moment. On the other hand, use the word "today" sparingly, particularly in the opening sentence, and do not repeat it in various items. Expressions such as "this morning," "this afternoon," and "during the day" may be used, or the same expression may be created by using the present tense. If the verb in the present tense denotes action, this also gives the item more timeliness. Of course, if the event is decidedly over, the past tense may be used.

The newspaper report, with a narrative news lead answering the six questions (what, why, where, when, how, who) is too complicated for the opening of a radio news report. Do not try to give too much information in the opening sentence. The best policy is to permit the listener to get the setting before proceeding to the important part of the story. If you pile too many details into the first sentence, the listener gets lost. Don't start off with an unfamiliar name. It is wise to give the source of the information quite near the start in the body of the report, rather than as a date line for the story as it appears in the newspapers.

Some stations attempt to make transitions between the sources of material. Either an announcer will come in and state "News from the

nation's capital," "The state in review," "Now to foreign shores," or the commentator will in some like way transport the listener from locale to locale.

Many newspapers resort to extreme caution in presenting items by using some such phrase as, "It was learned." There is no point in this because it implies that the reporter is not sure of his facts. During the war years there were exceptions to this rule. News was censored by the warring nations and much of it was propaganda. Thus in many cases it was entirely necessary to comment on the source or authenticity of an item. Another style that is in bad repute is the use of the words "quote" and "unquote" in reporting an interview or speech. The radio writer should compose the material in such a way that these expressions can be avoided. It can be done by introducing the quotation with such words as "what he termed," "what he called," or "he said." The combination of the writing and of the delivery should make the listener understand that the announcer is really quoting. Using pauses just before the quotation and at the end of the quotation will to some extent take the place of quotation marks. If the quotation used is a long one, the source should be inserted again in a different form, sometimes in the middle of the sentence, sometimes introducing the sentence. Such phrases as "the visiting speaker continued" or "the lecturer added" may be used to make it clear that the views are quoted, and the listener is not hearing the opinions of the announcer. Make your source of information clear but use "quote" and "quotation" as little as possible. If it is absolutely necessary, weave them into your script as skillfully as you can. And a last reminder—don't use "unquote."

Make the various news items short. Not even the biggest news story is worth much more than 500 words. The radio listener likes variety and is disappointed if only a few items are given to him by the broadcaster. It is difficult to hold the attention of a listener on any single subject for a great length of time.

As a general rule short sentences are most desirable in the writing of copy; however, they can be overdone, resulting in jerky or choppy delivery. The writer should strive for smoothness and rhythm. The rhythm style enables the announcer to get a swing into his delivery. It is possible even to forget rules of grammar because some of radio's most expressive statements are descriptive phrases rather than complete sentences.

Be careful in using relative pronouns; there must be no doubt about their antecedents. For the late tuner-in it is better to repeat the person's name or the place. Clarity is important. Don't trust announcers to pronounce difficult words and phrases properly. News copy is not com-

pleted until a few minutes before it is put on the air, with the result that the speaker does not have the opportunity to study the copy and audition it. Make use of the apostrophe—use dashes freely; they are effective in radio writing for setting the pace and emphasis of the announcer. In handling figures do not write \$25,000,000, but write it out in full in the copy, 25 million dollars, for then the announcer cannot go wrong. It is best not to use exact figures; put them in round numbers, even if you are guilty of a slight exaggeration. Do not bother with ages in broadcasts unless they really play some part in the story; in death stories older listeners, however, like to know at what age some other person dies. Full names of well-known people are not necessary; use their common identification. In the case of senators or representatives, name the state they represent. Don't put out stories about local accidents in which victims are unidentified. Of course a major catastrophe constitutes an exception to this rule. In processing a wire report for the air, do not deviate from the facts contained in the wire story.

The radio news services give stations 24-hour service. Five and fifteen-minute summaries come through at specified intervals. These are designed to be used as complete programs for those time periods. Between summaries, numerous daily features are filed—sports, women's commentary programs, and farm news. Other items are individual stories, 1-minute roundups, and local and regional news.

Too much reliance must not be placed on this material however. When a station must broadcast the same news, it should be rewritten to avoid monotony. Initiative and imagination are needed to pep up a stale story. Newswire stories may give you an important lead for a local angle. Check up on a government announcement and point out how it affects people in your community.

Before starting to edit and rewrite the news, take time to understand the item fully yourself. This is the time to check the story if it isn't clear. Phrase the story your own way but take care not to be misleading. Compare your version with the complete original story to be certain the meaning is not obscured or changed. If you have more than one source of information, pool all the facts and check differences of interpretation, then choose your rewrite facts from the total. Read your story out loud; what looks well on paper may have many concealed pitfalls for the announcer.

Unless the news commentator is introduced by name, it is advisable for him to open his program with some sort of greeting, "Good evening" or some other such phrase. A person does not ordinarily walk into another's living room and immediately start to talk. While subtle humor which results from a clever choice of phraseology enlivens the program

and brings lightness into it, the commentator should never allow himself to be considered silly. Sarcasm and irony are also dangerous as they are frequently misunderstood. The news commentator is presenting facts, and he should sound as though he considered these facts worthy of the attention of his audience.

He should also sound familiar with the material because the public is getting its information from him. To the listener he is the first reader of the story. Words that are unfamiliar must be checked for accuracy of meaning and pronunciation. Foreign place names and unusual personal names warrant particular care. Write them out phonetically so there is no danger of forgetting where the emphasis falls when you meet them again on the air.

Frequent criticism is aimed at radio speakers for falling into one of two equally bad categories. In their desire to read with expression some develop a "voice pattern," a singsong sort of delivery with meaningless rising and falling inflections. The other extreme is a monotone. It is most important to keep the voice flexible, and vary pitch, speed, and tone. But you will find that if you concentrate on the meaning behind the words, a natural correct pacing will result. Words are merely symbols of thoughts and ideas—try to forget that they are on a printed page and turn them into conversation. Find out what the script is about and then "tell" your listeners. Individual voice problems have to be worked out, and there are many techniques that may be learned to make your voice say just what you mean it to. The best advice to the would-be commentator is to develop a personal plan or credo that will conform to and establish his personality. Study the radio public and cater to it. The listener is always right.

There is no reason to broadcast sitting down if you would prefer to stand. A comfortable position generally results in better delivery. By the same token, clearing your throat or coughing slightly is perfectly permissible if you turn from the mike. Certainly it is better than finding it difficult to use your voice properly because you have failed to do so. Some microphones have a "cut-off switch" to take care of this, and some announcers and commentators use the throat-cutting signal to the control room to get them off the air momentarily. All radio speakers "muff" or "flub" words at some time or another; most enjoy recounting their worst ones. If this happens, a quick correction may be possible but going back may result in a worse tangle than the first time. You can't take back the mistake so go on and let the listener forget it.

The news commentator should present his material in a clear manner without making any attempt to force his opinion upon the listener. It is wiser to lead the listener to the same point of view, and compliment him

at the same time, by allowing him to reach his own decision. The "newscaster" is a real personality, and, consequently, he should project that personality. News commentators usually develop the personal style that creates for them friends and listeners and makes their programs distinctive.

To announce a transition from one news item to another, the speaker should pause briefly, change his voice slightly, or announce the transition. Frequently, it is good practice to present the news in the style that one person might use in telling it to someone he does not know very well. Crime stories are seldom broadcast unless the crime is one against the public. A crime of passion committed in the slums or underworld has little value as news to the radio listener. Certain stations have definite policies forbidding unnecessary injury to any person's feelings by the spreading of news. Stations are inclined to be unbiased in political attitudes, but news commentators frequently imply their personal bias. Sponsored programs, however, too frequently are influenced.

The speed with which most announcers speak is about 150 words a minute. However, delivery is very deceptive inasmuch as some announcers dash along and then waste seconds upon unimportant transitions. Frequently, those whose delivery sounds slow will put more words into a minute than the speaker with the machine-gun type of presentation. Placing emphasis upon every final syllable, giving it a slight accent whether it truly should have a final accent or not, will enable the deliberate speaker to cover ground. The average is about 2500 words on a 15-minute program. Too rapid delivery of news copy is unsatisfactory to the listener. While people hear at the average rate of 150 words a minute, they are accustomed to reading news at a little less than 100 words a minute. If the news delivery is too speedy, the listener has little left at the end of the report but a mixed impression that somebody did something somewhere. The listener does not have an opportunity to absorb rapidly delivered news.

The provision about news broadcasts included in the Code of Self-regulation of the National Association of Broadcasters reads:

News shall be presented with fairness and accuracy and the broadcasting station or network shall satisfy itself that the arrangements made for obtaining news insure this result. Since the number of broadcasting channels is limited, news broadcasts shall not be editorial. This means that news shall not be selected for the purpose of furthering or hindering either side of any controversial public issue nor shall it be colored by the opinions or desires of the station or network management, the editor or others engaged in its preparation or the person actually delivering it over the air, or, in the case of sponsored news broadcasts, the advertiser.

The fundamental purpose of news dissemination in a democracy is to enable people to know what is happening and to understand the meaning of events so that they may form their own conclusions and, therefore, nothing in the foregoing shall be understood as preventing news broadcasters from analyzing and elucidating news so long as such analysis and elucidation are free of bias.

News commentators as well as all other newscasters shall be governed by these provisions.

The policies and standards of the National Broadcasting Company regarding the broadcasting of news have been set as follows:

All standards of the company apply to news programs. Specifically, the following standards must be followed:

1. All news shall be reported from an unbiased, non-partisan viewpoint.
2. News shall be treated factually and analytically, never sensationally.
3. News announcements involving crime or sex shall be avoided unless of national importance.
4. News shall not be broadcast in such a manner as might unduly create alarm or panic. No flash stories about accidents or disasters shall be broadcast until adequate details are available.
5. No suicide shall be reported, except in the case of a nationally known figure.
6. No lotteries, gambling odds or similar information shall be broadcast which might tend to cause listeners to gamble on the outcome of an event.
7. No libelous or slanderous news is permitted.
8. The news announcer shall not deliberately distort the news by any inflection of the voice.
9. Fictional events shall not be presented in the form of authentic news announcements.
10. No legal or medical advice is allowed in news broadcasts except when it is an essential part of legitimate news from official sources.

SELECTED READINGS

BROOKS, WILLIAM F.: *Radio News Writing*, McGraw-Hill Book Company, Inc., New York, 1948.

A textbook on writing news for radio designed especially as a guide for beginners. Includes examples of special techniques needed to convert press dispatches to news on the air. Appendix includes news roundups and samples of commentaries by well-known newsmen.

CAMPBELL, LAURENCE R., and ROLAND E. WOLSELEY: *Newsmen at Work*, Houghton Mifflin Company, Boston.

Radio, news, and wire services are discussed. In many instances there are parallel examples to show how similar stories are handled by the various media.

CHARNLEY, MITCHELL V.: *News by Radio*, The Macmillan Company, New York, 1948.

A stimulating treatment of the history and development of news broadcasting, one which is both entertaining and informative.

ERNST, MORRIS L.: *The First Freedom*, The Macmillan Company, New York, 1946.

Deals with problems of freedom in the media of mass communication. Contains a discussion of monopoly, big business, and freedom of the press, radio, and the movies.

HOTALING, BURTON L.: *A Manual of Radio News Writing*, The Journal Company, Milwaukee, 1947.

How to Write the News Today, International News Service, New York.

MOSSE, BASKETT: *Radio News Handbook*, Medill School of Journalism, Northwestern University, Evanston, Ill., 1947.

A concise handbook intended as a guide in the preparation and production of news programs, with added information on radio sign language, glossary of radio terms, and a sample script.

NAFZIGER, RALPH O., and MARCUS M. WILKERSON, eds.: *An Introduction to Journalism Research*, Louisiana State University Press, Baton Rouge, 1949.

A presentation of some mass-communication fields and methods of research which journalism students and public-opinion analysts are investigating and using.

SCHRAMN, WILBUR: "Radio Journalism," *Journalism Quarterly*, 23 (2): June, 1946. American Association of Schools and Departments of Journalism and the American Association of Teachers of Journalism at Emory University, Ga.

SWING, RAYMOND: *In the Name of Sanity*, Harper & Brothers, New York, 1946.

Raymond Swing's broadcasts in 1945 devoted to the implications of the release of atomic energy.

WARREN, CARL NELSON: *Radio News Writing and Editing*, Harper & Brothers, New York, 1947.

An elementary text with diagrammatic illustrations to cover the various phases of radio news work.

WHITE, LLEWELLYN: *The American Radio*, University of Chicago Press, Chicago, 1947.

A report on the broadcasting industry as prepared by the Commission on Freedom of the Press.

WHITE, PAUL W.: *News on the Air*, Harcourt, Brace and Company, Inc., New York, 1947.

An analysis of news gathering and preparation for broadcasting by one of radio's best known news writers.

SPORTS PROGRAMS

There are various kinds of sports programs. There are the on-the-spot broadcast of an event, the descriptive account based upon telegraphic reports, the after-the-event résumé, the dramatized sports program, and the straight recapitulation of wire news; there are also combinations of these. The type of broadcast which attracts the largest number of listeners is a running description of a sports event which is taking place at the very moment that the news comes over the air. Examples are broadcasts of football, baseball, hockey, and basketball games, tennis and golf matches, boxing bouts, and boat races.

Of these, hockey is the most difficult to broadcast and rarely is done well. It is such an exceedingly fast affair that the man at the microphone is almost always behind the action. The other extreme is baseball. Taking advantage of the fact that he has all the time in the world between pitches, the commentator employs a slow delivery and uses a great amount of fill-in material. The baseball game is comparatively easy to broadcast because there are few line-up changes after the season starts. Fans are extremely critical if you err. Describing a basketball game requires a thorough knowledge of the game. The broadcaster must have a very fast speech rate and excellent eyesight. Aside from naming substitutions, the "spotter" does not help much. Obviously, the spotter is useless also in describing a boxing match. Knowledge of boxing is necessary for broadcasting, since motion pictures of big fights are exhibited widely and listeners can check up on any important radio error. A speedy delivery is also called for. Football is not difficult to broadcast because of the exceptional facilities in press boxes and the extensive pregame preparation. One man usually does color while the sports announcer does the play-by-play. A tennis match is difficult to broadcast, for the strokes are difficult to call and possess technical names. A combination of a thorough knowledge of the game and the ability to fill are essential qualities in the announcer. Golf reportage is also difficult. There is such a long time between strokes that a tremendous amount of ad-libbing is neces-

sary. Furthermore, the voice has to be controlled so that it will not annoy the players.

The Sports Announcer

There has been an idea that the sports announcer should be an athlete who has participated in the sport he is describing. One of the outstanding professional football players of the day has expressed a desire for a college-trained football man to announce programs; on the other hand a famous coach says that it is dangerous for the sports announcer to have too much knowledge about the game because he is inclined to get ahead of the play, and, instead of talking to the average fan, give a more technical explanation which might be understandable only to the football player. Undoubtedly a good background knowledge of sports is essential; but the knowledge of how to dramatize the voice, to pick vivid, descriptive words quickly, to keep on giving information in the midst of excitement, and to inject the thrill of the game without hesitation into the microphone are more essential than previous participation in the sport.

A would-be sports announcer would do well to learn all that he can of the different sports that are broadcast. The rules and requirements of the games must be thoroughly absorbed. He should study the phraseology that is distinctive of the game or sport, which he may use in his broadcasts if it is generally understood by sport fans and by the average listener. The sport pages of newspapers written by experts will form his textbook, for they will give him a diction that is picturesque and a style that is speedy. He should study the history of sport and of those who have participated and gained renown. He must know the signs or gestures used by the officials to signify penalties, etc. But most of all, he must never forget that he is not watching a game for his own amusement, but is reporting it to listeners who are hanging on his word description.

When the announcer has received his assignment, he should go to the scene of the contest well in advance of the event. There he will pick up all the gossip about the game that he can. He will absorb local color, stories about the participants, and the history of the competition. He should find out what selections the band will play in between halves, so that the network will not be caught with an uncleared tune, and he should otherwise anticipate any difficulties that might arise before or after the program. If he is to broadcast a football game, he will get acquainted with the players, watch their practice, learn their formations, discover what plays are used under given circumstances. The sports announcer is generally trusted by the coaches and is provided with the

records that have been brought in by scouts who have watched the opposing team in action. If possible, the announcer will attempt to get the coach to tell him of any radical departures from the normal style of play, so that he will not be unprepared. Bill Stern arrives nearly a week before the game and has even practiced with the teams. All this preparation gives him confidence.

The announcer is supplied by the college publicity departments with material concerning each player, his age, weight, experience, class in college, where he played in preparatory school, home town, and position on the team. From this advance information he prepares his opening account to be used before the game, the filler material to be used between halves, and short fragments to be used when time out is taken. This is all the material that is written in advance of the program. When the whistle blows for the kickoff, the announcer is on his own. His tongue and mind must be as quick and as true as his eyes. Some colleges supply a tabulation of the game to the announcer immediately after the final whistle which he can use for his summary; other announcers have a man with them who tabulates the game as it progresses. This tabulator usually is capable of announcing his findings and in this way relieves the announcer.

When the day of the game arrives, the announcer, who alone is responsible for the broadcast, tests his mikes and his lines, instructs his technician, sees to it that he can observe the play upon all parts of the gridiron from his booth, selects locations for additional mikes to pick up the bands and crowd noises. He generally is provided with two spotters who can identify players on both teams by their walk or mannerisms, as well as one to watch the officials. These assistants can immediately give the announcer the names of the player carrying the ball and of the one who makes the tackle, as well as the names of other players who have taken important parts in the play. The third spotter will have a series of cards upon which are printed the penalties and rules. These cards are handed to the announcer for his use when occasion demands.

As the broadcaster takes his seat to begin work, he makes a mental calculation as to the dramatic possibilities of the pregame description. He decides on how much time he will be able to devote to the various subjects. He roughly allots a certain amount of time to the weather, the spectators, distinguished guests, and perhaps music, cheering sections, and the like. He calculates a certain length of time for announcement of the personnel and sets aside the last 2 or 3 minutes for the commercial, the anticipated high light of the contest, and the opening play. It is customary to start a sports broadcast several minutes before a contest is scheduled to begin. This permits the observer to set the scene.

Every sports man who is announcing football games makes a spotter board (Fig. 30) which he uses to check on the players. This device has two boards which are hinged together to form a folder, but the hinge pins may be removed so that the two sides can become separate boards. On the back of each section are hinged raisers at each end which tilt the board when it is placed upon the shelf. These two sec-



FIG. 30. Sports announcer's spotter's board. (*University of Michigan.*)

tions are on each side of the microphone, during the game, placed as the two teams are on the field. The board for each team is set up in its offensive formation. For instance, if Michigan is using a "T" formation its player cards are arranged that way, and if the opposing team uses the single wing, that is the way the other side of the board is set up. When the teams change positions on the field, the boards are reversed and turned end for end.

There are only 11 cards visible on each board at any time, but if the platoon system is used the cards are two deep, and when the offensive team comes off the field the spotter removes their cards and allows the defensive line-up to show. Each card has the player's name (last name in capitals), his number, height, weight, home town, and class in school. In case of substitution, the spotter makes the necessary

change upon the board from a complete roster of players arranged numerically. The spotter usually has a pointer, a pencil, or stick with which he points to the card on the board naming the man who is carrying the ball; the defensive spotter points out who made the tackle. When the teams change at the quarters the spotters shift to the other side of the announcer. Spotters are usually players who are on the injured list or very familiar with the team.

In front of the announcer is a low microphone (without call letters) placed so that the announcer's vision will not be obstructed. He generally has a list of all players listed numerically and of the officials for quick reference. He has cards with filler material to be used during time out or between periods. Many announcers have a little egg timer to remind him to announce the score every three minutes if possible. Listeners who tune in late appreciate these announcements.

In the booth there is generally a second mike for a relief announcer who gives the color and game statistics (which are furnished by the college publicity department at the half and the end of the game); this announcer usually does the commercial. At the rear of the booth is a Western Union operator who receives scores of other games. Sometimes there is a third mike on the field to pick up band music and the cheering.

The whistle blows as the announcer has worked his audience up to a climax of suspense. He adopts the present tense in his account. He must place himself in the position of one viewing the game and describe it to his unseeing audience. He must assume that in his audience there are those who are interested in the technical details of the play as well as those to whom the dramatics of the contest hold the greatest interest. The announcer at a football game concerns himself with only four things—*who is carrying the ball, what sort of play it was, who made the tackle, and how far the ball was advanced.* These four things must be answered. Other descriptive material may be included, but if these four questions are answered the listener can always locate the ball upon his imaginary field. The description should reach the ear of the listener as if the play were in progress as it is described. The play may be completed but still the present tense is used to denote action. Instead of saying "Teninga tried to go around right end," he says "Teninga has the ball. He is going around right end." At times the announcer may use the progressive present tense; for instance, a tailback fades back: "Ortmann is falling back. He is going to pass." But when the man is tackled the tense is changed to the past.

While the announcer is familiar with the plays to be used between teams, he should never get ahead of the play and forecast any type of

play because he cannot be absolutely certain just what is going to happen upon the field. His forecast of a pass or a kick, however, will convey to the listener the impression of the eyewitness, and, even if the play is changed, the same suspense is created for the listening rooster as for the fan in the stadium. It is essential that the sports announcer be sure of his facts before he impresses them upon the listener. He may know that a certain formation is used for an end run, and as a result he may start off on a description of the halfback dashing around end, only to find that the ball carrier has discovered an opening and is plunging through center.

Telling what is going to happen has its dangers. Something is likely to go wrong, plans may be changed, or the observer may be deceived. In such cases he must admit that he was wrong in his prediction. Announcers have been severely criticized for frequent inaccuracy in their statements of what is about to happen. But the dramatic value of letting the radio audience share the same speculations as are held by those in actual attendance probably more than makes up for the apparent error. The commentator has introduced the element of suspense, and, in addition, the factor of surprise. It is contended that the play which follows is more thrilling to the radio listener by reason of the very fact that he had been misled in his expectations.

The announcer at times, however, will have opportunity for using the future tense. He may go to the point of predicting an action. The truth is that he is not guessing. He prophesies only when quite certain that such action will take place. For instance, he might say, "It looks as though Raschi will walk Kell to get at pitcher Trout." From the standpoint of dramatic production the prediction possesses an unusual significance. It creates an element of suspense, one of the first essentials of showmanship. It gives the radio listener a feeling of being on the "inside," an intensified interest in what is to follow immediately thereafter. It arouses his curiosity as to the outcome of the predicted play. This practice of preparing the listener for something about to take place, or something which appears likely to take place, is an accurate reflection of what is going on in the minds of the rest of the spectators.

It has been said that sports announcers should be entirely neutral, showing no bias for either team. The danger of this requirement is that it makes the broadcast neutral, with no life, no interest. It is wiser for the announcer to be decidedly biased for both teams. Always give credit where credit is due but never condemn. If a runner is on his way to the goal line and the safety man is easily side-stepped, emphasize the skill used by the runner rather than the failure of the tackler. Every boy on the team has friends or parents whose feelings would be hurt if his poor

playing were broadcast. Furthermore, injuries should not be emphasized since this would worry parents and relatives who are listening.

The sports announcer should remember that his listeners are those who wish they might be in the stadium. They want to watch the game, enjoy the crowd, see the color of the event. No one keeps his eyes on the players steadily for 60 minutes. The fan is amused by the antics of cheerleaders, by the activity of the officials; but these interests, while important, are subordinated to the progress of the game. Weather is important only as it affects the play. Distant landscape must not be described with the ball on the 1-yard line.

Announcers believe that their voices must not reflect undue excitement or put in thrills when there are no thrills. The delivery is important but the announcer must remember not to be unfair to his audience—not to be calm and dispassionate in an exciting climax, or to shout about a 1-yard gain in the center of the field.

In the excitement of a play a listener may lose track of the advance of the ball; hence it is frequently good practice when time permits to repeat the essential details of the play. A résumé of the play may be given between halves.

In sports broadcasting, the observer usually works very close to the microphone, his mouth within 4 or 5 inches of the instrument and a little above it. This position enables him to see over the microphone and to shield the instrument with his head and body from the noise of the crowds. As his voice increases in volume, he turns his head, or backs away from the microphone. At a distance, or with his face turned aside, he may be able to put on all the lung power he possesses without danger of ruining the effect. What comes out of the loud-speaker in this case is the sound of a man actually shouting.

A second factor in the creation of an atmosphere of intense action is changing the pitch of the voice. It is quite a natural thing that the announcer should raise the pitch of his voice as well as the volume to express excitement. The listener associates these changes in tone with the cause for them. When he hears a high-pitched voice, he immediately senses excitement. The atmosphere of stress can be supplemented in the use of staccato sentences. Long sentences indicate unhurried preparation and mature consideration; short sentences denote motion and speed, giving the impression that the speaker must hurry to keep pace with the proceedings.

It is desirable to sum up at frequent intervals just what has happened up to that time. This may be done by stating the score, or it may be enlarged to a detailed description. In most sports—baseball, football, boxing, and tennis—there are interludes in which changes are being made

in line-ups or in positions on the playing space, time outs, or rest periods. There is opportunity for summing up the situation at such times.

In radio the sports announcer has to be the eyes of the listener; he must describe all action. In television, the listener uses his own eyes to see the action. Therefore in TV the sports announcer should not keep up a running commentary. His job in TV is to clarify what the televiewer sees, and what he cannot see upon the small screen. He probably cannot read the player's number so the announcer gives him that information. The announcer will also have to locate the yard line upon which the ball is, give information about players, and fill in when there is no action on the screen. This applies to all sports which are televised. The announcer must learn the value of silence when there is action, and the importance of interesting comments when there is no action on the screen. He doesn't see the screen version but must have a sense of what the camera is picking up.

The broadcasting of baseball games appears to the neophyte sportscaster as a job a great deal easier than broadcasting the faster sports of football, basketball, and hockey. But, oddly enough, baseball is sometimes one of the most difficult sports to present to the radio listener. And one of the reasons for the difficulty lies in the fact that time is not pressing, whereas, in the faster moving sports, the announcer has to be with the play every second, literally "spitting out" words as fast as he can articulate them. However, a good baseball announcer is really a "narrator." He makes his delivery slower and creates word pictures for the fan sitting by the radio. Let's take an example: Koceski of Michigan is at bat; there's a man on third base and one out; Koceski hits a long fly ball to left field. It's not enough for the announcer to say, "Koceski hits a long fly ball to left field . . . and . . . it's caught! Here comes Bucholz home with another Michigan run." As you can see, the listener has to fill in a lot of blanks. Now let's take the same situation with the announcer using the "narration" style of delivery. "Koceski swings . . . and there goes a long fly ball out to left field . . . the left fielder is moving back . . . he flips down his sun glasses . . . Bucholz is tagged up at third . . . he'll try to score after the catch . . . there's the put-out in left field . . . and here comes Bucholz racing for home ahead of the throw for another Michigan run." You can see in this instance how a "word picture" is created for the listener, and he can visualize the particular play almost as if he were seeing it with his own eyes. Furthermore, the announcer should give frequent recaps of scoring, naming each team and its score at every opportunity.

UNWRITTEN TALK PROGRAMS

I have a feeling that impromptu and extempore speaking is neglected by the student of broadcasting, as well as by the teacher. One of the outstanding news commentators visited my classes and pointed out that there are many programs being presented which require the ability to speak spontaneously. Such programs as the round table, forum, interview, man-on-the-street, disc jockey, on-the-spot broadcasts, and some of the news-commentary programs require the broadcaster to be a fluent and spontaneous speaker. The art of announcing has become so standardized that at present one small bit of impromptu radio speech can be detected and frequently is a welcome relief if well done.

For these types of program a good vocabulary of descriptive words, particularly action verbs, adverbs, and nouns is essential. The impromptu speaker must have a good cultural background, for he is not forgiven for mistakes in grammar, pronunciation, or diction. The speaker in every instance is required to have excellent powers of observation, to be able to see ahead while he is talking about something that he has previously observed. In too many instances the broadcaster is inclined to "hem and haw" while he is groping for a word that he feels will convey the correct impression to the listener. In such unprepared programs there must be no dead air, although brief pauses undoubtedly will make the material sound more conversational. These pauses will be shorter than they would be if the speaker were conversing with a visible audience. Quickness in thought and expression are equally vital. Perhaps one of the best practices to use in the preparation for this type of broadcasting is talking to oneself, particularly describing things that are being seen.

Another requirement for such extempore and impromptu programs is an ability to time the material to be presented. The program will run for a definite period, and the broadcaster must time himself so that he will have rounded out his material, summarized if necessary, and come to a satisfactory conclusion at the second that he goes off the air. I place my students before the microphone with one of those 3-minute glasses made

for the timing of boiling eggs and tell them they are to talk until the sand has dropped to the last grain into the lower chamber and no longer.

One of the faults evident in the impromptu speech of the novice is the repetition of certain phrases and words that pierce the ear of the listener. Some speakers, masters of ceremonies, man-on-the-street interviewers, are inclined to start their sentences with an ejaculation or connective, in most instances, "Ah," because they have not definitely formulated



FIG. 31. A remote amplifier and microphone are used for man-on-the-street programs and for most remote pickups where there is not a permanent installation. (Collins Radio Company.)

ideas about what they intend to say. It is much wiser to be silent for an instant while the sentence, expression, or thought is developed. Possibly good experience in smooth delivery can be obtained by the practice of dictating to a stenographer.

If the program is a commercial one, the announcer is constantly aware of the fact that he must smoothly lead into the commercial announcement from his impromptu speech. Many masters of ceremonies have before them a page or two from a scrapbook in which they have pasted short stories or sayings which they hope will fit into their program.

Public Events; Special Features

Announcers are frequently sent out upon remote-control pickups when the station manager feels that public interest in the event is adequate (Fig. 31). From the skies the announcer will give a running account of a trip in an airplane or dirigible; from the depths of the sea his voice will come from a submarine. He describes vividly a flood from the banks of

a raging river which furnishes sound effects, or from the shore of the sea he may bring all the thrill of a rescue from a burning ocean liner. Listeners can hear the crackle of flames and imagine the smell of smoke as the announcer carries his mike close to a burning building; they hear the bands and tramp of feet as a parade passes by a microphone in the reviewing stand. These announcers must have eyes that see what the public will be interested in, vocabularies that contain the most vivid and concise descriptive words, and tongues that wag conversationally and constantly. Such announcers experience all the excitement that comes to the newspaper reporter, they face danger, they must be alert to act in emergencies. It is their job to induce public characters to speak to the mike, to obtain the best placement for their equipment, and to satisfy the endless curiosity of the listener. These announcers work without manuscript, although they may have notes which will give them facts that are pertinent to their broadcast. They are the war correspondents of the radio and consequently must not only have all the qualities of a good announcer and of an excellent reporter, but must have a physique that will stand up under the strain and under the conditions in which they work.

Round Table

Since it is the aim of the radio program containing information to come into the home in the form of conversation, it is a good idea to project more than one person into the living room of the listener to discuss problems of the day. The radio listener cannot talk back but he finds that the radio discussion is more natural if there is a give and take of opinion by a group of radio speakers. This type of broadcast is the round-table discussion. Probably the outstanding example of the round table is that conducted by the University of Chicago (Fig. 32).

The purpose in these spontaneous discussions is to permit the exchange of ideas, to attempt to arrive at some solution of a problem, and to avoid the formality of a lecture by using conversation. For some topics it is wiser to start the listener thinking, without arriving at a conclusion for him on such programs, by merely fading out the speakers, leaving the idea dangling before the listener. In order that this conversation may be natural, those who are participating in the round table do not prepare their parts in written form but merely outline the course of the discussion and the attitude that each participant will adopt during the period of the round table. In order to avoid any hesitation or divergence from the topic being discussed, the program must be discussed and an outline constructed with various parts assigned. The introduction may be written by the leader of the round table and the outline showing the various

subtopics, together with the individuals who will take up these subtopics, is in written form before the participants as they sit down at their round table. In order to observe the time limitation, it is advisable to show in this outline the time that is to be allotted to a discussion of each



FIG. 32. The University of Chicago Round Table participants for the March 20, 1949, program (from Mandel Hall) on "What Should Society Expect from a University?" Laird Bell, the chairman, Board of Trustees, University of Chicago; Arthur Holly Compton, chancellor, Washington University, St. Louis, Missouri; Ralph W. Tyler, dean, Division of Social Sciences, University of Chicago.

of the points. The leader also may have his summary written out, which is prepared after the rehearsal.

The conversational program may advantageously become a written program before it goes on the air. Participants go through the routine round table procedure just as if they were to be on the air. However, instead of presenting their talk for air, it is taken down by a stenotypist. They are then given opportunity to look over the copy, change it to suit their best judgment, and go on the air with a script discussion program. By starting with this conversational basis, they are enabled to overcome some of the difficulties of a writing style which is quite often wooden and ineffective for broadcasting. This format is particularly appropriate for medical and scientific topics.

Usually three people will participate in a round-table discussion. Two of these will be experts holding different views or attacking the problem from different viewpoints. The third should be an intelligent layman desirous of information and questioning the opinions of the two experts. It is advisable to identify the various speakers at the very beginning of the discussion. Their questions and comments should also give their attitudes toward the topic. In order that their voices may be impressed upon the listener, they should be addressed by name for the first few minutes of the discussion. This requires a variety in the form of salutation in order that the discussion may sound conversational. The round table is designed to present clashes of opinion and to bring out different points of view, and yet it must arrive at some conclusion. It must not be merely talk but must be organized skillfully before the program starts. There cannot be too-detailed discussion of any subtopic, and, while an individual may be assigned a subtopic in the outline, there is no reason for him to monopolize the discussion. It is incumbent upon the person to whom the subtopic has been assigned to see that there are no pauses while that topic is being discussed. In order to keep up the spontaneity of the conversation, the leader should know the attitude of the various participants and point to one or to the other when he desires an opinion concerning a point raised. In order to make for the greatest realism, the expression of personal opinion should not be hampered. In order that the listener may gain the impression that he is to listen to a conversation, the program may be faded in. This requires the speakers to be discussing some unimportant topic as their voices gradually become audible.

George Probst, producer of the University of Chicago Round Table, has some "Do's and Don't's" for his participants.

1. Points made with enumeration—"1-2-3"—are far more listenable than three points made one after the other without such enumeration.
2. Everybody should participate. The program time should be balanced equally among the participants. Don't ever talk the ears off the other speakers, but on the other extreme don't be reticent!
3. Mention the names of fellow-participants whenever you speak, and have a uniform method of identification.
4. Address other participants directly, rather than throw an idea into thin air, or pick up another speaker's point without attributing it to him. Frequently a hesitant speaker may be drawn into the discussion in this way, or the conversation may be steered away from a speaker who is dominating the microphone. It is one of the surest ways of pinning a person down to an answer.
5. Normal conversation is the ideal pattern for a Round Table—normal conversation with normal interruptions, normal jokes and laughter, normal

asides. Give your fellow-participants an opportunity to come in and break up your remarks. Not only do long speeches destroy the feeling of informality and spontaneity of the Round Table, but listeners do not have the benefit of a critical examination of each point in the argument.

6. Elbows on the table, please! For in that way the producer may be sure that each participant is the same distance from the microphone and, further, that he stays that distance throughout the broadcast! Don't tilt forward—or your voice will roar like Niagara! Don't lean back—or your voice will resemble a hoarse cry from the stadium bleachers!

7. Jot down facts, figures, and quotes on small cards for possible use on the air.

8. How the broadcast time should be apportioned will be decided before the broadcast. Once the time is apportioned—stick to it. Watch the studio clock and observe how much discussion time remains.

9. Emphasize your right to speak as an expert! Don't be modest! Speakers should document the authority of their colleagues; it is desirable for speakers to personalize their authority.

10. Personalization is always first-rate on the Round Table. You'll do more to hold the attention of listeners, authorize your remarks, and add life to the discussion by referring to specific things you, yourself, have seen or done, or to some piece of information you have obtained or have heard at firsthand.

11. Talk to the listener—as well as your fellow-participants. You know that he's listening. And he'll enjoy listening the more if you occasionally acknowledge his presence. Remember that you are speaking not to a large audience in an auditorium but to individual listeners in their homes. A direct candid conversational approach is best.

12. Identification of the topic is very necessary three or four times during the broadcast. Many listeners tune in after the opening announcement.

13. Human interest must be emphasized to make the problem one of personal importance to the listener; answer the questions of the public. Participants should try to answer the normal questions of the average listener.

14. Humorous stories and anecdotes often add a friendly tone to the discussion and succeed in making serious points too! And if what a fellow-participant says is funny, laugh. If it isn't, don't hesitate to say so—even that's funny. Whatever happens, be natural.

15. Controversy may heighten the listeners' interest in the discussion when it serves to emphasize fundamental arguments on both sides of a dispute. But controversy on minor points annoys rather than interests listeners. If you disagree with a statement, don't hesitate to say so, and state your reasons clearly. In building your case, don't be timid—speak out for your point of view. Too often participants are overpolite.

16. Avoid pauses by always being on your toes—you may have the "ball" tossed into your lap when you least expect it. Snapping in on the heels of another speaker adds to the pace and spontaneity of the discussion.

17. Don't all speak at once. When you wish to interrupt, be sure that the other speaker has completed the expression of his idea.

Each round-table group may adopt its own signals to be used to indicate the procedure of its discussion. A raised finger is a sign that the person desires to speak on the topic, and courtesy demands that he be given an opportunity. The leader may indicate that he desires an opinion from a member by pointing his finger at that person. The palm of a hand toward a speaker indicates that he should cut his discussion short. The announcer of the program should inform the group by means of some sign when the time is drawing short so that they can work to a conclusion. The conversation may, by its phraseology, indicate that one of the participants should come in and discuss a point. The great problem of this type of broadcast is the possibility of vague, aimless talk which serves only to confuse and bore listeners, and the solution of this problem is to have competent people who are sure of themselves and of their subject and who are willing to express forceful opinions.

It is well to develop certain personalities if the round table is to be a continuing program, to retain at least the leader for the entire series, and to bring back speakers frequently to the radio ears. The topics that may be discussed include problems of the day in politics, economics, literature, education, or religion.

Radio Interviews

The radio public is interested in interviews because of the human instinct to eavesdrop upon the thoughts of others. In fact, it is not essential that the interviewee be a celebrity, for the radio listener finds interesting the comments that are given by the man-in-the-street who is stopped by an inquiring reporter. The interviewer must have an idea of what the average listener would himself like to ask the individual. He must have natural curiosity and should visualize himself as the average listener.

Interviews are never rehearsed in advance of the broadcast. The interviewee is asked to suggest certain questions that he would be willing to discuss, but it makes for greater interest and spontaneity if the questioner does not know the inquiries in advance. The interrogator, however, must use good judgment and diplomacy in the selection. It is good practice to sit down with the person to be interviewed at a table upon which there is a microphone and talk with him in advance of the program in order to get him into the conversational mood and to ascertain his attitudes. This puts him at ease and eliminates the probability of "mike fright." When the broadcast starts, the interviewer will introduce the victim and ask questions, which will also tend to introduce him. It is not a bad plan to ask some rather light, frivolous questions

that may start the program with a spurt of humor, for this puts the interviewee at ease and pleases the listener. It is essential that there be no pauses of any length; consequently the person who is doing the interviewing must be alert to discover leads in the answers he receives. Probably the first few minutes of the interview will be devoted to less serious discussion in order to brighten the subject and to encourage the interviewee to articulate comfortably. There is a tendency to allow the interview to become argumentative, but this should be avoided because it makes the interviewer express his ideas, which are not of importance. The interviewer must remember that he is not interviewing himself. His job is to ask stimulating questions, not to supply the answers; to bring out the interviewee's personality, not his own. Do not try to influence the speaker by leading questions. The man who is important enough to be interviewed has something interesting enough to appeal to the listener. Try to dig down and disclose the person off guard; by that it is meant that there should be revelation but not exposure. To be good at the radio interview, the announcer must have a rather general knowledge so that he may ask intelligent questions in the field of the speaker's interest. Most of the questions should be of such nature as to require more than "yes" or "no" answers. However, the interviewee should not be forced to give too lengthy a reply because the radio listener will be inclined to think that it is a prepared speech and not an interview. It is permissible for the announcer to raise his hand and interrupt the speaker if he gets started on an oration. If some definite topic is to be discussed, the questioner must strive to keep the speaker talking about the topic and lead him back to the subject if necessary. This type of broadcast must be natural and conversational. Mild laughter may be heard but it is inadvisable for the announcer to laugh too heartily at his own comments. Repetition in the style of questions should be avoided, such as starting questions with the word "Well" or using "I see" after each answer.

People who are well informed on special topics and who are close to their subjects are inclined to overlook the interest of the public. This form of broadcast gives an opportunity to the interviewer to bring out points of general interest which might be overlooked by the specialist himself. Long-winded generalization makes the interview a monologue; the skillful interviewer avoids this by deftly breaking in to demand particulars, concrete details, and answers to questions which will require decisive comments, or he may start the discussion on a new or more pertinent tack.

Other types of impromptu or extempore programs which are decidedly popular at the present time are the "Forum," and the "Town Meeting

of the Air." Two factors contribute to the popularity of these programs: (1) the radio audience enjoys a dramatic verbal combat between personages or individuals; and (2) the majority of such programs are concerned with highly controversial topics. In many instances, the audience is permitted to inject questions; thus a cross section of the American public is introduced as interviewers.

Much of the success depends upon the ability of the chairman, who steers the discussion and must set the pace. He must be alert, well versed in the topic that is slated for discussion, witty, and diplomatic. Equally important are the participants, for if they do not enter into the spirit of the program their answers can be flat and uninteresting, regardless of their knowledge. Care should be taken that there is no overlapping of voices. Radio is a great teacher of manners, for it insists that no person shall start to talk until the other person has completed his speech. The only times that a chairman is permitted to interrupt the speaker are when he sees that the time limit is being reached, when the interviewee or speaker has ventured upon a topic which is dangerous, or when the participant shows evidence of giving a monologue.

Discussion programs televise very well. The public is interested not only in listening in but also likes to see those speaking. The setting is quite important. Two men don't discuss current problems sitting huddled together on a love seat. When making a point or when absorbed in expressing his opinion, a conversationalist will get up, move about, in a living-room setting. There is a bit of an actor in every person. Once he realizes that he is being seen as well as heard he will act and act more naturally than a stage actor inasmuch as he does not have to learn his lines. The camera can follow the speaker.

The University of Michigan televised 32 faculty interviews which were very well received. All forms of visual material were used—motion-picture excerpts, slides, photos, models. A professor of finance sold stock, used the money to build a factory, manufactured automobiles, sold them, divided the money for wages, taxes, depreciation, raw material, etc., and made visual the financing of an industry. Every topic presented visual opportunities from anthropology to zoology. Charts were not much good. A professor of manual arts made a silver spoon as he described the process. Many talk programs are enhanced by television. The problem was to get an appropriate setting where the two participants would be talking. We wanted to create the impression that the interviewer represented the home televiewer and that the professor was talking to him. We put the interviewer in the foreground and picked up the back of his head, with the camera dollied to give the impression that he gradually drew back and to one side until out

of sight but where his voice could still be heard—the voice of the viewer. This off-stage voice was confusing, so we had him smoke and blow smoke rings into the picture. We tried other angles and shots to create the impression that the viewer was with the professor—plenty of opportunity for ideas for experimenting.

SELECTED READINGS

BRYSON, LYMAN: *Time for Reason—About Radio*, George W. Stewart, Publisher, Inc., New York, 1948.

A series of broadcasts on C.B.S.; informal talks on the problems and possibilities of radio.

PREPARING THE RADIO ADDRESS

Doctor, lawyer, merchant, chief (of police or fire department), preacher, teacher, politician—everyone, in brief, is likely to be called upon to speak to the radio audience today. Radio speaking is a one-way conversation with everyone [in the radio audience] as an individual. The radio conversationalist must not be a bore, he must have interesting material to discuss, he must present it in an attractive way, and his personality must be pleasantly projected to the distant listener. An examination of the best radio speakers shows that they have observed the interesting things in life and have developed what has been described by one writer as the “daily-theme eye.” The majority have “done things,” have lived lives teeming with interest or excitement, and consequently have become engaging conversationalists. They have discovered human interests and are wise in their judgment of proprieties and public appeal. A drab personality is wearying to the dial.

As the radio speaker has been introduced into the home by the announcer, it is unnecessary for him to open with any salutation; his task is to prove himself to be immediately an interesting, bright, and courteous guest. A pertinent anecdote that will lead quickly into the subject, which has been wisely chosen to interest the majority of average listeners, forms an excellent introduction. The speaker who uses homely expressions and introduces into his broadcast illustrations drawn from everyday life is much more likely to reach the intelligence of his listeners.

The “great speaker,” the classroom lecturer, and the spellbinder politician have no place in the living room of the home. The radio talk must interweave information and human interest. Classroom methods are taboo on the air. Education must be adapted to radio, not radio to education. It is essential that the writer of a radio address forget textbooks, auditorium audiences, and congregations and think more in terms of human interest. Relate the subject to the listener, his life, his pocket-book, his everyday realities. The choice of a subject is of primary im-

portance in order to compete with the entertainment on a neighboring kilocycle.

Make it easy for the listener to follow your trend of thought by carefully organizing the talk. Consider first the limited time on the air allotted to you and select a topic that can be adequately treated in that period. You will speak about 140 words a minute. How many minutes have you in the clear? Do not try to crowd too much into the ears and minds of your listeners. Do not depend upon your listener to fill in any gaps. Idea should follow idea with a naturalness that makes for clear understanding.

A good formula for the organization of the radio talk is as follows:

1. An interest-getting opening paragraph (a quip, wisecrack, or an anecdote; he may start with a reference to something that is certain to be in the foreground of the thinking of most of his listeners and work from that into the theme of his talk).
2. A summary of the points the talk is going to cover.
3. A swift, interesting development of the summary outline.
4. A final summary to clinch the points in the minds of the listeners.
5. A direction to the listeners interested in adopting the practice the talk has urged, telling them where to acquire further information.

The most difficult part of the radio address is the opening sentence. I have often read over radio lectures and picked out a sentence containing an important statement, a surprising fact, or a charming rhythm and transferred this sentence to the opening.

Although writing for the radio uses the same general forms and is governed by the same general rules of grammar and construction that govern writing for print, language—to be thoroughly successful when broadcast by radio—has certain specific requirements not necessarily met by the printed word. It is true that good stories, articles, and poetry written for print may prove to be good broadcasting material. Their success is not necessarily due to the fact that they read well from print, but to the fact that they happen also to fulfill the requirements of radio.

The first major problem of the writer for radio is the same as that of any writer—communication. Thus the first requirement is to make the ideas understandable to the audience. Whether the purpose is to instruct, to persuade, or to entertain, the writer must use language within the comprehension of his audience; he must explain new things in terms of old. But there is a fundamental difference between the relation of the radio writer to his audience and the relation between the writer of material for print and his readers. The words of the author who writes for print are a permanent record before the reader; the words of the radio

writer fall on the ears of his listener and, unless they make an impression immediately, they are lost. Because he must make his entire impression on the audience through the sense of hearing, the radio writer must be more careful than any other to write in terms understandable to the audience and to make his sentences as clear as possible. A reader in doubt as to the meaning of a word usually can find the meaning in a dictionary without too much inconvenience. If he misses the meaning of a sentence, he can reread it as many times as are necessary. If he forgets a statement having some bearing on a later part of the paper, he can refer back to it as often as he wishes. The person listening to a speech cannot stop to look up unfamiliar words without danger of losing part of the speech. And if he does not understand every sentence as the speaker utters it, he immediately loses the continuity of the talk, and the purpose of the speech is defeated.

Vocabulary

Edgar Dale, in an article entitled "Vocabulary Level of Radio Addresses," reports the results of an investigation conducted with speeches that were presented over the Ohio School of the Air and The American School of the Air, especially for school children. The investigation involved a study of the words used by the speakers to determine how many of them the listening students did not know. After the speeches were finished, Mr. Dale selected the words that might possibly give some difficulty and asked the children to indicate which ones they could not define. In one instance he found that 12 per cent of the words were unknown to 29 per cent of the pupils. Many of the words unknown were the verbs and keywords of the sentences; among them were words like *aspire*, *attain*, *concentrate*, and *abstain*. Others which should have been easily recognized by the speakers themselves as outside the scope of grammar-school pupils were *feasibility*, *ramifications*, *amenable*, and *forecasting*. Needless to say, much of a speech employing words of this type passed over the heads of the audience. Mr. Dale found, on the other hand, that the speaker who was voted by teachers as the most successful to broadcast in the Ohio School of the Air used in a speech of 1950 words only 10 words not known to 25 per cent of the children. It is interesting to note also that every one of these 10 words was a geographical term, the acquisition of which was in part the purpose of the speech. When asked how he went about writing his speech, the speaker accounted for his success by explaining that he took particular care in selecting words that would be within the scope of the listeners. Whenever he was in doubt as to the wisdom of using a particular word, he referred to Thorndike's *Teachers' Word Book*, which lists some 20,000

words and classifies them according to the ability of children of different ages to understand them.

This experiment, it is true, was carried on in a specialized field of radio broadcasting in which simplicity was absolutely necessary. However, the principle behind it is applicable to the general field of radio. For, although the audience may not be composed of children, the problem of the vocabulary level still remains. Indeed, there is the added problem of adjusting the vocabulary to a heterogeneous audience. There may be educated and uneducated people, old and young people, sophisticates from metropolitan districts and innocents from the backwoods in the audience; the writer of radio speeches must write for all of them. On special occasions, when a speech is directed toward a specific audience, the writer can have some definite idea of its educational and cultural background and adjust his vocabulary accordingly. But the majority of speeches are made under the assumption that anyone within range of a radio-receiving set can listen and understand; consequently the best answer to the question of vocabulary level for radio speeches is, aim them at the average radio listener. Thorndike places the average American intelligence at fourteen years. The radio writer will do well to use in his speeches for a general audience only those words familiar to the average high-school pupil. Thorndike's book is probably the most reliable source for determining what words can be included in the list.

Fully as disconcerting to the audience as the use of unfamiliar words is the use of allusions to persons and events about which listeners have no knowledge. If the speaker is sure his audience is made up of college graduates, he can reasonably assume a knowledge of history and literature, but, if his speech is directed toward a general audience, he must explain most of the allusions he makes to things not immediately in the experience of the audience.

Sentences

The problem of making the radio speech understandable to the audience is not entirely a matter of vocabulary. The structure of sentences plays an even greater part in the clearness of the material presented. The meaning of a word may sometimes be guessed from the context in which it is found, but, if the thought is obscured by complicated and involved sentence structure, the audience will make no effort to solve the maze of words in order to find out what it is all about.

The first requirement of sentence structure is that there be absolute clarity. The best way to be sure of this clarity is to write in simple and compound sentences, and, when complex sentences are injected to avoid

monotony, to make them free from all difficult clauses that might be ambiguous or obscure. It is easy for the writer who knows precisely what he means by the sentences he writes, and who can easily follow his own trend of thought, to forget how short the memory span of his listener is, and to go on attaching prefatory and attributive phrases to sentences which would precisely have been clear and effective standing alone but which are made difficult and pointless to the audience by the compilation. The material that is written into the added phrases can easily be put into other sentences, thus gaining much in the way of understandability and not losing heavily in emphasis.

A dangerous pitfall for the radio writer is the habit, of which he is sometimes quite unconscious, of adding idea after idea to sentences with the connecting word "which," trusting that the listener will trail along with him and make all the necessary connections. The solution is in breaking up the sentences into shorter ones, making complete simple sentences of the phrases.

Another practice equally as offensive to the radio listener, but nevertheless common among speakers, especially those whose subject is of a somewhat scientific nature, is the use of the relative pronouns "this" or "that" to refer to a whole complex idea which may have taken several sentences or even paragraphs to develop. The listener is unable to carry in his mind all the details of the idea and may have entirely forgotten the point to which the speaker wishes to refer. The relative pronoun calls up no answering response in his consciousness, and consequently he misses the point completely. If the writer would insert in a new sentence a short summarizing statement of the idea referred to by the pronoun, the familiar words would serve to stimulate the recollection, on the part of the listener, of the essentials of the idea, and he would make the correct connections, grasping the full significance of the sentence.

The use of other expressions to designate something that has gone before, such as, "the above," "the former," "the latter," are also out of place in the radio speech. They serve only to confuse the listener, for the chances are he cannot remember the statement or idea to which the writer refers, if there has been any considerable amount of material presented in the interval.

The trouble with a great many writers is that they are afraid to write for the intellectual middle class because they think it may give the impression that they are not capable of writing for the learned. They throw into their writing big words just to give an impression of knowledge. Of course, there is the danger that, in attempting to keep the language on a level to fit the average of the American public, the writer will ac-

quire the attitude of writing down to his audience, giving them the feeling that he knows they are intellectually inferior to him and that he is doing his best to explain things in words of one syllable. This result is just as undesirable as the confusion that is the result of too difficult language, for it produces an antagonism toward the speaker. To avoid an attitude of this kind in writing, the radio writer need only remember that there may be people in the audience who know just as much about his subject as he does, or a great deal more.

The person who reads the material over the microphone, whether he is the same one who wrote it or another, can do much toward the success or failure of the speech. A good reading may improve any material, just as poor reading may ruin the best. Likewise, the quality of the written material can influence tremendously the success of the reader. These possibilities must be considered seriously when the material is written.

The limitations of vocal expression must be recognized. All the sounds in the English language can be made singly without effort, but there are some sounds which, appearing in combination, are almost certain to cause the best of speakers to stumble. Many a man has tripped up on a phrase like "especially susceptible." No matter how carefully the speech is rehearsed before broadcasting, the tension before the microphone is likely to bring about an unforeseen difficulty in the pronunciation of some sound. Therefore, it is essential that the speeches be carefully checked for any possible tongue twisters before going on the air.

The diction should be vivid and colorful, presenting word pictures to the listeners. Most writers fail to search for verbs and adverbs to carry the burden of action description. There is a tendency to rely too much on adjectives. Sibilants, while not emphasized as they were by the carbon microphones, still do not broadcast well; when it is practicable to do so, other words with similar meanings should be used for words containing awkward sibilant repetition ("crime" in place of "lawlessness," "gratitude" in place of "thanks"). Slang and colloquialisms may be used, but they have a tendency to be local in character and may not be understood by the distant listener.

Modifying phrases should be placed so that no misunderstanding can exist as to what word or group of words they modify. Do not separate the subject and verb by long distances. If modifying clauses or phrases necessarily intervene, repeat the subject. Be very certain that the relation of relative pronouns is clear and correct. Conjunctions are inclined to drag sentences to great lengths; consequently they should be used sparingly.

Naturalness in speech will suggest the use of contractions. By all

means use them. However, there are times when emphasis will require the avoidance of a contraction.

The style of the radio talk is conversational, with ideas so expressed that the listener not only may but must understand. Written style lacks the informality needed in radio. Every effort should be made in the written copy to make it sound like an extemporaneous talk when heard. The effective radio speaker writes and speaks in the first and second person, the active voice, and the indicative or imperative mood. So important is the use of the second person that one can almost judge the radio suitability of a manuscript by counting the number of times "you" appears on a page. If one does not find it used at least three or four times, the material may be suitable for print, but not often appropriate for the loud-speaker. An example that illustrates both the personal and the action-picture features needed in radio is the following opening from a printed article on "Spring Hiking":

This is the season when the lure of forest and field is felt by all. The fragrance of new-grown things is in the air. . . .

And here is the same, revised as it should be for radio:

When this season rolls around, you feel the lure to go out into field and forest. You want to fill your nostrils with the fragrance of new-grown things. . . .

Transitional words will serve to hold the plan of the address together for the listener. The speaker uses "fillers," such as "now," for these expressions give spontaneity and conversational atmosphere. When the rules and regulations of grammar interfere with the transfer of an idea by words, such rules should be amended. Grammatical murder cannot be defended but, on the other hand, an occasional misdemeanor is in-offensively human.

Do not try to be funny, but allow a little humor to creep in, although never the slapstick, burlesque type. Humor should never be injected into a speech simply for the sake of being funny, unless, of course, the entertainer is listed as a comedian. Humor may be used in a radio speech to relieve the seriousness and heaviness of the speech and to create a pleasant feeling between speaker and audience. Avoid irony, which may not be understood by those who cannot see your expression. Sarcasm and bitterness are not pleasant to the listener. On the other hand, do not be a sweet Pollyanna.

The length of the address should be somewhat flexible with paragraphs toward the end that can be omitted or added as the time requires. Some speakers slow up under the emotional tension of the microphone; others accelerate. The talks should be rehearsed and timed. Speakers fre-

quently place time notations in the margins of their manuscripts with which they attempt to conform.

The manuscript should be typed double space, on rough paper that will not rattle. Only one side of the paper should be used. The pages must be clearly numbered and arranged in order. They should be neither clipped together nor folded. Never continue a sentence from one page to another. While the speaker shifts his gaze from the bottom line of one page to the top line of the following page, there is bound to be a pause that will sound unnatural. Almost every broadcasting station requires a copy of the manuscript for its files.

It is wise for the radio speaker to furnish the announcer, well in advance, brief introductory material to be used in presenting him to the radio audience and in defining his subject matter. This procedure assures the announcer of accurate and up-to-date information about the qualifications of the speaker to discuss the chosen topic and increases the attractiveness of the program.

RADIO IN THE PUBLIC SERVICE

Local Community Service

The local or regional station has an opportunity, which is crowded out of the profitable life of the outlet station, of becoming a vital part of the community existence. While there is no immediate profit in assisting every worth-while local project of the community, the good will and interest of the public are assets that will ultimately bring a return. Listeners are attracted to their local dial numbers by reports of local activities in churches and schools, in civic and health problems, in community-chest and Christmas drives. The wide-awake local station will participate in every project to build up its listening audience so as to attract advertisers. The local committees will plan and present sustaining programs for the Red Cross or fire prevention, for the local library or little theater, and all the friends of the actors or committees will be enthusiastic listeners. These programs serve both the listener directly and the organizations that indirectly serve the listener.

The radio station in applying for its license to operate, states that it will serve the public interest, convenience, and necessity. The entertainment features are usually combined with the sponsored programs, upon which there are humor, music, and drama. In the category of programs that are of necessity to the listener are the farm-market reports and the stock- and bond-market quotations. Broadcasts of weather conditions and temperature predictions from the Weather Bureau are a necessity to certain businesses and individuals, particularly in times of extremes of temperature or of threatening storm conditions. Many local stations announce the time frequently during the day, and this service is of value to the housewife as well as to the laborer. A knowledge of what is happening in the world or the community is a necessity to some, a convenience to others. Local stations broadcast the news not less than three times a day and frequently augment news reports with spot news broadcasts, such as ball games, parades, and concerts. Shut-ins and those whose labors prevent their attending a parade or

concert enjoy the description and the music. Outstanding choirs and school musical organizations of the city furnish programs of genuine service to the organization and entertainment to the listener. An inquiring reporter who visits the city officials and interviews them about their duties is instructive to the listener and stimulates civic interest. A microphone in the council chamber, the police court, or even in the chamber of commerce will give the citizen an insight into his local government. Distinguished guests and speakers would only be heard by a small minority of the citizens if it were not for the radio interview.

Such community programs also serve the organizations of the city, such as churches, schools, clubs, and lodges. Social and business meetings may be announced, and the radio may serve as a clearinghouse of information. A definite daily program will be helpful to listeners, although special bulletins may also be broadcast. The Better Business Bureau may give warning to the citizens of some house-to-house swindler who is obtaining money under false pretenses. Frequently the radio-warned listener can and does aid the police in apprehending such canvassers. Broadcasts from the police department and the traffic court have been very successful in reducing the number of accidents and they are interesting; in some instances they have reduced graft and favoritism upon the part of judges. Committees that have charge of raising funds for the needy in Christmas drives, for the local Boy Scout troop, for the Red Cross, or for the Policemen's Ball, which raises funds for pensions, will do well to enlist the services of the community-minded broadcasting station.

From a purely selfish standpoint, the local and regional station must be interested in serving the local community. It is one of the most valuable things that it can do to build listener interest. The station that does not do this is missing one of the easiest ways to become a real factor and influence in the community. Most stations do not appreciate in full the opportunity in this field and the stations themselves are the greatest losers because they do not do these things to the complete extent of possibilities. The local groups do not know what to do with radio time until a program is outlined for them. The same applies to schools, the amateur musical club, women's clubs, and so forth. The opportunity for service is here at the radio station, but certain principles of showmanship must be used. All of these organizations need not only the facilities of the radio station, but the advice and leadership of the station as well.¹

Programs may be arranged to inform the people of the community and the surrounding territory concerning the industries, business houses,

¹ From a speech delivered by Edgar L. Bill, president of the Peoria Broadcasting Company, before the Federal Radio Education Committee.

banks, and outstanding public citizens of the city. A New York station broadcast the annual meeting of the stockholders of a corporation. While the station should assume no political influence it may present, by unbiased announcements to the local voters, different candidates for public office in election years. Local history and folklore may be presented in dramatic form. In the spring, summer, and autumn the beauties of neighboring drives may be pictured to the local automobilist. The search for missing persons, stray pets, and lost articles may be conducted by radio. Local religious congregations, especially the invalids who are unable to attend church, appreciate the broadcasting of services. The studio may arrange a series of religious discussions by various religious leaders, avoiding denominational controversies. Cooperation with the local chamber of commerce in promoting local celebrations, and "bargain days" will advertise the city, obtain commercial announcements for the station, and increase public interest in all the programs of the station.

Medical and Health Programs

Medicine is as old a subject as radio is new; it is therefore significant that the two should combine mutual advantages, at times, for the benefit and relief of modern society.

Many firms, using the radio to advertise their products, carry on a campaign by stressing the appeal of the audience's health as a keynote. Naturally, these are often farfetched, making it difficult for the hearer to distinguish between the crystal gazer and the reliable physician. Hence, it is entirely justifiable for the medical profession to maintain a comprehensive popular health program on the radio to offset the broadcasting of unreliable information. Such a program must necessarily reach the greatest possible number of people. The programs must vary and should be presented so as to give the maximum benefit for the health of the individuals. Similarly, the frequency with which health talks may be given probably will vary in different communities, but once a week seems to be the common practice and is probably sufficient. Epidemics may also be combated by radio.

The purposes of medical and public-health programs are to attract the attention of those who are not already interested in health and hygiene and who are in need of information, to disseminate up-to-the-minute information by authorities, and to inspire listeners to health examinations and personal care and hygiene. It is important that the individual who wishes to present a worth-while public-health program acquaint himself with what is being done in public-health education in other media.

The subject matter of health broadcasts should embrace all phases of health, written in language which the laity understands and which is not unpleasant to the hearer. Most talks in this type of radio broadcasting should be fairly short, so as to hold the attention of the audience. The speaker must answer in his talk any questions that may arise in the mind of the listener. While the doctor is delivering such a medical talk, he must take into consideration the fact that he might be developing a group of neurathenics, or people who feel that they have the disease symptoms that are being discussed. Careful attention is necessary to avoid such a condition.

The program director must also consider the hour at which the listener is to hear the medical talk and should not offer talks on cancer or stomach disorders during the meal hour or alarming prophecies at bedtime. The radio-program committee must refuse all talks dealing with controversial medical or health topics. In all medical broadcasts the ethics of presentation must be watched carefully. Hence, radio programs must be sponsored by local or state medical societies and not by individual physicians. In some quarters the speaker remains unidentified; however, radio stations object to unnamed speakers because they recognize the fact that listeners, as a rule, desire to know the identity of the person to whom they are listening. Big names do not always help the radio program. Chances are that the lesser ones have more time to work upon the program, are more willing to take suggestions, and are apt to turn out a better dramatic radio script. Editing of talks by committees to eliminate uncontrolled expression of individual opinion is held to be desirable. The radio health program secures best results when supplemented by press releases and some amount of newspaper advertising, which can best be obtained by local medical groups.

The most popular method from the listener's viewpoint is the dramatic playlet. If the dramatic sketch is carefully constructed from the standpoint of both play writing and the scientific facts presented, it will hold more listeners and will reach them more effectively than either the monologue or the interview. These dramas, based upon facts supplied by the physician or group, should be written by a playwright and acted by a professional group. The characters must represent the average radio listener, and the subjects must be those health problems common in everyday experience. The general tone may be light, but the serious education purpose must ever be present. "Medicine in the News" is an example of the dramatic type of health program. It combines sparkling entertainment with factual material. It is more or less of a variety show, including drama and good music, humorous relief, and comment upon medical news of the day. It is an

example of good showmanship which does not overshadow the scientific material presented.

Probably the easiest kind of radio program from the standpoint of the doctor and the station director is the straight talk or monologue, in which facts are presented in a conversational manner. Needless to say, such a talk must not be a dissertation such as one hears in a medical-society meeting. It should be popular in form and manner of presentation, but not sensational, and it should maintain an air of dignity suitable to its professional character and educational motive. This does not mean that it has to be dull. It can be sprightly in tone and need not be devoid of humor. It should deal with topics of public interest and should be timely with respect to season and local conditions. In many instances it is difficult to find a voice which will fit the listener's visualization of the doctor at the bedside. Public-health dramatic programs should not start out by frightening the listener.

Combining the simple directness of the straight talk with the dramatic quality of informal conversation is the interview type of program. A patient may interview the doctor in his office; two doctors may discuss a local health problem and how to combat an epidemic; or the doctor may, at the bedside of a patient, answer the questions of his interns. This type of broadcast has more interest and voice appeal than the monologue program. The doctor, however, must avoid allowing his answers to become lectures. A rather fast-moving exchange of pertinent questions and informative answers, given in an unstilted conversational style, is best. Use illustrations with human interest. The radio audience does not want to hear case histories; as such they mean nothing; it's what the doctors and scientists have been able to glean from the observation of these patients that the listeners want to hear.

The fourth method of presenting medical subjects over the radio is largely used by quacks and medical fakers; consequently it is inadvisable for the reputable doctor to adopt it. This consists of the question-and-answer type of broadcast. Questions relating to medical subjects cannot be answered by mail or radio except in very general terms, with instructions to the writer to consult his local physician. In every type of medical broadcast this advice should be given. A public-health program is not to take the place of the advice of the family doctor. If the question-and-answer method is used, it is advisable for the medical speaker to phrase both the question and the answer. Such a method allows the speaker to cover more ground and makes his monologue more human.

The radio station may build up listener interest in medical programs by encouraging the writing of essays on topics of local health and sani-

tary conditions. Furthermore, the offer of printed copies of the talks will bring evidence of listener interest. The medical speaker has a topic of interest for every listener inasmuch as all are concerned with their own physical ailments. However, this existing interest must be held by a program that is distinctive, attractive, and authentic. As pointed out by Dr. W. W. Bauer "Ether, when used for the transmission of health education, is not intended as an anesthetic. Nevertheless, if not tuned out first, certain health talks have precisely that effect."

Serving the Farmer

Among the more important public services of the radio is that rendered to the farmer. Programs addressed to the agriculturalist are broadcast over the networks from the Department of Agriculture in Washington and from local or regional stations using material supplied by the government. Agricultural colleges present programs over their own stations, and newspaper-owned stations often have farm editors who arrange programs taking the form of "farm shows," upon which old-time songs and music are mingled with weather and market reports. County farm agents are frequent radio speakers, broadcasting agricultural bulletins, feed quotations, and livestock reports.

The radio program addressed to the farmer should not contain too many facts, and these facts must be presented in an interesting manner to catch the attention of a busy listener. Points must be explained in simple and direct language and must conform to the other fundamental requirements previously set forth for writing the radio address. The speaker should avoid percentages and statistics. He should speak in round numbers and use concrete illustrations. Figures of speech and similes should be picturesque. The solid facts presented should be enlivened by humor, anecdotes, or music. As in all broadcasting, the speaker should converse and chat with his listeners, using the personal pronouns "I," "we," and "you." The personality of the speaker must stand forth in the home where the receiving set is located; only the engaging personality holds attention. The speaker, while preparing his copy, should put himself in the place of his listener, formulating the questions that the listener might ask. In outlining the talk he should attempt to find some common point of farm interest as an introduction. Choosing a limited number of facts relating to the subject to be discussed, he should develop these thoroughly, using personal experiences, quotations from authorities, and some entertainment material. In conclusion it is well to announce any free publications that are available on the subject.

The farm-program manuscript should be carefully edited with the potential audience in mind. The editor must see that the topic and

development are interesting and informative, that points are clearly made and emphasized, that it is not wordy, that it is human and friendly, and that the listener is left with some definite project and increased knowledge. Probably the old formula of first telling what you are going to tell, then telling it, and then telling what you have told is the best outline to follow.

Religious Broadcasts

A recent survey disclosed that an average of 1 hour daily is devoted to religious programs by the average American station. The average was 22 quarter-hour periods weekly, with the peak load between ten and twelve o'clock on Sundays. Nearly all denominations are sending forth sermons, services, and hymns to bring to the shut-ins as well as to the unchurched the message of the gospel. Religious programs include services, sermons, secular talks, music, charity appeals, inspirational addresses, prayers, Bible reading, religious news, and announcements. However, I am concerned in this handbook only with the preparation and delivery of the religious sermon or talk. The secular speaker who talks on a religious subject should conform to the various requirements set forth for radio speaking in general and for preparing the radio address.

In the first place, the announcements of radio sermons have been too long, indeed in many instances have overshadowed the prayers. Such announcements should be brief and in good taste. Full information concerning the speaker and service may follow the talk but should not precede it.

There are two types of religious programs: those conducted from the pulpit for a church congregation and picked up by the microphone and those prepared primarily for the radio congregation. In the former the radio audience is secondary and the minister prepares to talk for his visual audience, with a possible reference to his unseen congregation.

For a specially prepared radio sermon, the preacher may write his sermon for the pulpit in the language of the clergy and then rewrite it for the radio listener. The phraseology of the church will be toned down to the language of the armchair listener. Figures of speech, colloquialisms, and metaphors will enliven the sermon of the ecclesiastic showman. The speaker cannot be too intellectual, but must deal with things vital to the life of the average listener in a human and direct manner. The oratorical, ministerial style used in the pulpit will not have the appeal that is found in a spiritually conversational style. The airway sermon is not of the ritualistic type but is nondenominational and non-sectarian, condemning no faith.

The radio can be of great value to the churches if religious broadcasts are kept on a high level. A well-known radio preacher has outlined his "Ten Radio Commandments" for the effective broadcasting of religious programs:

1. Speak in a conversational tone.
2. Take your sermons not from the Bible, but from life.
3. Leave out the word "I."
4. Neglect the needless.
5. No bunk.
6. No sob stuff.
7. Make the web of your sermon optimistic, cheerful.
8. Check and recheck your script before delivering . . . for absolute factual accuracy.
9. Keep the word "not" out of your sermon script.
10. Use no introduction. Plunge right into the middle of the sermon.

The radio preacher will use all the appeal of his personality. He will use the rising and falling inflection and observe the value of the pause. His enunciation must be sharp, clear, and decisive. He will be emphatic, soothing, or inviting through his flow of words, but at all times he must remember that he is speaking in a private home to an individual listener.

The responsibility of selecting those who spread the gospel through the air has been placed under the control of such bodies as the Federal Council of Churches in America, the National Council of Catholic Men, and the United Jewish Laymen's Committee. Programs arranged by such organizations are usually sustaining programs constituting a part of the public service of the broadcasting station. In some instances contributions from the radio audience support the programs.

Parent-teacher Programs

Parent-teacher councils have organized listening groups in many states for the reception of radio programs dealing with youth, health, guidance, and educational programs from recognized experts in these fields. Such programs may be arranged in the various forms suggested in previous chapters of this handbook: radio addresses, round-table or panel discussions, interviews, dramatizations, or dialogues. Whatever type of program is presented, the facts must be given in such a manner that they have a human appeal. The speakers should present incidents, examples, and stories of things that have happened. Through these narrative forms, important truths can be stated without boring the listener with cold analyses. While it is unjust to give actual names or identifying data, the programs must be real. The usual instructions for short, concise words and sentences, for picturesque and effective phraseology, and for

conceivable and truthful statements are important in educational broadcasts of this type. The program director and speaker must be careful to choose a limited phase of a subject capable of being treated adequately in the stipulated radio period. In these programs, which usually have a prearranged audience in whom there is an existing interest for the program, the choice of voice quality and speaking ability in the speaker is not of vital importance. If the speaker is fully qualified and has a sincere interest in his topic and a penetrating insight into public interests, he can be an uninspiring speaker and still hold his audience. Listening groups may be organized by the state officials of the parent-teacher associations among child-study groups, parent-education leaders, and others who are encouraged to send in questions and topics to be treated upon future broadcasts.

Politics and Government

The first notable use of the radio in the political field was the broadcasting of the Republican and Democratic national conventions in 1924. Today both political parties arrange their conventions in such a way that the speeches that are given from the rostrum may be heard by the radio audience. The keynote speech and the nominations are given in the evening, during the best listening hours, in order that the vast radio audience of all the networks may hear proceedings of the convention.

The use of the radio in national politics has changed campaigns and campaign orators. No longer is the spellbinder able to sway the voters of the nation as he sways himself with gestures upon the platform. If he attempts to shout at the microphone, to pound the rostrum, he will lose his audience and they will turn to the strictly local station not connected with an outlet presenting the political program. The flowering political speaker of the past has had his career ended by radio; his audience demands concrete facts rather than verbosity. Another tradition of the political campaign that will soon be discarded as the results of broadcasting is the lengthy demonstration of cheers and noise. These demonstrations are a waste of valuable time, which might better be used in the presentation of statements that will convince the listening voter. The roar of a demonstration is a bore and soon becomes tiresome; the listener turns off his radio and does not hear following proceedings. The radio station or network that has canceled valuable commercial programs in order to broadcast gratuitously a political rally will undoubtedly be a factor in convincing the political broadcasters that such demonstrations are neither a necessity nor an entertainment to the listening audience. Such demonstrations also make impossible the timing of a program.

The radio politician must realize that any statement that he makes over the radio is made to the nation and cannot be recalled. Therefore he must be much more careful in the selection of figures of speech, statements of facts, grammar, and pronunciation than when he is addressing a small local audience. In early political campaigns it was possible for a candidate to voice a policy for one district and an entirely different policy for another group of electors. This is no longer possible, since the radio carries his platform to the nation as a whole.

The entrance of broadcasting into the field of politics has resulted in the making of convention speeches of a more general type, presenting the ideals of the party and its platform. The modern political speaker must develop a quiet, personal style of delivery. He must convince the listener that he is talking to individuals and is interested primarily in each listener as a part of the democracy. He cannot expect to garner votes by concealing vague statements under a flow of words but must present a well-rounded speech that contains facts for the listener to consider. This recitation of facts must not be unanimated and uninteresting, however, for he must hold his audience. As it is impossible personally to get into all the homes in which listeners are hearing his talk, he must project his personality, his attitude, his sincerity to the radio listener. He cannot depend upon mob persuasion because it is non-existent in the radio audience. He must so time his speech that he can receive full value out of the period that is allotted to him on the air, neither exceeding his time nor allowing his record of achievement to run down before he is cut off the air. The microphone is an accurate detector of any sort of insincerity, and from the voice and delivery of the speaker the listener is often able to evaluate the ability and the fidelity of the candidate. Radio places a greater emphasis upon what a man has to say and less emphasis upon his manner of saying it. Logic in arguments and the worth of proposals must be examined closely by the speaker before they are broadcast. While freedom of speech is assured, the speaker whose voice may be heard throughout the nation must of necessity be temperate and careful in the use of this constitutional privilege. Accuracy, justice, and freedom from malice are requirements of the radio political talk.

The radio listener imposes the common-sense test upon the oratory of the politician, for, sitting in the comfort of his home, he is not carried away from facts by the enthusiasm of his neighbors. The speaker cannot rely upon his fluency to ad-lib but must learn to talk man to man, from a carefully prepared manuscript, to his enemies and to his friends. In many instances not having a present audience, the speaker must realize the value of the pause to allow his points to sink into the understand-

ing of his listener. Nasal delivery condemned one presidential candidate from the radio standpoint; a cold and mechanical delivery contributed to the defeat of another. Nevertheless, the individual quality of the voice of a speaker must not be lost. While the delivery is worthless if it is dehumanized, it must not be a bombardment lasting for a 15- or 30-minute period. Considering the national audience, the language of the people in simple, lucid diction and sentences must be used. The speaker should warmly greet his listeners and winningly converse with them in a manner of complete frankness. His style should be that of an average American without any affectation or offensive regional peculiarity. Preciseness, resonance, clear enunciation, and calmness are excellent qualities to possess, yet the overemphasis of any one of them is bad. Restrained humor, familiar images, and picturesque analogies are excellent. The speaker must sound convinced of his own sincerity and speak in unhesitating and unflinching tones. It is wise to adopt the "you and I" attitude, which was foreign to the stump speaker.

In a national campaign one political party desired to dramatize its political broadcasts. This was frowned upon by the network officials upon the theory that appeals to the electorate should be intellectual and not based upon appeals to the emotions, passions, or prejudices. It was maintained that such dramatizations would base the political campaign almost entirely upon an emotional appeal. Furthermore, it was maintained that such a dramatic method would tend to overemphasize instances of minor importance simply because of their dramatic value. Undoubtedly political speeches have these flaws; still the voters have been trained to weigh the words of the speaker, whereas dramatizations would present an entirely new and confusing problem.

Broadcasting stations and networks offer their time to the political parties, endeavoring to be equitable in the apportionment of time among political candidates and parties. Radio is a powerful political factor, and it is up to the listening public, to the broadcasting officials, to the governmental agency controlling radio, and to the users of radio time to see that this medium is used justly. The listener should make a conscious effort to hear all sides of the political campaign and by careful and intelligent listening weigh the viewpoint of the various candidates and parties. Listening groups are particularly advantageous during political campaigns in order that there may be free discussion of platforms and political policies.

The radio has been used a great deal in this country to educate the people in governmental procedure and accomplishment. There are broadcasts from both the House of Representatives and the Senate, and from the sessions of the United Nations. The President of the United

States has presented his reports to the people through the medium of radio, and specialists in the fields of government procedure have discussed proposed legislation for the listening citizenry. As a result the people of the nation understand better the problems of government. Such broadcasts should be nonpolitical and informative to the listener.

Law-enforcement Programs

An interesting variation of the usual type of crime program is the interview with the chief of police of a city of smaller than metropolitan size. Such a program might be broadcast for a 15-minute period during the morning hours and for a like period during the evening in order to reach different audiences. A veteran police reporter or a skilled radio interviewer would discuss with the chief of police the daily events in the activities of the local police department. Such an interview should take place in the office of the chief of police, where the sounds that are associated with the police department might be heard by the listener. If the local department has a short-wave station, the log of this short-wave station might be used as an outline for the interview. The chief should give the facts of various matters that have been brought to his attention during the period immediately preceding the interview. Evidences of crime, reports of lost and stolen articles, descriptions of missing persons, information concerning rackets that are being perpetrated upon the citizens, and other happenings of local interest are but a few of the topics that would interest and inform the public. These facts and the evidence should be interpreted by the chief of police in statements that are drawn out by the interviewer. Such a program would be a strong force in the maintenance of law and order in a community; because actual facts, true names, and places would be given in a broadcast with the same impartiality that they are given in the newspapers, the program would create a wide public interest. Stolen cars might be recovered if the general public were thus made aware of the theft. Rackets being conducted by solicitors and others could be stopped and the racketeers apprehended if advance notice were thus sent into the homes of the city. Lost bicycles and other articles might be recovered as a result of such broadcasts. Frequently, important witnesses of a crime or of an accident would report their evidence to the police department if they were appealed to through the local station. The police and sheriffs of surrounding cities and villages should be informed of the hours for these programs and should be invited to send their bulletins to be used upon this local program.

The types of program which I have described are but a few of those that are broadcast in the public service. An excellent series of programs

has been presented to inform the taxpayers of one state about their schools. Many stations have carried series of programs informing the public concerning the industries, natural resources, educational facilities, and recreational opportunities of the state in which the station is located. Town-hall programs and forums have been built upon the idea of the old town hall and broadcast both nationally and locally. The community-minded station must originate new ideas and assume leadership in conceiving methods, writing continuity, training the broadcasters, and presenting the finished programs. Its reward will be a large and loyal audience that will attract commercial accounts.

SELECTED READINGS

BOND, CHARLES ALVIN, and W. H. ZIPP: *Radio Handbook for Extension Workers, Misc. Publication 592*, U.S. Department of Agriculture, Washington, D.C., 1946.

A concise handbook with emphasis on rural broadcasting, containing helpful hints, samples of dialogue, and sources of "Farm and Home" material for broadcast.

40 *Million Listeners: Tips on Radio for Chambers of Commerce*, Chamber of Commerce of the U.S., Washington, D.C., 1949.

A frank assessment of the value of radio for chambers of commerce, trade associations, etc., with technical assistance in radio programming on local stations.

JONES, CLARENCE W.: *Radio, the New Missionary*, The Moody Press, Chicago, 1946.

Use of radio in the missionary field.

LOVELESS, WENDELL PHILLIPS: *Manual of Gospel Broadcasting*, The Moody Press, Chicago, 1946.

A textbook "covering all departments of gospel broadcasting."

NEW YORK ACADEMY OF MEDICINE: *Radio in Health Education*, Columbia University Press, New York, 1945.

A critical study by the Academy of Medicine of the use of radio in health education. Presents a series of talks by medical men and professional radio people at an Academy conference on radio in health education.

NUNMAKER, FRANCES G.: *The Library Broadcasts*, The H. W. Wilson Company, New York, 1948.

Written as a guide for library public relations. Explains a broadcasting station, radio programming, and writing for 5-minute, 15-minute, and spot broadcasts. Appendix includes programs from eight libraries.

PARKER, EVERETT C., ELINOR INMAN, and ROSS SNYDER: *Religious Radio: What to Do and How*, Harper & Brothers, New York, 1948.

A guide to religious radio broadcasting in which every phase, including method, technique, and philosophy are treated.

The Profession of Radio Farm Broadcasting, National Association of Broadcasters, Washington, 1949.

An address by the President of NAB to the National Association of Radio Farm Directors, Chicago, Nov. 23, 1948, in which he discusses farm broadcasting as a profession, its problems, and methods for solution.

Radio Manual, Oral Hygiene Committee of Greater New York, 1947.

Contains 50 talks broadcast over WNYC by outstanding members of the dental and allied professions. Also an appendix of suitable material for radio broadcasting.

Round Table Memorandum, University of Chicago, Radio Office, Chicago, 1948.

A brief history of the University of Chicago Round Table, with hints for round-table broadcasters of some "do's" and "don't's" to remember when facing the microphone.

SHAW, HORACE J.: *Radio and Video for the Minister*, Religious Radio Association, Berrien Springs, Mich., 1950.

TOLLERIS, BEATRICE K.: *Radio—How, When, and Why to Use It*, National Publicity Council, New York, 1947.

A manual designed to guide the community agency in planning effective uses of radio.

U.S. Department of Agriculture: *Attitudes of Rural People toward Radio Service*, Government Printing Office, Washington, D.C., 1946.

Based on a nation-wide survey of farm and small-town people; gives analysis of radio's importance in rural areas.

The Use of Television by the Public Library, Audio Visual Board of the American Library Association and the Library Public Relations Council, American Library Association Publishing Department, 50 East Huron Street, Chicago, 1949.

A forum discussion with a moderator and four speakers representing TV production, network programs, radio entertainment, and library services.

WALKER, E. JERRY: *Religious Broadcasting: A Manual of Techniques*, National Association of Broadcasters, Washington, D.C., 1945.

A guide to those who prepare and present religious programs.

WALLER, JUDITH C.: *Radio: The Fifth Estate*, Houghton Mifflin Company, Boston, 1946.

Written by one of radio's best known women and designed as a text for students; gives comprehensive analysis of radio as a public service.

MUSICAL MIKE

Radio Singing

Richness, smoothness, flexibility, expression, mellowness—these are some of the adjectives that may be applied to a good radio voice. The same adjectives may apply to an operatic voice, for today any voice that is good for opera or concert stage is suitable for broadcasting. It is only necessary that the singer be in a correct position before the AM microphone, and that the technicians test his particular type of delivery.

In the case of an exceptionally powerful voice, it may be necessary to place the singer a little farther from the microphone or a little to one side. If the voice is capable of great range, and that range is to be utilized, then the singer's position should be such as to allow him complete freedom of action to turn away from or toward the microphone. It is true that the increased sensitivity of modern microphones has greatly reduced the necessity for this movement on the part of the singer. However, this increased sensitivity works against the singer as well as for him, because it registers more readily faults in quality, tone, pitch, or timbre. Hence the necessity for "smooth" voices.

The control of the voice is of greatest importance in radio. Operatic stars whose looks or acting ability help to detract from their pitch deviations are a disappointment to radio listeners when they are heard to "flat" notes in a simple song such as "Carry Me Back to Old Virginny." Control means maintaining the correct pitch without tremolo, and the acquisition and retention of a good tone, quality, and general technique. Expression is the attribute of a good radio performer. It is in the expression given to words and tones that real artistry lies. For instance, it is possible to say "I love you" by bellowing it out like a bull. But it is also possible to say "I love you" by drawing it out, sweetening it, and mellowing it. The difference is obvious; in that difference lies the *expression*—and often the greatness of a performer. Ezio Pinza

is admired both for his expression and his dramatic quality. Expression, important as it is to any singer, is most important to the radio singer, because he must accomplish through expression and fine shading what the concert or operatic singer achieves through singing and partly through action. While voice quality is essential and of primary importance, it is personality that singles the vocalist from the crowd and stamps the voice with individuality. This applies not only to the "voice" personality but to those little accidents of voice and gesture and mannerism.

Microphone Position: Amplitude Modulation

The method of attaining the correct location or position before the microphone depends on several things: the type of accompaniment, the power and flexibility of the voice, the type of song, and the acoustics of the studio. These in turn are dependent on the type of mike in use. The rule most generally followed is to have the singer center up on the microphone and stand about 20 to 30 inches away from it. There is too great a tendency upon the part of the singer to hug the mike. (Leave that to Perry Como.) One foot should be placed in advance of the other—as on the stage—to assure balance and poise. When gradations in volume are necessary, the singer may bend toward or farther from the microphone. A soft note is picked up better close to the microphone. Sometimes the singer, when hitting a shrill note or when vocal strength is necessary, will be told to turn his head away from the microphone. (This has the same effect as stepping back but is not considered to be so satisfactory.) Above all, the singer must observe the fundamental rule of being at ease. His position should not be cramped or unnatural. This is the procedure followed when singing with a piano accompaniment.

If the accompaniment is orchestral, the placing of the singer must be tried out. The singer must not be drowned out or interfere with the reception of any of the instruments. Often it is considered more satisfactory to place the singer at a separate microphone.

Microphone Position: Frequency Modulation

The same principles that are set forth in the chapter on announcing for the location of the announcer or speaker in relation to the FM microphone apply to the radio singer. The singer just sings in the studio, oblivious of the microphone, using any volume desired. While the singer is rehearsing, the music director should have the technicians move the microphone to various locations in the studio—above the singer—to one side—in a corner—to try out the pickup until the repro-

duction is satisfactory. The studio, it is to be presumed, is sound-proof and acoustically constructed so that extraneous sound will not pick up when the engineer opens the gain. With such a setup in such a studio, the full range of the soloist's voice will be reproduced for the listeners, which is not possible when the singer sings into a mike and is conscious of the microphone.

There are, obviously, conditions which require multiple miking. Where vocalists are used, a special microphone is needed to provide the proper balance for the radio listener between the musicians and the vocalist or vocalists. The vocalist should be no closer than 3 feet to the microphone when a high-fidelity microphone is used, depending upon the volume range. In a solo with piano accompaniment, the mike is about 6 to 8 feet from the soloist, while well spaced from the piano. In the previous AM practice, the mike is within arm's reach of the singer and directly at the side of the piano, but no listener would enjoy the program if he stood where the mike is located.

The quality of a program is always conditioned upon the equipment used. Use the best microphones. In FM, the engineer should have little or no control over the singer's performance after the microphones are satisfactorily located. He should not ride gain. Don't expect him to improve the quality of the singer; in AM, he was an important factor.

In group singing the object is to achieve a balanced ensemble, and this can best be done with the microphone suspended above the singers on a boom, or hanging from the ceiling. For larger choral groups the singers may be placed on risers. Their position will not vary to any extent from their position during rehearsal or concert. The melody should be distinguishable in whatever part it appears; it is a rule of good musicianship that all members of a choral group be sensitive to the nuances which make first one part and then another stand out from the rest.

Vocal Training

There is no longer any special training for the radio singer. The well-trained voice is the best voice for radio today. The student can best receive the fundamental principles of voice placement, vocal exercise, and proper breathing from a vocal teacher. Besides this, he can make a series of recordings which will allow him to hear for himself how he sounds to the radio listener. If these records are made using the same microphone that he will use for broadcasting, he will be able to experiment with his voice delivery and in placing himself before the microphone.

One of the essentials of the radio soloist is clean-cut enunciation that

will carry words clearly to the listener. Proper speech training is vital. The vocal organs must be free of tension, yet fully under control. Sing before a mirror, but do not look into it for reflected beauty of features; rather listen for beauty of articulation and tone. Do not mouth words.

The acquisition of a good voice is a tedious job. It involves hours of lessons and practice. When one has acquired the attributes of a good singer for radio performance, these attributes must be put into practice until they become natural and easy.

Originality is the keynote to success in the radio showman. Consequently the broadcasting soloist of popular tunes takes liberties with the tempo of the song which will contrast with the rhythm of the orchestration. Nearly all singers of popular songs "pep up" their renditions. The radio has given the singer who lacks volume but who has singing ability an opportunity that the auditorium or theater never offered. But the voice of light volume must be true and the singer must have an individual style. Singers of the "blues," "torch songs," the so-called heat tunes, and hillbilly numbers are usually enhanced by the amplification offered by radio. Only fresh, unsophisticated entertainment will hold the listener.

Lucile Manners gave the following advice to radio singers: ¹

Fallacious ideas about "special radio technique."

1. Simply stand far enough away from the mike (at least 2½ feet), and sing as you would to any audience.

2. Do not get into the habit of "saving" the voice, but do your best in every performance.

3. Use free tone production and be as relaxed and natural as possible.

4. Radio will pick up "forcing" easier than you think.

Radio makes more exacting demands on the singer than either concert or opera, in many ways.

1. Radio singer depends on himself alone, that is, his voice. No stage or settings of any kind . . . nor pretty looks.

2. Repertoire is more exacting and can include less repeats. Learn to sing "on the breath."

Permit no breath to creep into the tone, however.

Do not use tones in public that do not lie naturally in your range.

1. Use tones that are resonated in the head in the cavities behind the nose, do not force.

2. Be careful of throat constrictions.

3. Writer uses "set" position for high notes; this, however, is different with each singer.

4. Always warm up the voice with scales and exercises before doing arias and demanding selections.

¹ *Etude*, March, 1938.

Need for a foundation of good musicianship.

1. One must be a well-rounded artist and work as hard for radio as one would for the concert stage or opera.

2. Even crooners today are increasing their musicianship.

Music and repertoire.

1. Theoretically the audience is always the "same" in radio, and singers cannot afford to repeat often.

2. There is a greater variety to radio repertoire than for concert or opera work. Lieder, opera, art songs, musical comedy, ballads, good popular music, and language songs are all to be mastered equally for success.

3. "Everyone" is in the radio audience and an artist cannot sing specialized music too much.

4. A radio singer's greatest problem is to sing programs which contain something that everyone likes.

5. Such a list should include: a Schubert song, one of Liszt's, Stephen Foster, a Strauss waltz, a motion-picture hit song, etc.

6. Smooth, lovely melodies are best in the long run.

7. Don't be either too high-brow or too low-brow; all good music is welcome on the air.

Do not be a "prima donna," that is, be a "good fellow" and be reasonable in your relations with conductors and musicians in the station. Let your development, vocally and artistically, come slowly. Do not be in a hurry to be a "star"; this rating will come of itself in good time. Success will come as suddenly as failure has been persistent. *Above all, never allow yourself to feel that radio demands less than other fields of the vocal and musical arts!*

Instrumental Setup: Amplitude Modulation

If we remember that a microphone is merely a mechanical device which converts audible sounds into electrical impulses, it is only natural to expect that there must be certain definite rules for its placement with regard to the musical instruments whose music is to be broadcast. No general rules can be set down which will adequately treat all possible situations, but an understanding of the more important factors involved will enable the broadcaster to solve his own specific problems.

One of the greatest difficulties encountered with this electrical ear called the "microphone" is that it has no sense of discrimination and faithfully reproduces all the sounds that reach it. A person attending an orchestral concert can focus his attention on the musical sounds being produced and exclude most of the extraneous noises that may be present (coughs, sneezes, reverberation, etc.), but not so with the microphone. It hears all and tells all. Consequently, it must be placed so that it will hear only what it should, namely, the orchestra and its component parts. This means placing the microphone near the orchestra.

When the microphone is near enough to the orchestra to minimize un-

wanted sounds, a new problem arises—that of picking up just the right amount of sound from each instrument. This is what the engineer refers to when he talks about “balance”; in modern acoustically treated studios it is really the only problem of technique with which operators and producers must concern themselves.

The loudness of any instrument, as picked up by the microphone, depends upon three things: (1) its distance from the microphone, (2) its position relative to the sensitive face of the microphone, and (3) the loudness and directionality of the instrument itself. By directionality I mean that all instruments do not radiate tone equally in all directions. A violin does, but certainly the loudness of a trumpet depends upon whether one is in front of or beside the bell.

All microphones can be divided into three classes with regard to their sensitivity. They are unidirectional, bidirectional, or nondirectional. Most dynamics fall into the first classification. In the second are ribbons (or velocities). The salt-shaker and the various condenser types make up the last group. A unidirectional microphone of the diaphragm type has its maximum sensitivity in a line perpendicular to its face, and as one goes around it the sensitivity falls off, so that at an angle of 40 degrees it is only 75 per cent efficient and at an angle of 60 degrees only 50 per cent efficient.

The proper height of the microphone can be determined only by experimentation. For a small orchestra, first try it at a height of 5 feet. For a larger organization, try it at a height of from 6 to 8 feet. In a live studio the microphone should be lower than in a dead studio, in order to cut down on reverberation. Also, where there is much reverberation, the microphone should be placed closer to the orchestra. The microphone is usually placed between the orchestra leader and his musicians, but to one side.

For piano solos a microphone should be set facing the piano and about 6 or 8 feet from the high-register side (Fig. 33). A separate microphone is provided if there is to be a piano solo. When the piano is used with an orchestra, it is located either far to one side or behind the musicians.

The bidirectional microphone has a double sensitivity pattern. There are two regions of sensitivity, on opposite sides of the microphone, each having the same general fan shape as that of the unidirectional type. If the musical group is on a stage or platform, the arrangement of instruments already outlined can be used. However, there is always present the possibility that the opposite sensitive face will pick up unwanted noises from the audience or auditorium. The microphone may be tilted toward the orchestra to lessen the sensitivity of the back face.

In broadcasting studios it is possible to set up the orchestra on both sides of the microphone, keeping the same relative distances that have been outlined.

When a nondirectional microphone is used, sensitivity is the same in all directions, so that the only factor that need be considered in



FIG. 33. Microphone setup for piano solo.

placing instruments is that of distance, and this will, of course, depend upon the instruments and the acoustics of the room.

When an instrumentalist is to play a solo part with orchestral accompaniment, he will leave his position in the orchestra and play from a position nearer the microphone, so that his tones will stand out above the other instruments. This is also true of a small group in the orchestra who will rise when playing certain parts of the arrangement. In any studio which has a live end, the orchestra is placed with its back to that live end which acts as a shell for reflecting the sound.

The reader should bear in mind that what has been said here is a very general summary arrived at through years of experimentation by accredited broadcasters; it is not, by any stretch of the imagination, to

be construed as a solution to all problems. These facts should aid in the preliminary setup of the orchestra or vocal group, but the final test is the quality of the program as it issues from the audition loud-speaker where the musical director is auditing the rehearsal. When special effects are desired, there must, of course, be considerable deviation from the general rules. Every leader has his individual effect to emphasize. Some will bring the violins close to the microphone, others the brass instruments.

Often a single studio orchestra must sound like three different orchestras upon different programs, with the result that the setup of the orchestra will be different for each presentation. There will also be varied musical arrangements. The final arrangement of the orchestra will depend upon the balance heard from the loud-speaker during rehearsal. The musical director is concerned with what the listener hears, not with how his orchestra looks in its radio setup.

Instrumental Pickup: Frequency Modulation

Perhaps one of the most controversial issues relative to musical pickups, whether in the studio or in auditoriums, is the single microphone versus the multiple microphone pickup. There are convincing arguments for each. In favor of the single mike pickup, it has been discovered that when several mikes are in use simultaneously the control-room operator becomes an associate musical conductor. If one microphone is located above and behind the director, the responsibility for the performance is not shared by the operator or the technicians, and the credit or blame for the performance is the director's, as it should be. From the studio standpoint, the experience has tended to indicate to date that single microphone pickups are much more desirable wherever possible than the multiple microphone setup being used extensively in AM broadcasting. The use of microphones such as the Stephens' Tru-Sonic, the Altec, and the Electro-Voice, described briefly in Chap. I, is highly recommended for the single mike pickup of an orchestra.

Use a large studio for such instruments as the harp and the violin, or for piano solos, with the mike at a considerable distance from the performer. The separation should be about 15 feet.

There are musical programs which are produced best with multiple microphones such as those in which special accentuation is needed for soloists, for units within the orchestra, and quite frequently for dance orchestra pickups. When in night clubs, etc., extraneous noises may require different microphone technique, in addition to special arrangements of muted instruments, guitars, and the like for which accentuation is needed. The single mike pickup is without doubt the best for a good

orchestra, but for an amateur group it does not permit the operator to give greater strength to a weak violin section or to cut down upon an overly strong brass section. The balancing must be done within the orchestra, not by mechanical means.

Music on TV

Music which appeals entirely to the ear—that of soloists, orchestras, bands—will gain little additional audience appeal through television.



FIG. 34. The television soloist in this picture is being picked up for television by the microphone above her head. The ribbon mike on the standard is a part of the stage setting. (*General Electric.*)

But the light operetta with stage settings, costumes, plot, and action can be televised to an advantage. However, the vastness of the stage and chorus presents a problem for the small screen area. An operetta built for TV will avoid a large chorus or may have the chorus sing off stage to a separate microphone and only the principals and soloists will be shown in close-ups. These close-ups will burlesque the heavy make-up of the stage production unless they are toned down for the camera which is very revealing. Intermissions will have to be shortened and can be filled with overtures and plot commentary. At the Met, the camera wandered about the foyer into the auditorium and into dressing rooms.

The studio production (Fig. 34) televises better because it is planned and rehearsed for the Orthicon—"seeing tube"—but still the appeal is for the ear. The average home listener has not been trained to concentrate upon a musical program; music is a background for other domestic activities.

SELECTED READINGS

CHASE, GILBERT: *Music in Radio Broadcasting*, McGraw-Hill Book Company, Inc., New York, 1946.

A collection of articles on the planning, production, and broadcasting of musical programs.

DAVIS, GEORGE: *Music-cueing for Radio Drama*, Boosey & Hawkes, New York, 1947.

A practical treatise on the application of music to the radio script. Includes original musical illustrations by the author.

LA PRADE, ERNEST: *Broadcasting Music*, Rinehart & Company, Inc., New York, 1947.

An explanation of the entire process of broadcasting music, from the planning of the program to its production in the studio.

McNAMARA, DANIEL I., ed.: *The ASCAP Biographical Dictionary of Composers, Authors and Publishers*, The Thomas Y. Crowell Company, New York, 1948.

A valuable reference tool for the music librarian. Particularly useful for information on popular music composers and lyricists.

THE PREPARATION OF CHILDREN'S PROGRAMS

It is not my purpose to enter into the controversy between child psychologists and commercial advertisers as to the validity of the contention that the majority of the children's programs now on the air are emotionally overstimulating and have undesirable effects upon the characters of the young listeners. It is more in keeping, in a handbook of this sort, to point out certain principles and techniques for the preparation and presentation of all kinds of programs directed toward an audience of children. Consideration of these principles will perhaps determine the program that the children themselves want, purposefully disregarding the preferences of commercial interests.

Writing for Children

The writer of children's programs must be well informed. He must know. If the script deals with current or historical events, it has to be true to underlying facts. If it is frankly fantastic and imaginary, it has to be conceivably genuine and not just fantasy used as an excuse for blood and thunder. Authenticity does not mean that the script contains all plodding details of everyday life. The writer must have a story, and it must move. Whether it is an original script or an adaptation of a literary classic, the writer may permit himself to telescope events and to select high points that keep interest in the program. A primary rule is not to pad a story. Trying to paint too complete a picture merely confuses the child and makes a story too long to hold his fickle attention.

In any case, the best interests of the child should be kept in mind and the choice of subject matter, the emphasis, and the play of good and evil should be such that the boy or girl who listens will like the qualities which we think make for happy living. We want the boys and girls to be attracted by all those things which build up mind, body, and spirit. We also want them to recognize the danger of opposite tendencies so that they will not fall into bad habits. In short, we want

them to adopt and develop habits of self-control, self-respect, self-reliance, and self-culture.

The surveys which are constantly being made indicate the preferences children have in dramatic programs going on at the present time. For the girls, a variety program ranks first, with "Gangbusters" and an adult dramatic program ranking second and third, respectively. Two dramatic programs, "Gangbusters" and "The Lone Ranger," rank first and second, respectively, for the boys. There is a decided sex difference indicated in the preference and dislike of programs. Biographical drama ranks second with boys, while with girls musical programs are the second choice. The desire for adventure programs is highest in Grades II-VII. The music and drama type of program ranks highest in Grades VIII-X. Humor ranks high in all grades. The survey indicated that children are listening to a very great variety of programs, many not of age level, yet all having a definite effect upon their thinking, their emotions, and their outlook upon life.

What very young children, possibly from three to six years, want to hear over the air is difficult to gauge. Their listening tastes as well as their young minds are still in the formative stages. Thus children's scripts should make character building attractive. The boy scout laws of "trustworthiness, loyalty, helpfulness, bravery, cleanliness, friendliness, thrift, courtesy, and reverence" are a good standard for any writer to follow. Desirable activities should be stimulated, such as helping with the home duties, helping Dad, reading better books and magazines, and developing good hobbies. All these things may be inserted subtly into the radio script.

It is entirely possible to combine the main objective of children's programs, wholesome entertainment, with a proper amount of instruction—not to be confused at any time with preaching. For example, there are morals in many of the classic fairy tales, and it should be noted that they are rarely exploited at the expense of the action of the plot.

Many institutions have found radio a valuable instrument for entertaining as they teach. The Pittsburgh Public Schools and the Western Pennsylvania Safety Council were able to present a "Safety Story Lady" series, whose scripts were no more than short dramatic narrations. However, with the clever dialogue and easy style of writing, such things as lessons in safe use of matches and not talking to strangers were made highly palatable to the young listener.

Educational Programs

Much has been written and said about the value of more educational programs for children; programs which emphasize geography, history,

mathematics, or other school subjects, programs which place the story as secondary with the education foremost. Education is very fine, but after a long day at school is the child not entitled to a little relaxation—listening to the programs he enjoys, instead of having adults trying to force some more book learning into his already overburdened head? As Nila Mack, who is children's director for the Columbia Broadcasting System, says, "Don't forget that there is such a theory as a tired businessman of nine, and if history, geography, and botany have to creep into his listening hours, don't forget to let them creep."

Before attempting to write for children study them, their games, their reading habits, their comic-strip and movie preferences. Francis Pearson of Pennsylvania State College has prepared a very helpful outline of the interests of children, based on age groups:

Children up to six years old like realism. They like to hear about the cat, the chicken, and the dog. Give such an audience stories of repetition, rhymes, and jingles. The stories must have quick action, rhythm, and familiar objects tinged with a bit of mystery. From six to nine, the child is always someone other than himself. It is the Fairy-tale period, and the child has passed from the realistic to the symbolical stage. This is a danger zone, for naturally if the symbols become real to him, sleep will be haunted with ogres and monsters. Yet such stories must be told, for to scorn the fairy tale is to scorn the source of our literature. It is well to be considerate to children in this age group by not offering them stories in which cruelty, revenge and bloodshed have a large part. If, however, in your approach to these topics you should encourage this group to listen, remember your moral-painting device and emphasize it.

Children from nine to twelve bring the barbaric, fighting instinct to the fore. Boys of this age, especially, are destructive out of curiosity. They demand action, danger and daring and are thrilled by physical bravery. Even with these children, you must be wary and use only stories that arouse ideals and fine aspirations. Robin Hood, so fearless and so kindly, is an excellent choice. Go to King Arthur, too, and you'll find a wealth of material. Keep to the realm of heroism whenever possible. And, until the boy begins to slick his hair and the girl to be interested in shades of lipstick, it will not be necessary to turn to the romantic.

Program Requisites

The first requisite for material to be used in a program for juvenile listeners is clarity—absolute clarity. No child will be interested in what he does not comprehend. Clarity can be achieved only through simplicity of language and construction and through simplicity of ideas. The first step is to decide the age group to which the program should appeal and then calculate as nearly as possible the ability of children of that age. Observation of a graded course of study for almost any grammar school

will be helpful in determining what kind of material can be used for the different age groups. By knowing what they are studying in school, one can judge their ability to understand additional material.

Simplicity of language does not, under any consideration, imply baby talk. There is nothing quite so insulting to a child's intelligence as to be talked down to from the lofty heights of adulthood. Of course, a distinction should be made between talking to children and impersonating children. In selections like "The Raggedy Man," "At Auntie's House," and "Little Orphant Annie" by James Whitcomb Riley, the method is impersonation and the childish language is justified. Simplicity of language means the use of words understood by children of the age to which the material is directed, or, if any new words are used, the explanation of them in terms of words already known. It means, likewise, the use of simple sentence construction.

Clarity alone cannot insure a successful children's program. Equally important and much more difficult to achieve is interest. Children are even more impatient with the uninteresting than are adults. They cannot be induced to wait and see if something better will come later. They demand a story that holds them intent from the very first word to the last. They want fast action and plenty of it. Long explanations bore them, regardless of how beautiful the language may be. Therefore, anything that is not simple enough to be understood without explanation should be left out of children's stories. This does not mean that new and strange material cannot be used, but it should be introduced with simplicity.

Children's interests are aroused easiest by either the very familiar or the very strange. They like to hear the same stories over and over again and they like to hear about boys and girls exactly like themselves. Or they like to hear about beautiful fairy princesses and giant killers, which are entirely out of the realm of actual experience, yet which are part of their world of imagination. So vivid and uninhibited are the imaginations of the young listeners that by concrete word pictures they can be lifted out of the present and from their homes to any place or era to which one may wish to take them. The instinct for hero worship can also be utilized to good advantage in the preparation of material to interest them. If they are able to identify themselves with an Abraham Lincoln or with a Babe Ruth and can hear the praises of those heroes, their interest is assured.

In addition to fast-moving action and image-arousing words, a further device for gaining interest is the use of direct address. By making the relationship one between the storyteller and each individual child rather than the group of children, the story becomes more important to each

of them. Purely technical, but nonetheless important, in holding interest is the use of music and sound effects. Whimsical bridges and background music and appropriate and picturesque sound effects may be used to liven up the dramatic script.

During the past few years, there has been a decided tendency to neglect the fun-and-foolishness programs and turn more to dramatic programs for children. This does not mean, however, that there should be no comedy in children's programs. Children love to laugh and be entertained the same as adults. They are ardent followers of comedians upon adult programs. For their own afternoon programs, however, they like drama. These dramas should have some characters in them that are comical or at least suggest comedy. Comedy relief is needed in children's programs as well as in any other kind of program.

Characterization in a children's radio drama is of prime importance. Boys and girls will be the first to discover inconsistencies in young characters that are not true to the age they represent. The roles of all actors must be natural and true to life. They should not be too perfect. In fact, they should be endowed with both human weaknesses and human virtues. If they are too perfect, they might disillusion the child.

Don't attempt to emulate or imitate a program that is on the air. Test your stories on the neighborhood children; they will be sincere and severe critics. Don't leave the listener worked up to an emotional pitch; solve things, end the worry. Be sure to aim at a definite age group; constant shifting will result in confusion and the loss of any permanent listening audience. Avoid tragedy, psychological studies, wordy character plays, social drama, and sex. Above all, do not undertake to write for children if you don't like children and if you don't love to tell them stories.

Stage Plays Adaptable for Radio Use (for Children, Grades I-VI)

It is the tendency of the writer of children's plays to indulge in whimsy, to introduce the supernatural and unreal. There is also a very strong tendency to introduce into such plays a number of short acts with multiple settings and large casts. The director who broadcasts these plays encounters these difficulties and others. For example, the type of characters that populate the majority of plays for children are March hares and gasoline pumps, buttercups and maple trees, the North Wind, and spiders. There is no form of speech to enable the listener to distinguish between the speech of butterflies and of fish. To be sure, the speech of a dog may occasionally be punctuated with a bark and that of a cat with a "miaow," but this repetition would prove tiresome and not particularly interesting to the listener. For these reasons, then, be chary of those plays whose only characters are naturally speechless.

In regard to the setting of these plays, we are confronted by still another problem. While transition of scenes is easily accomplished over the air, it is necessary to remember that children's minds do not follow too many shifts with a great deal of ease. Therefore, it is wise to limit the number of scenes. A single plot, simply developed, is most easily understood and enjoyed. Then there are the time element; the lack of visual aid to arouse interest and understanding on the part of the audience; the necessarily limited cast required for radio production—these and many other problems directors meet only too often.

Despite these numerous disadvantages, however, there still remain many plays that are admirably suited for radio production. It would be necessary, in the majority of instances, for the director to do some adapting to meet the principles of broadcasting as well as his or her own individual problems. For those directors who may experience difficulty in finding material suitable for adaptation, the following list of plays has been compiled. All plays listed herewith may be satisfactorily adapted for radio use. It will be noted that the number of characters in these plays has been omitted because with the necessary shifting and rearranging of parts the size and type of cast used for radio production would differ materially in individual cases. Asterisks designate plays especially recommended for radio use.

Auditorium Series, by Harriet, Alice Louise, and Florence March, The Auditorium Press, 2524 LaSalle Gardens North, Detroit, Mich. All rights reserved.

(1) *The Bishop's Candlesticks*; (2) *Capt. Smith and Pocahontas*; (3) *Rumplestiltskin*; (4) *Rip Van Winkle*; (5) *The Boston Tea Party*; (6) *Robin Hood*.*

Cross Your Heart, by Ann Clark, Dramatic Publishing Company. Broadcasting rights on application.

11 Plays for Children, by Edith Lombard Squires, Fitzgerald Publishing Corporation, New York. All rights reserved. (1) *Donner and Blitzen*;* (2) *Picnic Luck*.

Easy Plays for Children, Fitzgerald Publishing Company. All rights reserved.

(1) *Please! Mr. Weatherman*; (2) *The Chocolate Bunny and the Sweetmeat Chick*;* (3) *The Conceited Weathercock*;* (4) *The Magic Word*; (5) *The Way the Noise Began*.

The Emperor's New Clothes,* by Charlotte Charpenning, Samuel French, Inc., New York. Broadcasting rights by special arrangement.

Footlights Up!, by Louise Housman and Edward T. Koehler, Harper & Brothers, New York. Broadcasting rights by permission. (1) *Cap O' Rushes*;* (2) *Dick Whittington*;* (3) *The Three Citrons*;* (4) *Man without a Country*;* (5) *The Birdcage Maker*.*

Jack and the Beanstalk,* a puppet play, by Beatrice T. Lee, Samuel French, Inc., New York. May be broadcast with permission.

- Little Black Sambo*,* by Hazel Sharrard Kaufman, Samuel French, Inc., New York. Special arrangements may be made for broadcasting.
- Little Plays Told to the Children*, by Lena Dalkeith, E. P. Dutton & Company, Inc., New York. (1) *Sir Gareth of Orkney*;* (2) *The Princess and the Swineherd*; (3) *King Alfred and the Cakes*; (4) *Scene from Robin Hood*.
- Nine Short Plays*, collected by M. Jagendorf, The Macmillan Company, New York. Radio rights with permission. (1) *The Bean Boy* by Towle Adair; (2) *Three of a Different Kind* by Eric Wolf;* (3) *The Dowry of Columbine* by Bertha Goes; (4) *A Tale from India* by Florence Bradley Moore.
- The Pirate of Pooh and Other Plays*, by Marjorie Barrows, Rand McNally & Company, Chicago. Broadcasting rights on application. (1) *The Pirate of Pooh*; (2) *The Clown of Doodle Doo*;* (3) *The Enchanted Door*; (4) *Santa and Son*;* (5) *The Brownie Bush*; (6) *Jack O'Lantern Inn*; (7) *The Prickly Prince*;* (8) *The Surprise Christmas*; (9) *The Wistful Witch*;* (10) *The Valentine Tree*;* (11) *The Pink Parrot*.

Poetry Programs for Children

Radio is perhaps the ideal way to present the wealth of good poetry to children. The child should think of poetry as something connected with leisure, fun, and entertainment, not as a subject in school, and at home the child seldom hears poetry read aloud after he outgrows the Mother Goose jingles. Few parents know the world's great treasury of poetry and so cannot lead and direct the child in his enjoyment. It is up to radio to help bring to youth the vast and fascinating world of poetry.

For children up to six or eight years, poems should stress rhythm and musical swing rather than meaning. The Mother Goose rhymes are ideal; their irresistible rhythm, their quaint verse form, and their whimsical nonsense delight children everywhere. They are a perfect basis on which to build an appreciation of poetry. (The musical arrangement of *Nursery Rhymes* by Pearl Curran is particularly interesting.)

The contact of many children with poetry stops when they have outgrown Mother Goose; however, there is a vast library of poetry for children of every age. The jingles and short verses pave the way for the poems of childhood, and these in turn should lead to the enjoyment of lyrics, epics, sonnets, and ballads. Only poems easily visualized and words easily understood should be used on the radio. Situations met in childhood such as portrayed in "The Mortifying Mistake" by Anna Pratt are very acceptable. Radio appeals to the childish imagination, inspires him to create mental pictures, and teaches him to observe the things about him.

A birdie with a yellow bill
Hopped upon my window sill.

Such short verses are remembered and are repeated by the small listener when a live bird is in sight. Good habits of diet may be represented in an interesting manner by members of a primary class broadcasting "Mary Anne's Luncheon" by Dorothy Aldis. Many more programming ideas will be found in the wealth of poetry for children by Vachel Lindsay, A. A. Milne, Rose Fyleman, Walter de la Mare, Sara Teasdale, Robert Louis Stevenson, Eugene Field, and Lewis Carroll.

As the child develops into the adolescent stage he begins to enjoy serious as well as the lighter poetry. Inspirational poetry fulfills a growing need in the life of the adolescent. Examples include: "Abou Ben Adhem," "For Those Who Fail," "Lifting and Leaning." Another type of poetry popular especially with boys is the adventurous type: "The Ancient Mariner," "Gunga Din," "Lochinvar," and "The Explorer."

Performers for Children's Programs

In a consideration of the type of personality best adapted to the presentation of narrative children's programs, the most important characteristic is imagination. Not only must the performer have imagination, but he must be willing to forget his adult dignity and thoroughly enjoy the thrilling tales he unfolds for his youthful listeners. He must be able to speak their language and to enjoy speaking it. In addition to possessing this desirable personality, he must have the ability to project that personality through the single medium of voice. His interest in his audience will not be apparent unless his voice possesses vitality; while he may have sufficient patience, he may fail to make it felt by his audience unless his voice is smooth and his speech even and unhurried. A single harsh note creeping into the voice, because it suggests a lack of patience, may destroy confidence.

Children's stories permit, even demand, free use of impersonation. Children love to have the giants in their stories talk like giants and the fairy princesses speak with the perfection all fairy princesses must have. The person who tells children's stories must be ready to change his voice to meet the requirements of half a dozen or more characters and keep the differentiation clear throughout the entire story. He must have a *tiny sweet falsetto* for fairies and a **BIG GRUFF BASS** for giants and bad wolves. Such impersonation is accomplished in the main by variety in pitch and rate, and occasionally by a change in quality of the voice. The vocal changes from narrator to characters and from one character to another naturally take time, and the reader should never be afraid of such pauses that help maintain consistency in the characters' "voices" and present to the child a clearer and more vivid picture of the people in the story. Only a voice that has great flexibility can manage the sud-

den changes and wide ranges that make a story or poem interesting to children.

The conscientious reader will not only take great care in the preparation of each program but he will practice by telling stories in person to children at every opportunity. The effectiveness of his delivery will undoubtedly improve if he is able to incorporate the suggestions from and the preferences of this potential radio audience.

In a program that is strictly a dramatic presentation, acting ability is the important thing, but here again, as in the narrative type of show, the delivery will sound forced and condescending unless the actor actually enjoys his own particular role and the wonder and adventure of the script. A half-hearted characterization is readily apparent to the young listener, who resents such patronization. Performers in all types of children's programs should remember that it won't be fun to listen to unless it's fun to put on.

TV for Children

Television is a natural for children just as long as the writer-producer avoids the attempt to educate his young viewers. Here is the ideal medium for entertainment of the highest caliber. Since children dote on action and plays in which they can put themselves in the place of the hero or heroine actor, producers have found that starting a dramatization in familiar surroundings and then transporting the small actors to imaginary places is very successful. The radio program in which the funnies are read becomes more vivid when the comic is seen as well as described. A story can be told while the characters in the story emerge from the covers of a huge book and act the tale in pantomime with costumes, scenery, and music.

For older boys and girls hobby shows such as demonstrations of making model airplanes and Boy Scout activities make excellent visual and instructive programs. The Buck Rogers format becomes a TV serial through the imagination of the "props" man with the aid of sound and the fade ins and outs of the camera. The opportunities in TV for children are endless and many adults find the children's shows with puppets, trained animals, slapstick comedy, animated cartoons, and magic acts the most enjoyable part of the TV day. Television offers a definite solution of the problem in children's radio, for the visual action will hold youthful attention without the much criticized violence, crime, and suspense.

SELECTED READINGS

- CALLAHAN, JENNIE WAUGH: *Radio Workshop for Children*, McGraw-Hill Book Company, Inc., New York, 1948.
Contains codes for children's programs.
- GORDON, DOROTHY: *All Children Listen*, Radio House Series, George W. Stewart, Publisher, Inc., New York.
- GRANNAN, MARY: *Just Mary Stories*, W. J. Gage & Co., Ltd., Toronto, 1942.
A series of 13 original stories written especially for broadcasting to small children.
- : *Just Mary and Just Mary Again*, W. J. Gage & Co., Ltd., Toronto, 1942.
Combines original volume of *Just Mary Stories* and 16 additional stories for children aged five to seven. All stories have been broadcast by the author over the Canadian Broadcasting Company.
- KISSEN, FAN: *Tales from the Four Winds*, Houghton Mifflin Company, Boston.
A series in which the folk lore and legends from around the world are dramatized in radio script form.
- LEWIS, DOROTHY, and DOROTHY L. MCFADDEN: *Program Patterns for Radio Listeners*, National Association of Broadcasters, Washington, D. C., 1945.
Children's programs currently on the air are described in order to give a nationwide picture, as well as to serve as patterns for program ideas.
- THORNE, SYLVIA, and MARION N. GLEASON: *The Pied Piper Broadcasts*, The H. W. Wilson Company, New York, 1943.
A collection of seven scripts produced originally over Station WHAM, Rochester, N. Y. Those responsible for planning programs for young children should welcome this addition to the scant amount of published material at present available for their use.
- WATSON, KATHERINE WILLIAMS, ed.: *Radio Plays for Children*, The H. W. Wilson Company, New York, 1947.
Twenty-six radio plays varying in length from 5 to 30 minutes. Author indicates grade levels and suggests how the plays can be used in the classroom for simulated broadcasts.

BROADCASTS TO SCHOOLS

Educators as a group are usually slow to adopt new methods of instruction and have often been criticized for their conservatism in this regard. It is, to be sure, fortunate for our young people that our teachers have been careful in their use of youth as experimental material. That their reluctance to use new aids to instruction is sometimes carried too far, however, is illustrated by the history of the movies and of the radio. The apathy of the teaching profession during the early years of the motion picture and of broadcasting was an important reason why these agencies of communication were almost completely lost for educational uses. A new development in broadcasting, frequency modulation, gives our schools a fresh opportunity to make use of the radio, and it is earnestly to be hoped that they will take full advantage of it.¹

Those interested in the use of radio in education have recognized the opportunity resulting from the action of the Federal Communications Commission in setting aside frequencies in the FM bands for educational stations and in permitting low-power FM stations (described in Chap. II). At the beginning of 1950, there were 103 educational stations owned and operated by universities, school systems, and other educational groups and institutions. Of these 103, 34 were AM stations. Only one of these AM stations was owned by a school system (Portland, Oregon). Of the 69 FM stations, half are owned by universities and colleges and the other half by school systems. Many of these are low-power stations which will develop into more powerful units by increasing their power. All of the stations owned and operated by school systems indulge in direct teaching by radio with their programs directed to the classroom. The majority of the AM-FM stations owned by universities and colleges have school programs as well.

This chapter is limited to an outline of methods that are successfully used in direct radio teaching. However, direct teaching is not the major purpose of educational radio, for the majority of programs are designed to supplement or enrich the work of the local teacher, to stimulate the

¹ Alexander Grant Ruthven, president, University of Michigan.

interest of the student, to demonstrate methods of teaching, or to provide a useful tool of instruction for school talent.

Despite the fact that teachers or those interested in education were the first to recognize the great opportunity offered to them by radio, they have not yet agreed upon a lucid definition of education by radio. Educational broadcasting should obviously include more than the presentation of such subject matter as is regularly taught in the various grades of school. In fact, adult education possibly has a greater value. It cannot be stated that every program emanating from an educational institution is educational, for there are many sports programs and dance-orchestra programs so broadcast. It is equally true that not all commercial programs can be condemned, for many of them possess educational merit. The following tests have been suggested to determine whether a commercial program is educational:

1. Does the program convey to the listeners socially desirable information which they did not possess before hearing the program? If so, the program is educational. But the significance of the term "socially desirable information" must not be overlooked. It means information which society at large would regard as being generally desirable for the average person to know, especially such types of information as tend to improve the individual himself and enable him to keep pace with the gradually rising level of social knowledge and culture. This would classify programs dealing with merely curious bits of information as being entertaining rather than educational.

2. Does the program discuss items of knowledge and give clear-cut directions for their practical application so that the listeners not only have a clear understanding of the items of knowledge but can make practical application of them as need or occasion arises? If so, the program is educational.

3. Does the program give a step-by-step explanation of how to do or make a certain thing with clear-cut directions as each step is covered so that the listeners can do or make the thing as need or occasion may arise? If so, the program is educational.

4. Does the program present a problem involving the exercise of judgment or constructive thinking in such a way as to bring out, in an impartial and dispassionate manner, all of the various factors involved in the problem so that the listeners are stimulated to make an intelligent evaluation and arrive at a logical conclusion? If so, the program is educational.

Program Types

Roughly classified, radio broadcasts can be grouped under the general headings: talks, directed activities, actuality broadcasts, conversations, debates, and plays. The different subjects demand different types of programs, which have been discussed in previous chapters. One of the most important factors of the successful program is the personality and

attitude of the speaker. He must be friendly and courteous. His personality must be magnetic to such a degree that he can hold his unseen audience and make it receptive to his ideas. He must appear to be on the pupil's level, yet retain his own personality. His attitude must be one of cooperation. If the speaker feels his talk is somewhat serious for the juvenile audience, he should use stories from life to illustrate it.

It is through directed activity that nearly all radio teaching is done. Courses that are easy to teach in this manner are music, science, art, and arithmetic. Usually the students take notes or follow instructions during the broadcasts. Some teachers give short daily tests covering the material that has been presented. Other teachers encourage direct discussion, and still others use both oral and written compositions as a means of discovering just how much of the radio lesson the students have been able to retain.

Actuality broadcasts describe important events of public interest with the proper sound effects and commentaries. Broadcasts such as these aid the student in his study of current events. Actuality programs broadcast from a museum or art gallery, from the Senate Chamber, or from a courtroom are vivid dramas to teach the school boy or girl. Actuality broadcasts are sometimes exciting for the announcer as well as interesting to the listener. I recall that in one zoology broadcast a member of the faculty brought a 4-foot rattlesnake into the announcer's booth so that he might broadcast the rattle of the snake. In order to get the snake to rattle, the speaker had to annoy the snake. Another radio teacher brought a bear cub into the studio. I can assure you that in these cases there was plenty of interest upon the program, and the feelings of the interviewer were very obvious.

Conversation or dialogue on the air is interesting to the high-school student. This procedure introduces new and different trends of thought and permits the student to tie his own ideas to those presented. The pupils hear the viewpoints of people who are well versed in the subject in hand. Thus the student's knowledge is increased and broadened.

The presentation of debates over the air is difficult. In the first place, the listener may feel that the station is biased. Then, too, the subject must be controversial, yet must not offend any of the listeners. The subject must also be interesting to a widespread audience. It is difficult to select a subject, do a great deal of research work on it, and then present it in such a way that the audience may grasp, in a limited period of time, the ideas that have been produced after weeks of work.

Plays for pupils should be short and the sound effects, while more numerous than in plays planned for the general audience, must be simple. Characters should be limited, and the contrast in voices should be

marked. Special lines should be used to introduce each voice. Study the requirements set forth in the chapters on Writing the Radio Play and on Preparation of Children's Programs.

Radio addresses can be used for all subjects but they must be short and attractive. Round tables for topics dealing with literature, civics, or current events give a varied viewpoint. In fact, every type of radio program should be examined, and the one best suited to the subject matter to be presented should be chosen.

Preparing the Program

It is wise to have a teacher gather the material, for accurate facts are essential, and then turn these facts over to the radio showman for development into an interesting presentation. However, the teacher and the broadcaster must cooperate in building the program because the former is better able to visualize the school audience while the latter is more familiar with the medium. The vocabulary level and the mental understanding of the young listeners should be determined by the educator. The subject matter, in conformation with the radio requirements, should be organized by the program director.

A limited phase of the topic should be chosen for each broadcast, for the listener demands a satisfying completeness despite the limited period allotted to the program. It is wise to create in each period an interest in the radio lesson to follow. A few points, illustrated clearly, make it possible for the pupil to retain what he hears. Start out with some interest-catching statement and work to an effective close. The requirements of radio style previously set forth should be followed—a friendly conversational style using strong simple diction. George M. Cohan wrote a song whose title contained good advice, "Always Leave Them Laughing When You Say Goodbye."

While interest is essential in the radio-school program, it must not crowd out educational value. Frequently the drama type of school program has little left that is instructive after the music, sound effects, and plot have been discarded in the classroom discussion following the program. The school program, furthermore, should be planned to fit into the curricula of as many schools as possible. For this reason it is well to discuss such topics and presentations with education boards while planning them; do not broadcast programs on Shakespeare when the school children are studying O. Henry. Another general requirement is to arrange the program for pupils of a definite level and then inform teachers what grades are to listen. Be certain that the pupil in those grades will understand every word, follow every sentence, and be familiar with every allusion. While school programs must contain facts and information,

no one will listen to learn those facts unless the programs are interesting. Try the continuity out on a group of youngsters before you send it into the air; otherwise it may just float away, bringing neither credit to the teacher nor knowledge to the listener. In order that teachers may call their classes to order and correctly tune their radios, the first 5 minutes should be either music or relatively unimportant material.

Listener Participation

A good program should conform to an outline that is easy for the listener to follow in note taking. Use all available means to create interest and cooperation by the student listeners, such as appointing secretaries, discussion leaders, class property men, and others with definite duties to perform in preparation for the broadcast or in following up the program. In selling his instruction, the wise educational broadcaster will adopt all the worth-while ideas of the advertiser on sponsored programs. Contests, essays, the reading of "testimonials" from students—all these and other methods will enlist the interest of the audience. Some principals and teachers have only a limited number of their students listen to a radio program; these students take notes and report to the class, an excellent practice in listening and note taking. The broadcaster must learn when to pause so that the listener can take his notes or participate in other ways. The best idea is for the broadcaster to have a group of pupils in the studio with him where he can watch their participation and thus time his delivery. Listeners are frequently asked to repeat pronunciations of words, to answer questions, or to draw pictures; consequently the radio teacher must learn to give adequate opportunity for this participation. It is also wise to repeat essential material, but this should be done in such a way as not to bore the listener.

Music Instruction

Since Dr. Joseph E. Maddy has been very successful in teaching the playing of wind and stringed instruments over the air from the University of Michigan, the procedure that he uses is given in his own phraseology:

The procedure is simple. I use two adjoining studios, separated by sound-proof windows. In one studio I have a studio band, orchestra, or choir of university students or high-school students. This group demonstrates for the pupils by sounding tones and chords to be repeated by the pupils at the receiving end of the lesson. In an adjoining studio I have a class of beginning students who sit facing a radio-receiving set, from which they receive their instructions. By watching these pupils I am enabled to synchronize the speed of the lesson with the average ability of the pupils taking the lesson.

Whenever I have a few spare hours I visit some of my radio classes for the

purpose of ascertaining wherein I have failed to accomplish the objectives of the preceding lessons. I learn something from every class I visit, and in this way I believe I am improving my teaching technic week by week.

The first part of the first lesson consists in matching tones. The first exercise in the Radio Music Course uses three tones, do, re, and mi. The studio band sustains each of these tones while the pupils strive to match them. We take time to demonstrate to the pupils by tones which octave to play and give them some idea of how to read the fingering charts in their books.

We learn to play the first exercise by rote. The studio band plays the melody, then the pupils try to imitate the phrases as sounded by the studio band.

The first lesson is never complete until we have tried to play "America." It isn't necessary to completely teach the playing of "America," for they will learn it by themselves, even if they succeed in playing only the starting tone during the lesson.

If I can send every radio pupil home with the ability to play one tone and confidence that he will be able to learn to play "America" within a few hours' practice, my first lesson will have been a success.

Succeeding lessons follow a similar plan. The pupils learn to play two or three new songs each lesson, by rote, but they watch the notes for fingering marks and eventually acquire some ability in sight-reading. The complete course is recorded so that the students may use the recordings at home between radio lessons. The recordings are harmonized so that pupils may harmonize with the recorded orchestra.

Vocational Guidance

As vocational guidance is becoming more and more important in our educational system, we see that the radio plays an equally important role in presenting adequate information about this subject to the schools.

The principal purpose of these programs is to provide high-school boys and girls with information that will be helpful in choosing their vocations. Experience has shown that radio talks of this type have been received most favorably when the type of audience was kept clearly in mind in preparing and presenting the talk. A simple, straightforward, fairly informal style is the best.

What these young people want to know about an occupation is well indicated by the following outline, which has been prepared by specialists in this field. The main headings may be of assistance to you in preparing your radio talk.

1. *Importance of the Occupation.* A few sentences concerning its origin and development; society's dependence upon it; the number of people employed in it (men and women); supply of workers as compared with demand; distribution (in every community or in certain communities).

2. *Nature of the Work.* General character; divisions of the occupation (fields of specialization); what the worker does in the largest division or group (a

typical day's work may be described). Is work routine in character or mentally stimulating?

3. *General Working Conditions.* Hours of work; slack and peak seasons; physical environment; social environment; health and safety conditions.

4. *Remuneration.* Average earnings at the beginning, after ten years, after twenty years; exceptional earnings; how paid—by hour, weekly, annually, by fees, etc.; pensions and annuities; vacation periods and sick leave; social recognition; satisfaction from community service.

5. *Opportunities for Advancement.* Possible lines of promotion; factors influencing promotion; opportunities to transfer to related occupations.

6. *Important Personal Qualifications.* Age requirements; physical requirements; mental requirements; temperamental requirements; personal traits needed; social aptitudes important.

7. *Preparation.* General education desirable; special education needed and where obtainable; cost of preparation; continued preparation after work begins and how secured; how occupation is entered.

8. Teaching facilities available to one intending to enter this vocation.

Subject matter is the most important factor in the vocational program. The students are not to be entertained, primarily, but are in need of authoritative information about different vocations. A sheet of suggestions for utilizing each broadcast can be prepared to accompany each lesson, as well as a manual for teachers, containing supplemental questions and answers, based on the program, and a list of suggested readings.

Short plays are especially helpful in presenting the material to the student in an interesting way. These plays should take the child through the various experiences of choosing a vocation and show how the vocational adviser reaches his decisions in helping young people choose their work.

Interviews by students with men and women in some of these representative vocations make very successful programs. This type of program enables the students to get some firsthand information about various vocations, and as a result they are enthusiastic about learning all they can about the work in which they are especially interested. The problem is to avoid overstimulating susceptible listeners.

Elementary Science

The teaching of elementary science has been successfully conducted through the medium of the radio. It is vital for the teacher to humanize the subject, showing how its applications affect the individual. The programs, while being a form of direct teaching, are largely considered to be an incentive to further study and experimentation by the student. It is wise to choose class discussions in which there may be some sound

effects to make for greater realism. The speech itself may be direct lecture, a dialogue between a student and his teacher, or a classroom demonstration. It is wise to tie in the experiment being performed in a period with what has been broadcast on a previous lesson, and at the close of the program to announce the equipment that the receiving student should have available to be used in the next broadcast. There are many devices that may be used upon these science programs to create interest, such as questions that have been sent in by students. The radio teacher must insert adequate pauses to enable the student in his home workshop to carry on the experiment that is being demonstrated in the broadcasting studio. In presenting this type of course, the teacher must realize the limitations of the home laboratory and select as equipment those things that the student can easily obtain. Radio lessons in science are being conducted in many school systems. The following is the script used in Cleveland.

SCIENCE—RADIO—POCKET NO. IV—ITEM NO. 400

ELEMENTARY SCIENCE RADIO LESSONS

September 1949—June 1950

Grades 4B and 4A

UNIT III—WHY DO LIVING THINGS NEED AIR AND WATER?

Specific Directions For Each Lesson

Lesson No. 18—Air: What is it? Where is it?

Broadcast—April 25, 1950

Lesson No. 18: During this lesson the children learn by experimenting that air is real, air takes up space, air presses against things, and that air is everywhere.

To be Copied On The Blackboard:

Prove that:

1. Air is real.
2. Air takes up space.
3. Air presses against things.
4. Air is everywhere.
5. Air supports light things.
6. Air that moves is wind.

Materials Needed:

Please have the following materials on the science table:

1. a box wrapped attractively as a gift with fancy paper and ribbons

For Experiment 1:

2. a clean empty medicine bottle (Please remove the cap.)
3. a pan of water (about three-fourths full) Use the one for washing boards.

°° If the children are seated around a table, it would be advantageous for each group to perform this experiment.

For Experiment 2:

4. a pan of water (the same one used in Experiment 1)
5. an empty glass

For Experiment 3:

6. a paper bag (Please have a clean one with no holes in it.)

For Experiment 4:

7. a milk bottle (Either a quart or pint milk bottle may be used.)
8. a ladies' handkerchief—one that will fit over the mouth of the bottle
9. some string (enough to tie the handkerchief over the mouth of the bottle)
10. an empty can
11. a pitcher of water

For Experiment 5:

12. an electric stove
- °° JUST BEFORE THE LESSON, PLUG THE HOT PLATE IN. PUT THE PAN OF WATER ON IT AND BOIL THE WATER. DURING THE LESSON WATCH THAT THE WATER DOES NOT BOIL AWAY. ADD SOME WATER IF IT GETS TOO LOW.
13. pan of water (about one-fourth full)
 14. a lump of soil
 15. a glass of water
 16. paper towels—to dry hands if necessary

Suggestions For After The Lesson:

1. Check the sentences on the board that were proved during the lesson. Tell how they were proved. Do experiments again if necessary to review the main points of the lesson.

Follow-Up Suggestions:

1. Perform experiments to prove sentences 4, 5, and 6 on the board.

Suggestions:

Sentence No. 5—Air supports light things:

Hold a sheet of paper straight out and let it drop. The paper drops slowly, very often it flutters from side to side. It is supported by the air. Everytime you hold a sheet of paper level, you will find that it flutters in this way, supported by the air.

Sentence No. 6—Air that moves is wind:

Fan each other with tablet backs. When you make the air move, you feel wind.

2. Perform the experiment with the cork, glass, and pan suggested in the Fourth Grade Science Course of Study, page 68. Use slide 4A Pe. 1—Why Does Cork Go To Bottom—to check the experiment.
3. Perform many other experiments about air.

Station WBOE

Division of Elementary Science—4th Grade

UNIT III—WHY DO LIVING THINGS

NEED AIR AND WATER?

Program 18—April 25, 1950

Air: What Is It? Where Is It?

Script: Ettamarie L. Black

Cast:

TITO—A clown (young man)

TEACHER

Sound:

Bursting of paper bag full of air

TITO: My name is TITO. I'm a midget—that means a little man. I work in a circus where I make all the boys and girls laugh. (*Proud*) I can turn somersaults. I can work magic, too. (*Whispers*) I'll tell you a secret. I haven't any hidden magic power, I just use my knowledge of science; and that helps to make natural things look something like magic. (*Natural voice*) Oh, it's so much fun! I came down to WBOE with Miss Einzig this morning.

TEACHER: I'm sure the boys and girls will like you, Tito.

TITO: I wasn't taking any chances. (*Jolly laugh*) Ho! Ho! Ho! I sent each class a present.¹

TEACHER: You did?

TITO: Yep! Wrapped it up fancy too. It's on the science table now.

TEACHER: Shall we have a pupil open it, Tito?

TITO: Ho! Ho! Ho! Indeed not! Indeed not! Not until they try to guess what's inside the box.

TEACHER: All right, boys and girls, try to guess what's inside the box for Tito. (*15 seconds*) Now let's really find out. Someone open Tito's surprise box, tell the class what is in it. And then be seated. (*30 seconds*)

TITO: (*Laughs*) What did you think of my gift? If you said *nothing* was in the box, you were wrong.

TEACHER: Yes, very wrong. The box is full of something.

TITO: Listen: You cannot see it, but it is there.

It is all around us, even in our hair.

It touches the floor and the ceiling and the walls,

It is between our fingers and toes and even in the halls.

It is on our face and even inside our mouth,

It is everywhere—east, west, north, and south.

TEACHER: Perhaps your verse helped the pupils to guess what is in the box. Who knows now? (*5 seconds*) Yes, the box is filled with air.

TITO: Ho! Ho! Ho! Don't you think that air is a fine gift, Miss Einzig?

TEACHER: Yes, Tito, air is worth more than gold and we couldn't live without it.

TITO: Let's have some fun! First have a pupil get the empty medicine bottle from the science table.

¹ The Radio Science Manual has informed teachers of the materials to have ready and of whatever is to be written on the board.

TEACHER: Who wants to come up and get the empty medicine bottle for Tito?
(10 seconds)

TITO: Ho! Ho! Ho! I bet we caught someone. There is no *empty* medicine bottle!

TEACHER: The bottle *is* filled with something. It is full of *air*. If a bottle has nothing in it but air, most people say it is empty but it isn't. Remember, if a box or a bottle has nothing else in it, it is sure to be filled with air. Air fills up every space that is not taken up by something else.

TITO: (*Sings*) Air is real, air is real. I can prove it; I can prove it.

TEACHER: All right, Tito, prove it—but wait, Group 1¹ may prove *air* is real with you. Come to the science table, Group 1. (10 seconds) The leader may do the same thing as Tito. I hope you others will watch very closely to see what happens. Ready Tito?

TITO: Yep! First, I'll take this medicine bottle—(*laughs*). The one full of air. I'll need the pan of water, too. Where is it? Oh, here it is. (*Slowly*) Now I'll turn the bottle on its *side* and push it quickly down into the water. (5 seconds) Oh boy, look at that!

TEACHER: Did you see the same thing come up from the bottle that Tito saw? What did you see? (5 seconds) Yes, bubbles. The bubbles were air bubbles. The bottle was filled with air. The air has to come out of the bottle before water can go into the bottle. The water is pushing the air out of the bottle. You saw the air coming out. We proved that air is something—air is real. That is the first fact that is listed on the board. We proved that *air is real*.

TITO: I'm a magician. I exchanged air for water. Let's prove something else about air.

TEACHER: What else would you like to prove about air, Tito?

TITO: Let's prove—that, let's see, that—air takes up space.

TEACHER: I know a good trick to prove that, Tito. But first, Group 1 may be seated while Group 4 comes up to do this magic trick.

TEACHER: Here I go. Are *you* ready? Do this: Leader, take the pan of water and the glass with nothing in it but air. (5 seconds) Now do this: Hold the glass upside down. (2 seconds) Push it down to the bottom of the pan—straight down—without tipping it. (5 seconds) Does the water go up into the glass? (5 seconds) No. Something must be keeping the water out of the glass. Do you know what it is? (5 seconds) Yes, air. Now tip the glass in the water just a little. What do you see coming out of the glass? (5 seconds) The bubbles are air. Watch the bubbles of air that are coming out. Now tip the glass till you see that there are no more bubbles. (10 seconds) Does water go into the glass now? (5 seconds) The glass is filled with water. But the water couldn't come in until you tipped the glass. Why? (15 seconds) The "air" in the glass kept the water out. It looks as if the air in the glass *is* something all right—it takes up space. Air kept the water out of the glass like a door.

TEACHER: Remember, air takes up all space not occupied by something else. You can't see air because it has no color. Air has no shape. Air has no taste. But air is real and it takes up space. Group 4 may be seated. (8 seconds)

TITO: I know another magic trick. In this trick we can actually see air take up room.

¹ The class has been divided into seven groups, each of which participate during each radio lesson.

TEACHER: Would you do it, Tito?

TITO: Yes, and I'd like a boy to come up to do the trick with me.

TEACHER: Which boy wants to do the trick with Tito? (10 seconds)

TITO: I'll take the paper bag. Are you doing the same thing, young man? I'll hold it up so all may see it. The bag is flat, don't you think so? (2 seconds)

Now I'll fill it with air. Do you know how it can be done? (10 seconds)

If you blow into the bag, you can see the sides being pushed out. Now I'll blow air into the bag and twist the top so the air can't get out once I get it in there. You do it too, young man. (15 seconds) Just feel that bag.

(5 seconds) Can you feel that the air inside is holding the sides of the bag out? (5 seconds)

TITO: (Excited) Let's burst the bag. You may burst your bag too, young man.

Sound: *Bursting of paper bag*

TEACHER: That's what happens when air is suddenly forced out of anything.

These last two experiments prove fact number 2 on the board—"Air takes up space." But there are other things we should know about air, too.

TITO: Oh boy, do I know a fancy trick to find out if *air presses* against things.

TEACHER: Group 3, would you like to do this trick with Tito? Then come to the science table. (10 seconds)

TITO: You'll need the milk bottle, (2 seconds) the string, (2 seconds) the handkerchief, (2 seconds) the pitcher of water, (2 seconds) and the pan with no water in it. I'll tell you what to do and I'll be doing the same trick myself. Ready, do this: One of you tie the handkerchief over the mouth of the bottle with the string. Ask someone to pull down on the handkerchief and tie the string tight. (20 seconds) Now another pupil, push a pocket down in the handkerchief. (5 seconds) Then go ahead and pour water into the milk bottle through the handkerchief. Fill the milk bottle about half full. (20 seconds) Straighten the handkerchief by pulling down on the ends so there's no pocket left. (5 seconds) Listen carefully now: Quickly turn the bottle upside down over the pan. (5 seconds) Did you expect the water to pour out of the bottle? (2 seconds) The water stayed in the bottle!

TEACHER: You could pour water *into* the bottle through the handkerchief, but the water wouldn't pour *out* through the handkerchief. What magic do you suppose held the water in the bottle? (5 seconds) Air, air held the water up. The water just rested on the handkerchief and on the air in between the threads of cloth. Air is pushing *up* hard against the handkerchief. This experiment proves one of the statements on the board. Which one is it? (10 seconds) We proved that air pushes or presses against things. Thank you, Group 3, please be seated. (8 seconds) This morning we have found out that air is real, air takes up space, and that air presses against things. So, I believe, we are ready to find out *where* air is found.

TITO: I also know some magic tricks to show *where* air is found.

TEACHER: You do? Well, show us where air is found. Group 7 may come up to work with you. (10 seconds)

TITO: Do you see the pan of water on the electric stove? I've got one on my electric stove too. The water in the pan has been heating and now it should be so hot that it is boiling. Look at the bottom and sides of the pan. (5 seconds) What do you see there? (5 seconds) These are bubbles of air coming out of the water in my pan. What does this tell you is in the water? (5 seconds)

TEACHER: There is air in the water.

- TITO: Here's another experiment. This time we'll use the glass of water and the lump of soil. Do you have them ready? I'll drop the lump of soil into the glass of water and watch closely. (5 seconds)
- TEACHER: What do you see coming from the soil, Group 7? (5 seconds) You see bubbles of air. There is air in the ground. You can understand that there is air in the water and that there is air in the soil. In fact, air is everywhere. Please be seated. (5 seconds)
- TITO: (*Boasting*) Well, I'm quite a magician. Don't you think so?
- TEACHER: Yes, you are. But your tricks are really experiments, aren't they?
- TITO: Well, yes—if you prefer to call them by their correct name, but—they're kind of—well—let's say—magic, science magic.
- TEACHER: We have proved some of the sentences on the board. After the lesson you may check those we have proved and tell how we proved them. During the week you will want to do some experiments to prove sentences 4, 5, and 6.
- TITO: Goodbye friends. Do you want me to come back to do some more magic tricks? Ho! Ho! Ho! I'll see you again. Ho! Ho! Ho!

Teaching History

Perhaps the most successful method for holding the attention of the student and giving to him facts in history is the dramalogue. (See script of "Treasures Off the Shelf" in the Appendix.) Many of the commercial programs that are presenting historical dramas are of value to the student of history and may be assigned for "collateral listening." The historical dramatization must be prepared in such a way that the romantic or fiction material does not overwhelm the historical facts. These facts must be accurate and gathered by an instructor in history who has conducted research in the particular time and event that are to be presented over the radio. While wars are considered of great importance in the teaching of history, it is generally conceded that history radio programs should not glorify war or arouse hatred for the enemy. It is better in such dramatizations to stress the lives of individuals and through these lives bring out historical facts. The authors must be familiar with the daily life of the time he is portraying, for the diction and the minor events are of vital importance as well as the major historical facts.

A method that has been found very successful is that of tracing history backward, taking some aspects of life today and tracing it to its origin. Such topics as transportation, banking, communication, and cooperative movements can be treated by this method, either through the dramalogue or through other methods of presentation.

The straight-lecture type of program may also be used by the instructor who has the research libraries of a university at his disposal. He will give enriching material to supplement the work of the local teacher, who has neither the time nor the facilities for such research.

Bibliographies of collateral reading may be broadcast in connection with such talks.

Civics

Classes in civics will gain a clearer concept through an actuality type of broadcast. The teachers of civics courses should keep in touch with the daily-program schedules that are distributed by radio stations whose programs may be heard in their locality. They will discover many broadcasts such as those from the Senate Chamber, those by the President, speeches by the Governor, traffic-court broadcasts, and various series dealing with government which will be both timely and instructive to their students. In the majority of instances broadcasting stations are willing to send their weekly schedules to the principals of schools. These can be posted upon the bulletin board for examination by the teachers in various courses.

News broadcasts are frequently of value to the civics teacher, especially those programs which vitalize the study of government through the introduction of speakers who are in the day's news. The local station may cooperate with classes by conducting radio visits to various officials. The teacher should introduce the program, telling something about the man who is to speak and laying a groundwork so that the student can visualize the broadcaster. Unfortunately many of the programs of this type are prepared for adult audiences; consequently the local teacher must be alert to make notes upon any statement that will not be understood by her pupils and to clarify it at the end of the program. Explanations of civil government by officials who would arrange their material for the school level could do much in educating the future citizens.

Geography

Visual aids are essential in the teaching of geography by radio. A radio tour may be conducted from week to week, visiting various cities and countries. Maps and globes may be used by the students to follow the trips. Sound effects on the program will assist in making the tour more realistic.

The dramatic method is particularly good in such a series. Interest should be built up around a central character. Possibly a father with his son and daughter may be traveling around the world. Human interest will create a week-to-week appeal in such programs. Various modes of travel by rail, steamship, airplane, and even the rocket plane have been used to conduct the schoolroom travelers quickly from one part of the world to another. The speaker must be careful not to attempt to

cover too much in a single program. Some limited phase of geography should be chosen for the series. The series might consider the famous art galleries, the industries of different nations, the people and the customs, or agricultural resources. Advanced information concerning each broadcast should be sent out to the schoolteachers who are using the series so that pictures, maps, and other material may be posted upon the blackboards of the schoolroom to interest juvenile travelers.

Speech

Probably no single course is more extensively taught by radio than that of speech. In fact, every announcer is an instructor in such a course. Speech departments in nearly all the universities have presented radio courses. In most of these programs the instructor is assisted by students whose pronunciation, persuasiveness, arrangement of material, clarity, and speech qualities are criticized by the radio teacher. However, the programs should not be permitted to end until the student has corrected his delivery and material to conform to the criticism that has been made. For such courses mimeographed material is usually provided for the students who are listening from some distant point, or a textbook is assigned. The use of a public-address system in the local school in imitation of a radio program may be used as a tool to stimulate interest in speech instruction. I have always maintained to my students in broadcast speech that, if they were to accept positions in the teaching of speech in a town in which there is a local broadcasting station, they could build short programs to be presented by their pupils. The local broadcasting station could be induced to present these during the morning hours when sustaining programs are needed. Programs by the school children would bring a definite audience to the station, consisting of parents and friends of the children who participate. These programs will be interesting and will demonstrate what is being done in the classroom. Such an activity would strengthen the position of the teacher, since she would have all the parents enthusiastic about the work they hear over the radio. This project for the speech teacher in the elementary schools would also serve as a wedge to be used in breaking into the field of broadcasting. The radio is an excellent medium of instruction for speech and debating. All radio programs by public men and outstanding announcers enrich and supplement the work of the local teacher.

Other Radio Classes

Arithmetic has been successfully taught by the radio classroom method, using mimeographed sheets which are distributed to the pupils and

which are corrected by the local teacher. Such a program must be given very slowly. The pupil activity will hold the attention of the distant students. Cooperation of the local teacher is essential in such a radio class. Both music and art appreciation have been extensively taught by radio. Visual aids are particularly helpful in the art-appreciation courses, in which familiar statues and paintings are evaluated. Foreign languages have been taught both on the broadcast and by short wave. Through these mediums accurate pronunciation may be brought to the student. The local student is usually provided with a textbook and follows the pronunciation given by the radio teacher. When such broadcasts are sent from a university or college, it is possible to bring a foreign student before the microphone to speak in the language of his native country and tell about the life of the youth in that country. Such programs must present speakers whose enunciation is precise and not rapid.

Teachers' Guides

All those who are actively engaged in teaching by radio and in broadcasting educational programs to the schools agree upon the vital necessity of preparing teachers' guides to be sent in advance of the program to the teachers who will be receiving the programs.

The Radio Council of the Chicago Public Schools, George Jennings, director, does an excellent job in the preparation of such teachers' broadcast handbooks. Each semester, 10 to 20 programs are selected as a "core" of broadcasting, and handbooks for teachers' use prepared for them, covering the entire series of programs. These handbooks are mimeographed and distributed to each school. In addition, a semester schedule is prepared which lists all program series by individual title, grade level, and subject area.

A number of different approaches to the problem of teachers' guides have been developed at the Radio Council. For "The American Heritage" broadcasts, one page of the handbook was given over to "suggested series activities":

THE AMERICAN HERITAGE SUGGESTED SERIES ACTIVITIES

Learn the *Freedom Pledge*.

Review the *Four Freedoms* as set forth by Franklin Delano Roosevelt in his Message to the 77th Congress. State their meanings in simple, everyday language. Translate the meaning of lost freedom, particularly as that meaning has revealed itself in conquered countries. Discuss present day influences that are working against democracy. Show the viciousness of

- any system that attempts to subjugate people to the rules and whims of a few. Point out that our freedom can be endangered by our neglect of our duties as citizens. Have students tell how they can help maintain freedom.
- Plan* a "Hall of Fame" display of pictures of "Heroes of Democracy" who have made noteworthy contributions to our American Heritage; collect such pictures for individual or group scrap-books.
- Review* outstanding events in our country's struggle for liberty. Assign student committees for research and report-back-to-class on salient points of such documents as: The Mayflower Compact, The Declaration of Independence, The Preamble to our Constitution, The Bill of Rights, Washington's Farewell Address, Lincoln's Gettysburg Address, Wilson's Flag Day Address, and others.
- Visit* exhibits related to the broadcast content at the Chicago Historical Society and the Rosenwald Museum of Science and Industry.
- Recall* visits to the Freedom Train. Report on the Freedom Train motion picture, newspaper and magazine accounts.
- Prepare* an American Heritage assembly in culmination of listening to the broadcast series—dramatization or simulated broadcast. (Scripts for the programs of this series are available from the RADIO COUNCIL. Address: AMERICAN HERITAGE Program, Radio Council, 228 N. LaSalle St., Chicago 1, Illinois.)
- Paint* an "American Heritage" mural or group-composite painting; individual pictures of heroes and episodes that are most significant to you.
- Listen* to other "American Heritage" broadcasts: *LEST WE FORGET—The American Dream*, *ADVENTURES IN FREEDOM*, *HEADLINES FROM HISTORY*, *PASS IN REVIEW*, others (refer to RADIO COUNCIL weekly *Program Bulletin* and *Semester Schedule* for related broadcasts, dates—time—stations).
- Supplement* broadcast listening with playing of transcriptions and records: Norman Corwin's *LONESOME TRAIN* (Decca), *BALLAD FOR AMERICANS* (Victor), Corwin's *ON A NOTE OF TRIUMPH* (Columbia), others (consult the RADIO COUNCIL for additional suggestions); with related music: "The House I Live In," "March of the United Nations," "God Bless America," Irving Berlin's "Freedom Train," other songs; with related reading suggested by your librarian; with related films and slides.

Also, each program within the series was fully outlined with suggested word-study; pre- and post-broadcast activities; and supplementary film listing and bibliography:

PROGRAM II JEFFERSON'S DRAFT OF THE DECLARATION OF INDEPENDENCE

Thomas Jefferson's rough draft of the Declaration of Independence is one of the most interesting documents of American history. It includes "working

changes" made by Benjamin Franklin and John Adams. Today's broadcast presents Thomas Paine as "Narrator" telling the story of his friend Jefferson's fight for a Declaration of Independence.

Time: March 20, 1775—*Characters include:* THOMAS PAINE, PATRICK HENRY, THOMAS JEFFERSON, JOHN ADAMS

Word study:

Fight against tyranny	Hot-headed young fool	Disunity
Listened intently	Organize a militia	Sanction
Our brethren	Inspiring speech	Delegate
Debating his stand	Be cautious	Rough draft
Annihilated	Organize armed resistance	Entreaties
Members of the convention	A challenge	Chains and slavery
Prevent discord and dissension	Aye!	Has been duly placed

Note the use of the above terms in the broadcast content; use them in new and original sentences.

Pre- and Post-broadcast Activities:

Discuss: Who were Thomas Paine, Patrick Henry, Thomas Jefferson, John Adams, Benjamin Franklin? Assign individuals to bring in reports on these great men.

Discuss Patrick Henry's "Is life so dear or peace so sweet as to be purchased at the price of chains or slavery? Forbid it, almighty God. I know not what course others may take, but as for me . . . give me liberty or give me death."

Patrick Henry's "No man can be bigger than the ideals of liberty." "Freedom belongs to no one man . . . It belongs to all."

Discuss Jefferson's "We must not allow a small minority to defeat the aims of the majority."

Discuss the "Loyalties of Free Men." Check your ideas with those expressed. List such fundamental beliefs as: "Freedom is *everybody's* job."

"Freedom must be a part of the American Heritage."

"Governments are instituted among men to secure the blessings of liberty."

"Governments derive their just powers from the consent of the governed."

Write a brief résumé of today's broadcast; state simply the five most important points brought out, in your opinion.

What was the "Continental Congress"? What is "ratification"?

Who made up the Committee of five who were to prepare the Declaration of Independence? (Thomas Jefferson—John Adams—Benjamin Franklin—Roger Sherman—Robert Livingston.)

When was the Declaration signed? (July 4, 1776.)

Compare the 1775 political convention with those of the present day.

Supplement your broadcast listening with showing of 16-mm Silent Film D-3 *Declaration of Independence* (3 reels); with slides H-322 *The American Revolution*; with related reading suggested by your librarian.

In the "History: Then and Now" series of broadcasts, a narrative type of information for the teacher is used, with leading questions which the teacher might ask the class:

November 29, 1949

ENGLISHMEN COME TO AMERICA

What is meant by "colonization"? Does the United States have any "colonies"? Can you name some countries which do have colonies today? (Dutch, French, Britain.) Where are these colonies? How can a country as small as Holland control so much territory? Why are colonies valuable to the mother country? There were various motives for the English coming to America, economic as well as religious. The differing motives are often set forth in the royal charters permitting men to colonize in North America; in many instances the motive as "trade," "agriculture," as well as the seeking of "freedom of religion." The earliest North American agreement for self-government is the *Mayflower Compact*, drawn up on ship-board by those who later founded the Colony of Plymouth. What is a compact? Do you suppose that representatives of your class might draw up a compact for class-room management? What is meant by "welfare of the group"? Is a compact the same as a "contract"—a "covenant"? Where are contracts used every day?

In the "Nature Walks" series of science broadcasts, for third and fourth grades, the handbook presents a résumé of the content of each program, a suggested list of things to talk about and do, a vocabulary, and suggestions for keeping a "nature diary":

PROGRAM XIII—May 16, 1949

PLANTS INJURIOUS TO MAN

City folk run more risk of being harmed during a trip to the corner than they do during a whole year in the woods. Woodcraft is nice to know but a little ordinary common sense is all you need to make your outdoor excursions the most enjoyable days in the year. There are very few things to be afraid of. Learn to recognize poison ivy and avoid it. Some berries will make you sick. Do not eat ANY mushroom unless you KNOW by experience that it is harmless and edible . . . some are deadly poison.

Things to talk about and do: What wild plants contribute the pollen that, flying through the air, causes hay fever? Did you know that ragweed pollen which, of all of them, most readily floats through the air, can be carried hundreds of miles by high winds?

Do you know anyone who picks wild mushrooms and eats them? What kind do they pick and eat?

Do you know the common night shade vine? Its shiny red berries will make you sick.

Words to talk about and learn:

Jack-in-the-pulpit	Poison	Cocklebur
Ivy	Jimson weed	Thorn
Nettle	Drug	Pollen
Cut grass	Ragweed	Nightshade
Horse chestnut	Pokeberry	

Nature diary: Make as long a list as you can of edible wild fruits and berries that grow in Cook County. What color is each one when ripe? Which are sweet and which are sour? Make a list of edible wild plants such as burdock, dandelion, and so forth.

It is most important that the classroom teacher know not only what the broadcast is about (from the Teachers' Handbooks), but when the

Chicago Public Schools Radio Station WBEZ					
First Semester Program					
For the thirteenth year students in the Chicago Public Schools will be able to listen to radio programs designed especially to supplement their classroom work, according to George Jennings, Director of the Division of Radio. In addition to indicated broadcasts over commercial stations, a full schedule of classroom programs will be started on Monday, October 10, over station WBEZ (FM 91.5 mc), owned and operated by the Chicago Board of Education.					
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:15 AM	A P — NEWS — ASSOCIATED PRESS — A P — NEWS — A P				
9:30 AM	*Captains of Industry	*History Then and Now	*Tape Tour of Chicago	*Nature Lore	*Brush Up on Your Teeth
9:45 AM	*Nature Walks	*America's Wonderlands	*Adventures in Listening	*That's News to Me	*Lady Make-Believe
10:00 AM	*Story of Phys. Ed.	*Guidance: Making Good	Bill Scott	LWF: Stories To Remember	*Illinois Industries
10:15 AM	Tales of the Foreign Service	It Happened Last Week	Backgrounds in Geography	Pre-View of Tomorrow	
10:30 AM		Excursions In Science		Adventures in Research	Music to Paint to
10:45 AM	*WJJD—Bag of Tales	*WJJD—Leaders For Tomorrow	*WJJD—Science Story Teller	*WJJD—Leather Breches	*WJJD—Battle of Books
11:00 AM	Il Prossimo Tuo (Italian)	LWF: American Dream	*Happy Words & Carefree Music	Education Progress	Supl's. Bulletin
11:15 AM	News AP	*Music Appreciation Hour	News AP	*Music Appreciation Hour	News AP
11:30 AM	To Be Announced		To Be Announced		To Be Announced
11:45 AM	MUSIC — FOR GOOD LISTENING — MUSIC				
12:00 N	A B C — NEWS — BAKHAGE TALKING — NEWS — A B C				
12:15 PM		To Be Announced	High School Music Hour	To Be Announced	
12:45 PM	*The Symphony Hour	PTA—You and Your Children	Music A la Carte	PTA—Youth Talks It Over	*The Symphony Hour
1:00 PM		To Be Announced		Piano Interlude	
1:15 PM	*WLS—We Look At the News	*Guidance: Making Good	Bill Scott	*WLS—Adventures in Freedom	*WLS—This Wonder. Wld.
1:30 PM	*WIND—Nature Walks	*WIND—Amer's. Wonderlands	*WIND—Adv's. In Listening	*WIND—That's News to Me!	*WIND—Lady Make-Believe
1:45 PM	*Captains of Industry	*History, Then and Now	*Tape Tour of Chicago	*Nature Lore	*Brush Up On Your Teeth
2:00 PM	M B S — NEWS COMMENTATOR — M B S — NEWS — M B S				
2:15 PM	Collector's Corner	To Be Announced	*Happy Words & Carefree Music	Education News	Music to Paint to
2:30 PM	*Bag of Tales	*Leaders For Tomorrow	*Science Story Teller	*Leather Breches	*Battle of Books
2:45 PM	A P — NEWS — ASSOCIATED PRESS — NEWS — A P				

*HANDBOOKS AVAILABLE where starred.

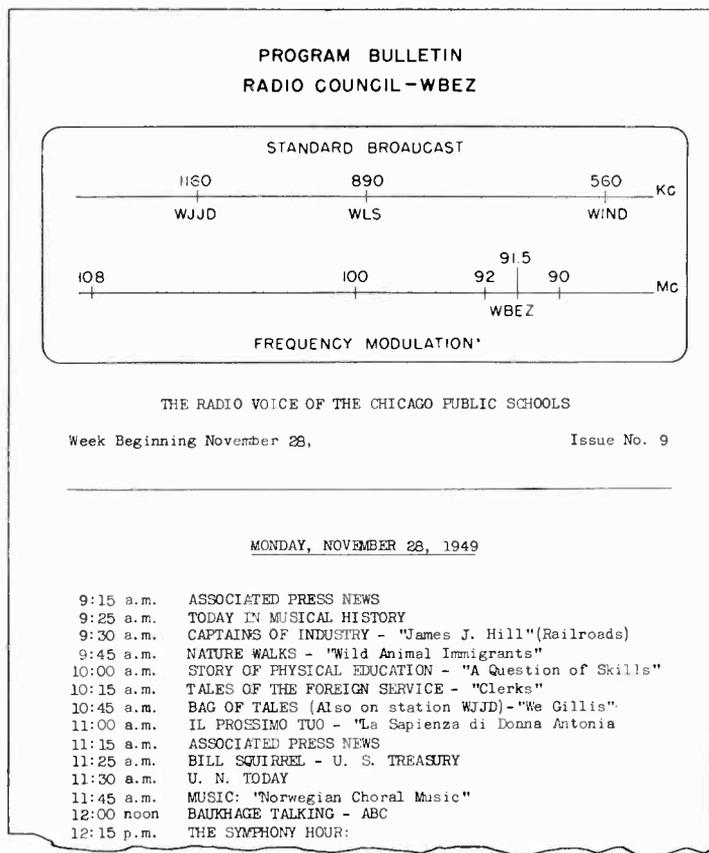
program is coming, and if you really want some disappointed listeners, change a scheduled classroom broadcast, particularly after the teacher has followed all the handbook instructions for the preparation of her class. This schedule is reproduced in the first issue of *Educational Progress*, a curriculum bulletin which goes, not to every school in the Chi-

RADIO COUNCIL - WBEZ		AREAS OF BROADCASTS CHART			CHICAGO PUBLIC SCHOOLS	
First Semester 1949 - 1950						
SUBJECT AREAS		MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
S O C I A L S T U D I E S	HISTORY - GEOGRAPHY - CIVICS	*CAPTAINS OF INDUSTRY - * TALES OF THE FOREIGN SERVICE -	*HISTORY, THEN & NOW - *AMERICA'S WONDERLANDS - LEST WE FORGET The* American Dream	*TAPE TOUR OF CHICAGO - *ADVENTURES IN LISTENING - BILL SCOTT, FOREST RANGER - BACKGROUNDS* IN GEOGRAPHY	LEST WE FOR- GET: Stories to Remember* - *LEATHER BREECHES - ADVENTURES IN FREEDOM	*ILLINOIS INDUSTRIES
	NEWS	ASSOCIATED PRESS, ABC and MBS NETWORK NEWS PROGRAMS DAILY *				
	SCHOOL and EDUCATION NEWS -	WE LOOK AT THE NEWS -	IT HAPPENED LAST WEEK* -		THAT'S NEWS TO ME! - PRE-VIEW OF *TOMORROW	*SUPT. S. BULLETIN -
SCIENCE and HEALTH	NATURE WALKS - *STORY OF PHYSICAL EDUCATION -	EXCURSIONS* IN SCIENCE -	*ADVENTURES IN LISTENING - BILL SCOTT in SCIENCE STORY TELLER	NATURE LORE - *ADVENTURES in RESEARCH -	THIS WONDERFUL WORLD - BRUSH UP ON YOUR TEETH	
LITERATURE	BAG OF TALES				LADY MAKE- BELIEVE - BATTLE OF BOOKS	
FOREIGN LANGUAGE	IL PROSSIMO* TUO (Italian)					
MUSIC	DAILY PROGRAMS OF MUSIC FOR GOOD LISTENING - DAILY					
	SYMPHONY* HOUR -	*MUSIC APPRECIATION HOUR -	HAPPY WORDS & CAREFREE MUSIC - HIGH SCHOOL MUSIC HOUR* - MUSIC* A LA CARTE	MUSIC* APPRECIATION HOUR - PIANO* INTERLUDE -	MUSIC TO PAINT TO - SYMPHONY* HOUR *	
HOBBIES	COLLECTOR'S CORNER*					
GUIDANCE		GUIDANCE: * MAKING GOOD				
PARENT-TEACHER		*PTA-YOU AND YOUR CHILDREN		PTA-YOUTH* TALKS IT OVER		

* PROGRAMS STARRED are suitable for GENERAL LISTENING (Upper Elem., High & Adult)

cago system, but to every teacher in the system. It is based upon the schedule which appears in similar format in the *Semester Schedule*.

Since a great number of teachers are primarily interested in subject matter, the "Areas of Broadcasts" chart not only is included in the *Semester Schedule* but is sent in numbers requested by the principal to every school.



Every possible aid is given the teacher. Maps, charts, art prints and reproductions, photographs, posters, and pamphlets often are sent with the handbooks. In all handbooks, supplementary reading lists and film lists are included. In some instances, where they are available, lists of transcriptions or phonograph discs applicable to a certain broadcast are likewise included.

In addition to the *Semester Schedule* sent to each school at the start of the semester, a weekly program bulletin goes to every school, and

three times during the school year a special program bulletin is issued listing "good listening" on other stations as well as WBEZ.

Teacher Training

A number of institutions are now offering instruction for preparing the teacher to receive radio programs. Teachers should know how to use their influence in guiding the listening habits of their pupils so that they will obtain that which is of value from both commercial and strictly educational programs. Naturally, radio programs should not be used in the classroom when other available means will better fulfill the teaching objective. Teachers must familiarize themselves with all the sources of information about forthcoming broadcasts and their value to the pupils. No program should be recommended until other programs in the same series have been studied or advance information from the broadcasting station has been examined from the educator's viewpoint.

RECOMMENDED RADIO AND TELEVISION PROGRAMS

FALL-WINTER, 1949-1950

In response to many requests the following listing of radio and television programs has been prepared by the Radio Council of the Chicago Public Schools. The list does not pretend to be exhaustive - rather it is an index. Many of the net-work and local stations publish complete program listings which are available to listeners upon written request to the stations. SCHOOL LIFE, a publication of the United States Office of Education, for November, 1949 contains an excellent listing; LISTENABLES, published by the Joint Radio Committee, National Council of English Teachers and the Association for Education by Radio is excellent; Leon Hood, Editor, 61 Lafayette Avenue, East Orange, New Jersey. Radio and Television programs are subject to change - refer to local newspaper listings or call the station concerned.

An educational program has been defined by Franklin Dunham, chief, Educational Uses of Radio, U.S. Office of Education, as one "that has for its purpose the increase of knowledge, the development of skills, or the widening of appreciations of the worthwhile activities of life." However, the value of the broadcast depends greatly upon the course being taught by the instructor and the skill and ingenuity of the teacher. Com-

mercial programs which do not come within the limitations of the above definition may be used in courses in salesmanship and advertising. Students in music appreciation may contrast swing music with symphony music. The teacher who assigns a radio program for study must have a justifiable purpose in doing so and a knowledge of the program assigned. In evaluating a program, consider the hour at which it is broadcast and whether it can be satisfactorily received in the locality. Determine whether the program is accurate in facts presented and free from offensive advertising. The program must accomplish an educational objective and fit into the course for which it is assigned. The teacher must determine whether it is suited to the mental age of the students. No program should be assigned which does not supplement the classroom work.

The broadcasting of educational programs to the school is seriously handicapped at the present time by the lack of cooperation between the receivers and the broadcasters. An effort should be made in the various states to organize boards made up of representatives of the state departments of education, superintendents of schools, principals, and teachers to determine what subjects can most advantageously be presented to the schools through the medium of radio. Inasmuch as it has been practically impossible to arrange broadcasting schedules to conform to the class schedules of the various schools, some periods during the day should be set aside for the reception of radio programs that meet the approval of the above unifying group. Such a plan would be helpful to all. If a bulletin listing all the educational programs which are broadcast each week and which are available to the schools of the state could be distributed to teachers, it would aid them in selecting those programs which would be beneficial to their pupils. Such a listing should include an evaluation of each program, the school class to which the subject would appeal, and the mental level to which it would apply. It is further suggested that the continuities of educational programs to be broadcast to classes in the schools should be submitted to a board of the type suggested above to determine whether such instruction conforms to the educational policy of the state. If school broadcasting is to be developed beyond its present status, there is need for properly qualified and trained people to carry it on.

Only those subjects should be taught by radio which can better be taught by this medium than by the local teacher. The local teacher should be convinced that such instruction will not supplant the local teacher but will merely supplement her personal efforts.

Teachers are advised to set the class an example by listening carefully, making notes of words that will require explanation, of ideas that

are too advanced, or of links with other work that the class has already done. Unless the broadcast is to teach note taking, the pupils will lose the thread of the talk if they are required to make notes. After the broadcast, class discussion encourages the students to restate ideas that have impressed them. This follow-up work is considered important and evidences the ingenuity of the teacher.

Visual Aids by TV

On January 1, 1950, there was only one educational institution (Iowa State College) that had a television station. However, many educational groups were using the facilities of commercial television stations in their locality for educational purposes extending visual education to schools and to homes through the air. A large proportion of such programs are telecasts of educational film. Care must be exercised to determine whether permission to use such film has been obtained. Documentary, travel, science, and manufacturing films are available and hold the attention of the listeners in classrooms. Live programs are represented with visual aids in art, sewing, gardening, cooking, and an endless variety of such which are enhanced by visual aids.

The outstanding experiment in adult education has been the telecast of an operation in a hospital operating room. The television camera, placed overhead quite out of the way, can bring to the surgical students a close-up view of the skill of the surgeon. Previously, student observers have had to view the operation from seats in the clinical laboratory, and frequently the surgeons and nurses obstructed the view. A permanent record of the operation may be made by film from the TV monitoring screen without encumbering the operation room with motion-picture cameras. Color will greatly enhance the educational value of such telecasts.

On-the-scene telecasts of news events experiments are rapidly developing. The sessions of the United Nations are now being televised. The opportunities for using this medium will greatly enhance the effectiveness of wireless education. A number of school systems are considering the use of closed circuits (see Chap. II) in bringing visual material into the classrooms of the schools.

SELECTED READINGS

BEVILLE, H. M., JR., and DANIEL CUTHBERT: *Classification of Educational Radio Research*, Federal Radio Education Committee, U.S. Office of Education, Washington, D.C., 1941.

A 20-page mimeographed report classifying the various types of educa-

tional radio research. A timesaver which will permit any person having a connection with educational broadcasting—producer, distributor, or consumer—to find and apply more easily to his own work the research findings in this field.

Committee on Standards for School Audio Equipment: *School Sound Systems*, U.S. Office of Education, Washington, D.C., 1946.

The first in a series of standards developed by the Joint U.S. Office of Education-Radio Manufacturers Association Committee. Intended to guide school administrators in selection, installation, and utilization of equipment.

LEVENSON, WILLIAM B.: *Teaching through Radio*, Rinehart & Company, Inc., New York, 1945.

Has a twofold purpose: The improvement of school broadcasting and the encouragement of more effective use of educational radio programs. Written by the former director of Cleveland's school-owned radio station WBOE, the book presents the techniques and basic information needed by teachers and school administrators in a variety of situations. Contains illustrative material—scripts, aids to utilization, and program schedules.

FOOLE, LYNN: *Science via Television*, Johns Hopkins Press, Baltimore, 1950.

Deals with the planning, preparing, and production of informational TV programs. While facts and methods are limited to the field of science, the production methods are applicable to any type of informative program.

WILLEY, ROY DE VERL, and HELEN ANN YOUNG: *Radio in Elementary Education*, D. C. Heath and Company, Boston, 1948.

Written primarily for students who plan to teach in the elementary schools.

WOELFEL, NORMAN, and I. KEITH TYLER: *Radio and the School*, World Book Company, Yonkers, N.Y., 1945.

Represents the combined intelligence and judgment of the staff members of the Evaluation of School Broadcasts research project at Ohio State University on the problems of radio and the school curriculum. Not merely a textbook for teachers and administrators, but rather a general volume on the educational aspects of American radio. Points out the advantages and disadvantages of current programs.

WRITING THE RADIO PLAY

The prerequisite for the radio author is primarily a story to tell, a fascinating story. It is the story that counts. But in addition he must have a thorough understanding of the medium for which he is to write. He must understand the limitations of the microphone, the psychology of the listener. He must study what has been accepted for radio—be an analytic listener. He must have showmanship, an indefinite term that includes a feeling for the dramatic knowledge of what appeals to the public and how to make that appeal. Finally, he must be able to write not only to portray live people accurately and to write realistic conversation but also to develop a plot. Then he must write and write, for while he may follow all the instructions for writing the radio play as set forth in numerous texts, it is experience that will be his best teacher.

Unfortunately, few noted writers for the stage have been attracted to the radio, and announcers and advertising men cannot be expected to create outstanding drama for the air. Because of the high pressure that has been placed upon its writers, the radio drama has not yet been considered a serious literary form. Conditions must be changed before great writers will undertake the work. In the first place they must be speedy producers, for they must write a new play each week. There are no long runs in the theater of the air. In the second place, the radio play must be written right the first time for there is no opportunity for a tryout and revision on the road before the first-night opening. The radio play has only a first night. The play cannot be changed after its presentation. Furthermore, there are no months of rehearsal during which the play can be perfected. Seldom is the name of the radio author announced; he acquires little fame or recognition by dramatic critics. There are no royalties to enrich the author of the radio play. He is paid only for his manuscript, and up to the present time the remuneration is decidedly small. While the play is presented in a single night to a greater audience than attends a long run in the theater, the author does not

enjoy the applause of a single stage presentation. When writers are willing to put aside their desire for leisurely writing, for wealth, for fame, for appreciation, then they will study the peculiar script requirement of the radio play.

While it is generally said that the radio playwright is writing for an audience that is blind, in reality he is writing for an audience that has mental images built upon remembrances of scenes and experiences which help it to visualize and to create scenery. The writer must appeal to the "eye of the mind" and create sound pictures that may be even more vivid than the visual ones of the stage. He must write for an armchair audience instead of for a theater filled with people who are keyed up to the right mood to receive his play. He must create an attitude, an atmosphere, which the theater has created for its audience. Allowing the audience greater freedom in the mental pictures of characters and of setting possibly will make the play more vivid for the listener, for he can pick out his ideal heroine and place the scene in a location with which he is familiar.

Plot

People go to the theater because it is a land of make-believe. It contains the relief of romance, the familiarity of realism, the thrill of adventure. The radio audience does not, however, want stark reality, does not care for dull, brutal, and tragic things. The radio drama is truly a form of relaxation; yet the characters must be intensely human and recognizable in order to appeal to the recollection and visual image created by the listener. The plot of the radio play should deal with human interests and mental conflict and yet have adequate action. It should be simple, not metaphysical. Melodrama is decidedly popular because it appeals to intense emotion and present thrills, but these qualities must not be impossible for the radio listener to conceive. While melodrama is a popular radio form, it must be somewhat Victorian in character, for the unseen audience will not permit the air to be polluted by profanity or suggestiveness. The most modest of Broadway plays would have to be expurgated before it could be sent into the pure country air.

The theater has certain requirements for its plays. The unity of action has been discarded by the radio; the sound effect of a train carries the action from coast to coast; a boat whistle or an airplane motor transports the scene to foreign ports. The unity of time has no place in radio. Unities of character and plot are observed because the radio audience is interested in people represented by their voices. Gossip proves that we are interested in people who do things. Front-page news of the

newspapers deals with the conflicts of individuals with other persons, the elements, or natural obstacles. We are more interested in a sergeant who captures a squad of enemy than in the regiment that invades enemy territory because we can put ourselves in the place of the sergeant. It is hard to feel like an army. Of course, the character must live an eventful life, have adventures that we listeners envy or are thrilled by. These conflicts or adventures in radio are better created by persons than by things. A man with his dog team might fight the elements to deliver serum to a snowbound village in the northland and create a conflict with adequate suspense, but in radio this would result in pure monologue description, not dramatics.

Radio drama is inclined to be suggestive; that is, it suggests a play which is in reality acted in the mind of the listener. The author gives adequate hints and situations; the plot-conscious listener builds his own play. He is led to the desired climax by the author but is pleased by his own mind creation. Of course, the plot must not be too obvious; there must be conflict, a struggle between characters or between characters and a situation. The climax may be unexpected—indeed, the listener is pleased by the surprise ending of the O. Henry type.

While no dogmatic instructions can be laid down for the selection of a plot for the radio play, certain factors should be kept in mind by the author. While the audience is not attracted by the drama designed to teach, it does prefer a plot that develops an idea. The more universal the theme, the greater the audience. The plot with the greatest appeal is the one that touches the interests, the experiences, of the greatest number of listeners. The first thing to do, then, in writing a radio play is to study the lives of those who will constitute your audience. Find what there is in their lives that may form the basis for a conflict. Develop your ability to write dialogue by listening to the conversation of those about you. Where you find a human being you find material for drama. The fact that most lives seem rather commonplace is no deterrent. Simplicity and catholicity of appeal have never been known to constitute a condemnation of a plot. Into the simplicity of the average life your imagination can insert a logical, a possible, conflict. The radio audience assists you by preferring stories with American characters, heroes and heroines in the middle class socially. A good script has purpose and familiarity—purpose to justify listening, familiarity to make it ring true. The radio requires simplicity, which has nothing to do with the intellectual level of the audience but rather is the result of the limitations of the single-sense appeal. The play must be directly communicable and easily assimilated. It must have a plot, a style, to attract the attention of the listener. The listener is interested in action and conflict.

On examination of the plot types that are popular for radio plays, however, one finds that the tendency is toward the thriller play, such as detective stories, spy dramas, ghost stories, and tales of the Wild West. Even the historical plays that are popular are filled with excitement and thrills. Many programs are devoted to adaptation of stage plays and novels such as those of Dumas. If it were not for the limitation of copyrights, the short stories of O. Henry and Bret Harte would make excellent radio plays. Sex plots are dangerous, and the major networks have refused to present political sketches to be used as a part of a political campaign.

The majority of radio plays are sponsored by advertisers, and the commercial sponsor is inclined to select plays that will cater to the taste of the buying public.

Because of its brevity, the radio play should not contain too many scenes that cause confusing transitions, or have too many acts. There are, however, no positive rules for the writing of a successful radio play. The popular "Cavalcade of America" has had as many as 15 scenes in its 22 minutes of dramatic time. Each scene should be concisely set so that the audience will have a clear understanding of the action that is to transpire. Each scene should carry the plot forward and be essential to its development; otherwise the time requirement would demand its elimination. No scene should run longer than 3 minutes without the entrance of a new character or a new element in the plot. With a series of scene shifts it is essential that you do not allow the characters to increase in number and complicate the play even more. The problem may be brought out in the first scene. Each of the developing scenes should create or remove obstacles, and the final scene should solve the problem. There should be no change of scene that is not clearly accounted for in the action of the play or in the lines.

There are six methods for changing scenes in a dramatic program—silence, fade, narration, and sound effects, musical interlude, and a single musical tone that is amplified and perhaps distorted through echo chambers and filter microphones and then allowed to die away as the next scene begins. Each method has its drawbacks. The average scene transition requires from 10 to 15 seconds, and listeners lose interest if that much dead air intervenes frequently between scenes. The voice fade sounds forced; it takes away from the naturalness, from the reality of the play. Sound effects are apt to become monotonous; in any case, they must be always easily recognizable. Narration breaks the spell of the drama. Music is often complicated and may spoil a simple play, and *suitable music is difficult to obtain*.

Naturally there must be obstacles in the radio play, but subplots are

dangerous for they create too complicated a plot for the radio audience to follow. The radio audience requires logical development with an explanation of just how things happen. It must not be left in the dark. Minor details, if of value, must be made clear.

Probably the radio drama has a greater opportunity to create suspense in its unseeing audience than the legitimate stage play. A shot followed by a scream gains suspense because the audience is not aware of what has happened until it is told. The element of suspense is as vital to the play as is characterization or climax. Of course, everything must lead up to this climax, which must not come until the very end of the program. In radio there is no opportunity for anticlimax in the play itself.

A tragic or unhappy ending may be satisfactory if a moral can be deduced. However, the tragic ending is not popular with either sponsors or listeners. The ending of the play must satisfactorily bring the play to a close, all problems solved, all characters accounted for. The adult audience is not critical unless something that is expected is omitted. Make the ending definite. The curtain line at the end of the play is just as important in radio as it is in the theater.

The Announcer or Narrator

The narrator's introduction is decidedly important, for he must set the stage for the listener. He creates in the mind of the listener a setting in which the play is to be performed. He must not be too positive in his details, but should allow the listener an opportunity to visualize the scene as it appears to him. The narrator will tell something of the costumes if they are essential to the plot development (particularly if it is a period play). He creates the entire atmosphere by his introduction and by the music that accompanies his description. He should be chary in his delineation of character traits that will be brought out by the speech of the characters themselves.

The narrator might act as a verbal scene shifter as the play progresses, but must not dominate the play. Whenever possible, the lines spoken by characters should take the place of the interrupting narrator.

The Beginning

The beginning of the play, whether it is in the words of the narrator or of a character or in some other form of introduction, is of vital importance. During the first moments the listener decides whether he wishes to remain tuned to the station, and he should be put in the right mood to cooperate in the reception of the plot that is to follow and be given a promise of action, for action demands attention. There are

different means of attracting and holding the listener and of creating the desired atmosphere. The radio play, like that of the stage, may depend upon its overture to put the listener into the right frame of mind, to get tuned in or settled in his seat, or to attract an attention that is wandering over the dial. The author should consider his opening of vital importance and should write the beginning announcement or dialogue to attract and hold attention. The style, diction, and content should really introduce the play and create the necessary attitude or mood reaction in the listener. Some plays may be effectively introduced by expressive sounds in conjunction with speech, and, if the sounds are such as to bring pictures to the listener's mind, suspense may be created through them. The use of local color in the opening dialogue—the language of the circus, of the campus, or of the sea creates an atmosphere that attracts the listener's attention. In this case speech may be enforced by sound effects. When the play is written, go back and work over the opening until you are certain that it will attract an audience and will create without fail the mood required for the appreciation of the play that is to follow. One last word of caution—the introduction must move swiftly so as not to take time that is necessary for plot development. While the immediate establishment of an atmosphere is advisable, it must not be offensive to the listener.

The beginning of the play has a definite job to fulfill. It sets forth the purpose of the play. It creates a picture. Characters, setting, and situation should be established immediately.

The successful play begins with extraordinary swiftness and with economy of words. Immediate attention can be obtained by a rapid development of the situation, promise of action, powerful atmosphere, striking characterization, an intriguing unusual setting, or an extremely familiar setting. In general, listeners prefer introduction through dialogue.

Characters

The author should write a play requiring a limited cast, for more than six voices of major characters are confusing to the listener since he cannot identify the characters by sight. Seldom should more than four individuals enter into a conversation, and they should have voice contrast or a vocabulary contrast to make them individualistic. If a character is given a personal speech style, it must be maintained throughout the entire script. While exaggeration is permitted in certain character types, the characterization must not be burlesqued. If the character is given a "sound" personality, the listener will create his own picture of the type, for he can visualize the character by what he says and how he

says it, whether he is a minister or a West Side "tough." Characters in all radio dramas should be made real to the listener. People like to listen to and follow the adventures of their own kind, or of those whom they can recognize on the radio. Not only does a character's manner of speech portray him to the unseeing listener; the writer of the script must also make each actor act in the way that the character is supposed to act in real life. Whenever possible it is advisable to give to a character some characteristic expression of words that identifies him. Have one character repeat certain phrases, but be careful not to overwork these phrases. One of the most common criticisms of the amateur radio script is that the characters' lines are interchangeable. The listener should be able to tune in on the middle of a broadcast and tell from the words of a character whether it is Amos, Andy, or the Kingfish who is speaking.

Of course, it is impossible, as in real life, to keep the principal characters talking with one another all the time; consequently minor characters may be introduced when they are necessary to forward development. Characters should not talk to themselves. Someone must intervene to make the action lifelike. However, do not allow the minor character to become important; it is best not to name him; merely identify his position. Various methods may be used to cut down the number of characters; among these is the use of the telephone, letter, or telegram. The last two should be short and important if read. Messages which help in explaining but which are not exciting in themselves may be summarized by the reader. Telephone conversations frequently save scene shifting, create atmosphere, and make situations clear. They are generally shorter than face-to-face conversation and thus speed up the play. Sometimes it is essential that the radio listener hear the speech at both ends of the telephone line, but since this is unnatural it should be avoided if possible.

Dialogue

Since the radio audience cannot see the actors, making the characters speak in character is vital. Emotions must be brought out to the listener, not by the shrugging of shoulders or by the lifting of eyebrows, but by words, sentence structure, and delivery. All emotions have to be conveyed through the air by speech; people under terrific emotional stress are likely to say little, to use short sentences or fragments.

The theater audience can see the actor enter the scene, but when a radio character comes into the play he must be introduced by dialogue, "Well, here comes Harry now; let's ask him." This identification must be carried on throughout the play as characters enter and leave the

scene. It is a wise policy for characters to be addressed by name in the dialogue. However, this must not be overdone. Not only does the dialogue introduce the character but it may describe some essential manner or condition of the person. Try to build this picture in the mind of the listener with a comparison, a single-word description. For instance, "Who's the Rip Van Winkle coming?" Such brevity allows the listener to visualize an old, bearded man with tattered clothes, unkempt and bewildered.

In this way the dialogue appeals to the visual sense of the listeners and obviates the necessity of a description of the characters by the narrator. In some instances the dialogue may be used to set the stage as in "Goodness, Ruth, don't you delight in this modernistic kitchen," which is better than "in this modern kitchen with its chromium and porcelain." It also sounds more like conversation.

The author, like the director and like the audience, must forget his stage and listen to his words as if he were blind. The characters are never seen but the words they utter are vital. They should speak with a clearness and directness that leave no uncertainty in the mind of the listener either as to their purpose in the play or as to which character is speaking. Speeches must be much shorter in the radio play than they are upon the stage because of the time limitation. There is no place for the soliloquy. However, jerkiness must also be avoided. Every speech must carry forward the action. It is not an easy task to write conversation, but it must be very real, very human, in the radio play. Practice writing the dialogue of all types of people at every opportunity. The speeches must be in harmony with the characters who speak them. They should be written so that they can be understood in the dark. When questions, exclamations, or whisperings are used, they must be natural and realistic in their phraseology. On the stage the facial expression will help in the understanding of certain lines, but radio dialogue must be more explicit. The microphone emphasizes affectations; consequently diction must be so natural that it sounds extemporaneous and casual, and yet it must not be slipshod.

The speech of the characters should portray the scene and the action as well as the thought. All action must be talked about. It is better to say, "Why did you come in the window when you could see that the door was open?" than to inquire, "Why did you come in that way?" because the audience cannot see the entrance. Stage business and sounds are explained by dialogue. It is wise for the writer to allow the producer to tell him how to instruct his actors in the matter of entrances and exits in order that he may get the proper impressions of distance and motion to appeal to his audience. As the same sound effects frequently may be

used to illustrate different sounds, the dialogue must bring out what the sound means; otherwise the roar of Niagara might sound to the listener like the escaping steam of a locomotive.

The sentence structure used in the radio dialogue should conform to the rules that have been laid down for all radio speech. Sentences should be short, simple, clear. The radio script must be actor-proof—written in such a way that it cannot be misinterpreted. Do not allow the entire plot to hinge upon a single line, because the listener's attention may be diverted during its delivery, with the result that he will lose the entire plot of the story. Of course, profanity, immodesty, the belittling of any race, and the use of poor grammar, except in cases where it is necessary to bring out character, are bad. Humor must not offend anybody who may be a patron of the sponsor of the program. The use of such descriptive nouns as "wop," "Chink," or "nigger" is absolutely forbidden. Even the sports announcer describing a prize fighter refrains from using the word "blood." Here is a final caution under the heading of dialogue: do not allow the script to become too "talky." Radio characters should not be loquacious.

The speed of the radio play is constant. There can be no pauses of any length while actors ponder, none of the lighting of cigarettes so loved by the amateur, no quiet and thoughtful moving from one side of the stage to the other. The tempo of the radio play is fast. No episode can be padded with description. There must be a planned forward action. Any lag in a play is very quickly apprehended by a listener and must be tightened up in those loose spots. On the other hand, it may become staccato and hurried where leisure is desirable.

Effects

The dramatic writer for radio uses various devices to create moods and effects and to economize in time. While writing it is helpful to keep in mind the part music can have in creating the mood and increasing the pace. Some pattern of music may strike the writer as being just the effect he desires to create; if so, he should jot it down in the script so that the director may sense the feeling he intends to bring out. Sound effects and music used artistically and effectively make the difference between a first-class production and a commonplace drama. Music can provide an emotional cyclorama. Good effects may be obtained by the use of whispers, exclamations, and questions, but they should be used only if they would come naturally in an ordinary conversation. A trick frequently used for speed and economy is the montage. This is a series of flashes or bits of conversation which almost overlap each other or

are separated by brief passages of music or sound effects. The montage type of writing is extremely interesting and effective; if it is overdone the effectiveness will be lost.

As the radio drama is intended for the ear, the author should depend upon various sound effects and insert them in his script in order to create a more vivid picture for his listener. Through these sounds he may appeal to various emotions and may obtain even greater suspense reaction than can the author of the stage play. The persons who are most familiar with the use of sound effects are the sound-effects man and the control operator; consequently the author should confer with them as to what effects may be obtained and how these effects can be synchronized with dialogue. Such sounds may be used to create mood, to maintain tempo, to create color and atmosphere. However, they should never be introduced for their own sake. They have value only in carrying forward the plot. The author may write in such sounds as he feels will give meaning to the situation, but the final determination as to whether these sounds will be used will be made by the producer. Sound is judged by the ears of the producer, not by what the eyes see in the script.

Production

The radio play must be timed exactly so that the tempo can be maintained and the actors will not have to speed up or slow down at the end. Radio plays are heard most frequently upon 15- and 30-minute programs; approximately two-thirds of the program period is the most that can be devoted to the dialogue. The balance of the time is taken up by commercials, the announcement of the narrator, musical transitions, etc. Probably the script will be cut during the rehearsal to its correct time limit. Much will depend upon the rate of speech of the actors. A too-long script is preferred. It is easier to cut than to pad a script.

Good Taste

Always in writing for radio it is necessary to keep in mind the standard taboos.

1. The Deity's name must never be used irreverently. It is not so much what you say on the air as how you say it. There was the Mae West Christmas burlesque of Adam and Eve that caused national investigation. The script was found to be innocuous, but the way Mae West spoke her lines was a startling sacrilege.

2. Offensive statements about or references to religious views, political groups, and racial characteristics should not be used. We presented a radio version of "Green Pastures," in which the Negro preacher exhorts his congregation as

"You niggahs." The program was condemned by Negro listeners, and the students who composed the Ethiopian Club protested to the university president.

3. Physical deformities should not be made humorous or emphasized. The "soap opera" serials have recently had an epidemic of blindness, an emotional appeal for characters who have to live in darkness. Parents and relatives have protested to the sponsors, pointing out that radio is the outstanding source of entertainment for the blind and the shut-in. Emotional scenes concerning blindness are debilitating; they have lost listeners for the sponsors and made enemies. No guest coming into the home would laugh at a blind or a crippled host.

4. Murder and suicide are discouraged. Neither the criminal nor crime may be glorified. The criminal must be caught, punished, and the play end with the moral "Crime does not pay."

5. Overemphasis on insobriety is not permitted. Of course drunks are not welcome in the average home.

6. The use of the word "Flash" is reserved for special news bulletins. This is the rule Orson Welles caused to be laid down after his "Invasion from Mars" scareflashes.

7. Sex dramas are forbidden, and one sponsor refuses scripts in which women smoke. In many instances a subject which would be banned upon a comedy program may be used in a domestic story. For instance, childbirth and the attitude of youth in relation to the facts of life are permissible subjects in a family show, whereas they would be in bad taste if presented by a comedian. Comedians recently have been taking slight liberties with risqué stories.

8. Unintentional interpretations and words and phrases with double meanings and those which through mispronunciation or careless listening may result in embarrassment should be avoided. In preparation for a nation-wide broadcast celebrating the centennial of the University of Michigan, a script was prepared about the first woman desiring to enroll as a coed. In the skit the President of the University advised her to try attending a class. She was hissed and booed by the men. The President asked her if she weren't going to cry. She replied, "I am going to study for my education, not cry for it." The continuity editor of the network wired instructions to omit the words "cry for it" because they were too intimately associated with the advertisement of a children's laxative. In the same skit the young woman said she had tried to get into the boarding-houses in the college town but they had all refused her admission. In rehearsals the word "boarding-houses" sounded too much like "bawdy houses."

The Manuscript

The radio script should be double spaced. It is best to place the name of the character delivering a speech in the center of the line above the speech he delivers. If the character's name is placed in front of the line, there is a possibility that it may be read by him. Copies of the script must be provided for each character, the producer, the sound-effects man, the musical director, and the control operator. In case the script

is one of a series to be presented, the number of the script in the series and the date upon which it is to be given should be included in the manuscript. If possible, it is also wise to list the rehearsal dates and hours.

The author should list the cast, giving some descriptive material about each characterization—types, ages, voices, and personality.

Phineas (Union guard, around 40, given to airs; fancies himself as an actor and shrewd fellow).

Old Jesse (groom, Yankee, garrulous, given to religious philosophizing).

James Winter (Confederate spy, young, bitter humor, courageous).

Colonel (Yankee, elderly, formal manner).

Chaplain (Yankee, prayer-book murmur).

It is also good practice at the beginning of the script to list all the sound effects that will be required. Do not use adjectives or adverbs to qualify the sound cue unless such adjectives give instruction as to volume or pace.

SOUND EFFECTS

Jingle of harness.

Slow steps on wooden platform.

Marching effects.

Squeak of pulley.

Whinny and pawing of horse.

Slow drum beat.

The titles of music to be used in the introduction, close, and scene transitions should also be given, or a space left in which the musical director can fill in this information. Such listing will be helpful to the casting director, the sound-effects man, and the musical director.

EDDIE: Well, you've got the idea, then. The first sound we hear is an automobile. The camera swings around and catches this car—a big, powerful-looking roadster—as it swings into the driveway. . . .

Music starts to fade in as a background—something mysterioso, preferably

EDDIE: . . . We see the headlights cut across the house. Then the car stops in front of a doorway; a young man climbs out and knocks on the door. He waits a few moments, and then . . .

Music fades up and out rapidly

Whenever necessary the writer should give in the body of the script the intonation to be used by the character in the presentation of his part, the inflection, voice changes, and attitude.

EDDIE: (*with an air of finality*) Well, that's that. It's terrible, then.

MARIAN: (*slight pause*) What's the matter? Don't you feel like talking?

EDDIE: (*mock indignation*) Why, Marian! How can you say such a thing? Me? Not talk?

Also in the body of the script it is necessary to show where sound effects are to be used and which sound effects are to be used.

JUDGE JAY: This court stands adjourned until high noon tomorrow.
(*Gavel—crowd noises*)

If, in the opinion of the author, it is necessary for characters to emphasize certain words, these words may be underlined. The use of dashes as punctuation helps the actor, giving him an opportunity to characterize his part and make full use of the pauses. When there is a scene transition, the musical selection to be used in that transition should be listed by name.

Adaptations

It is generally felt that adapting a stage play or bit of literature is the easiest way of obtaining radio material. This belief is based upon the fact that so much of the better radio-show material is adapted from plays, novels, short stories, or pictures. This belief is based upon the fact that many excellent motion pictures are adapted from novels and stage plays. Furthermore, the unimaginative writer feels that such a procedure eliminates the difficulties of creating plot and characterization. Adapting eliminates the difficulties of creation; however, the technical difficulties are by no means decreased, for making a good adaptation in reality requires more technical skill than writing an original skit.

The problems of adapting plays and pictures are probably the least difficult, since the original material is already in the form of drama. Two things are necessary: conformity to the usual time limitations of radio, and the removal of the dependence on the visual. These visual aids and stage business, if they are essential, must be translated into dialogue for the benefit of the radio audience. A good test of this requirement may be made by closing the eyes during a motion picture and trying to create in the imagination the scene on the screen, using as a basis only the sound. Conforming to time is another problem. One-act plays lend themselves more readily to adaptation because playing time already approximates radio time units. Condensation of the longer plays requires more than the cutting of speeches and scenes. In many cases it requires a rearrangement in order to strengthen narrative structure, it requires the combination of characters in order to eliminate confusion, and it requires the simplification of plot and the speeding up of the tempo.

The adapting of stories is a problem somewhat more difficult than that of adapting plays. Here more creative ability is needed because stories often contain very little dialogue and much description. The

adaptor deserves almost as much credit as the author because he has so much work to do in translating the story into radio requirements. He will probably need to simplify the plot and eliminate or unravel subplots. This is more likely to be true of the novel than of the short story. New dialogue may have to be invented to take care of essential description, or sound effects may need to be employed to give descriptive effect. Conformation in the matter of time is again more easily accomplished in the shorter story; in fact, the novel is often best presented as a serial. And, finally, as is the case with plays, stories will need to be consolidated and compressed. Almost all forms of writing lend themselves to adaptation but it must be remembered that only one sense is appealed to by radio; there is no aid from the visual, and neither is there any opportunity to check back and clear up any misunderstanding.

It should also be noted that the adaptation of comparatively recent material requires a copyright release from the original author or his agent. Seldom does a magazine or publisher grant such rights. In many cases the author has retained his radio rights and he must be contacted.

Submitting Manuscripts

While it is inadvisable to submit ideas to radio stations about plays and programs, some stations can be trusted not to steal the idea. These stations require the originator to submit the idea in the form somewhat like the following:

Date: _____

To Station _____:

I am submitting my idea, summarized or characterized below, about a radio program to you today with the understanding that you are wholly free to determine questions of priority and originality in connection with any identical or substantially similar ideas or suggestions, and that for payment, in the event of use, I will rely upon your own sense of fairness and honesty.

Brief summary or characterization of idea: _____

Note: Station _____ is not responsible for manuscripts or other materials submitted. It is understood that the author is retaining duplicate copies.

As many stations and advertising agencies will not even open an envelope which obviously contains a manuscript, fearing that any future similarity between the submitted manuscript and a produced play may result in a copyright suit, it is advisable to put the release in a separate stamped envelope attached to the manuscript package. The young author would do well to write to the agency or station before submitting his manuscript and ask for the release form required and then submit his script with this form filled out as required. He will stand a better chance of having his manuscript read. He will find that when he signs the required release he signs away all of his rights.

Dramatic Writing for Television

At the time of writing this section, there are few textbooks dealing with writing for television. This is a grave oversight on the part of authors and publishers, because television is going to require a greater number of dramatic scripts and original ideas for other types of programs than have been required for radio in the past. The same prerequisites for the television-script writer apply as did for the writer of dramatic shows for radio. He must be able to write. He must have a thorough understanding of the dramatic form and requirements. He must know how to tell a story and why he tells it in the way that he does, and it must be good.

The first advice that I would give to the neophyte TV writer would be to study the medium avidly. It would be advisable for him to get a job in a television station, one that would give him a thorough understanding of the mechanics of the camera, the studio setup, and control operation. Before he can write a good dramatic show he must know all about television, not only from the studio and technical standpoint but also he should be a TV fan and watch television programs on the screen, observing their virtues and their faults, their limitations and their opportunities. Get this foundation before you start to write.

In studying the medium, he will observe the limitations of the small screen. He will find that the number of people appearing before the camera at one time is limited because of the size of the screen, to say nothing of the expense involved in the number of actors. It is perfectly possible to have a large staff of actors for the entire production, but do not attempt to get more than four people before the camera at any one time because the camera will not encompass a large group. As the would-be writer studies the camera in the studio and the televised reproduction upon his home screen, he will note that the iconoscope, which is the eye of the camera, is limited in its focus. While it can focus upon one character and the action of that character, other persons

in the scene who are behind the character in focus will be blurred and out of focus. Consequently, they cannot be important factors in the action or, at least, their action cannot be of equal importance in the development of the plot. Two characters cannot play important parts at the same time unless they can both be kept in the same focus.

The TV performance must move rapidly. This is one requirement which this new medium has imposed upon dramatic scenes. There should be few pauses and limited close-ups to slow down action, because action is what we expect in TV. However, it is equally bad for the action to be too speedy; with the small screen, it is hard to watch a character dash through his part. The eye cannot follow too great a rapidity of movement.

Because of the great expense in the production and broadcasting of television shows, they are, of necessity, either a half hour or a full hour show. Every moment on the air is of the greatest importance. There cannot be the intermissions that are so helpful upon the stage. Action must be constant. In a TV studio, there may be three or four sets placed next to one another to which the camera can be shifted as the scene changes. The author must be careful that the shifting from scene to scene is logical in its sequence and is understandable. There are no opportunities for changing scenery as there are upon the stage, and it is equally important for the writer to note that there is likewise little opportunity between scenes for the characters to make changes in costumes. The TV writer cannot afford to lose his audience while characters go to their dressing rooms. This requires a clever writer and imposes some limitations upon the TV plot. If it is essential for an actor to change costume, the author must insert speech and action for other actors to cover his absence and this must not be done obviously. There are, of course, instances where a brief motion-picture setting of the scene may be inserted, but this makes the work of the producer more difficult.

The writer must keep his characters in a small group and they must understand the limited setup, the frame of the stage, so that they do not throw an arm out of the scene. Action and words will carry the picture. When a facial expression upon the part of one of the characters is important in the development of the plot, the camera can be brought up for a close-up, but in group pictures necessitating pickup at a greater distance, facial expressions, of necessity, will not be seen and therefore will be of slight help in plot development.

The television documentary has followed fast upon the heels of this radio dramatic form. Television equipment is transported to the docks, the streets, or the markets. Too frequently the author relies upon these

real settings and sound backgrounds; while they are a relief from the synthetic effects ordinarily concocted in the studio, they do not justify neglecting the plot and the dialogue. Television can successfully break out of the shackles that go with working in cramped studios, but scenery alone does not make a show.

All of the taboos that exist for the radio medium, which goes into the homes and is viewed and heard by an audience of all ages and both sexes, apply to television. Vulgarity, horror, profanity, impropriety, must be handled with the greatest of care. Television, in a way, is more restrictive than radio for the scenes are more vivid.

The writer, in preparing his script, may follow the same form that was formerly reserved for motion pictures—two or three columns to a page. In the left-hand column, headed "Video," are the scenes, the instructions to the cameraman, cues, sound-effect instructions, ideas for the setting, the use of slides and of motion pictures. In the second column, which is labeled "Audio," is the speech of the actors and the instructions to the actors. However helpful the left-hand column is to the producer, the probabilities are that he will revise the author's script and write his own left-hand column; or there is sometimes a third column, entitled "Camera," into which the producer puts instructions to the cameramen as the rehearsal proceeds. From the writer's standpoint, the play is the thing; that is to say, the words and plot brought out by the actors. The left-hand column with all of the sounds and scene instructions is helpful to the writer, however, as it aids him to visualize the action in his play.

The TV play is a combination of techniques used in both the silent and sound motion pictures and the stage. Scene titles are used as they were in the silent pictures. The TV play makes use of slides as well as of action pictures. The TV writer not only writes original television shows which utilize all the pictorial effects of the medium to develop scene sequence but he may be called upon to adapt one-act plays and longer stage productions—a comparatively easy task, to adapt radio plays, which is more difficult, or to adapt short stories. There is today an open field for the writer who has the ability, the imagination, the story to tell, and a thorough knowledge of the medium. He will have one satisfaction that the radio-play writer does not often enjoy—that is, there are more frequent repeats of performances in television.

SELECTED READINGS

BARNOUW, ERIK: *Handbook of Radio Writing*, Little, Brown & Company, Boston, 1947.

Concise, authoritative information for both professional and student radio writers. A revision of first edition. New book includes material on sound effects, narration, and music as well as a section on mechanics of marketing manuscripts.

COWGILL, ROME: *Fundamentals of Writing for Radio*, Rinehart & Company, Inc., New York, 1949.

DUPUY, JUDY: *Television Show Business*, General Electric, Schenectady, N.Y., 1945.

The advice given to producers is equally of value to the writer.

FELTON, FELIX: *The Radio Play: Its Techniques and Possibilities*, Transatlantic Arts, Forest Hills, N.Y., 1949.

The author, an actor, writer, and producer for the British Broadcasting Corporation, explains the production of radio plays.

WEAVER, LUTHER: *The Technique of Radio Writing*, Prentice-Hall, Inc., New York, 1948.

Textbook based on author's combined experiences in college teaching and in a large advertising agency. Scripts and excerpts of scripts are used as examples. Various types of programs are discussed in all phases, including music and sound effects and their place in a script.

WYLIE, MAX: *Radio and Television Writing*, Rinehart & Company, Inc., New York, 1950.

The whole range of radio writing, including such important and popular forms as daytime serials and mysteries, is covered. Many of the chapters have been contributed by radio writing and television talent.

WRITING THE RADIO SERIAL

It is the object of any advertising scheme to arouse in the public an awareness of a product which the sponsor wishes to sell. The radio serial, more than any other advertising means, makes this possible, because the story's running over a period of months or years has the cumulative effect of renewing or refreshing the appeal of the sponsored commodity. A successful serial will increase its circle of listeners, thus widening the potential consumer market. Because the increase of the market is in direct proportion to the increase of the popularity of the radio program, sponsors and agents are on the lookout for scripts which indicate that they will appeal to the radio audience.

Radio serials are designed for three separate audiences. The morning and early afternoon programs are written for women who are busy about their solitary household tasks or who are lonesome shut-ins. The sponsors are manufacturers of products which housewives buy in large quantities—food, clothing, and domestic supplies, particularly soap, which has given the name “soap opera” to this type of entertainment. Each program is built around some one lovable character (usually an older woman with whom the listener can identify herself), who is in a position close to Trouble. The troubles may be her own or those afflicting her loved ones and neighbors, but she must be kept in continuous difficulties.

The serial form of radio drama is written not only for the housewife but also for children and for a general audience. In the serials for children the tales center about some hero or heroine with whom the young listener can identify himself, or else they are written around a superior, adventurous adult who fills the roll of an idol to be worshiped and emulated. The best known drama written with an eye on the whole family, “Amos 'n' Andy,” must have an enormous audience of tired businessmen, because so many of their adventures poke affectionate fun at their ineptitude in financial matters. “One Man's Family” has a range of character which takes in the whole household. And as the hands of the

clock swing around, these homey adventures are replaced with the more harrowing scripts aimed entirely at adult audiences—the “episodic serials” built around several familiar characters who have a different, complete adventure in each installment.

Listen to the programs on the air and select the type of program you think you are best fitted to write. If you are a woman, the chances are that you are more familiar with the experiences and daydreams which appeal chiefly to the feminine audience. As a rule men write more convincingly the scripts of exciting adventure. When you have decided on the audience you wish to entertain, choose your chief character and put him or her in a setting which is familiar to you, one which allows for the introduction of a variety of minor characters and an infinite succession of troubles.

Let us assume that you have already learned that a radio drama is a story told in dialogue with appropriate music and sound effects to aid the listener in imagining the action. It should have a beginning designed to catch immediate attention, a build-up of suspense leading to a climax, a denouement, and a close. The principle ingredients are characters, setting, and plot, carefully sifted and creamed together, with a liberal proportion of emotion worked in to keep it from being flat and a nice flavoring of humor if you are good at that sort of thing.

In a single drama written for radio, the emphasis is on plot. There is not time in half an hour to work out more than a sketchy characterization of the actors, and the play must be kept moving every minute with action or laughter if it is to hold the attention of the listener. In a serial, however, the important thing is characterization. No radio-wise sponsor expects to get a heavy response from the first 13 weeks of a new serial, and calculations have been made that it takes two years to work up to maximum pulling power. One of the most successful radio programs is an episodic serial in which the plots are so slight that they can hardly be outlined; the setting is invariably the cottage across the street but the characters are sufficiently appealing to be held in affection by most of the radio families in the country.

Take time in choosing leading characters and become thoroughly familiar with them before writing a word of dialogue. Some writers find it useful to make a dossier of each one—name, age, physical description, likes, dislikes, traits of character, favorite expressions, and attitude toward other actors in the story. Once you begin working with your personnel you can add to this outline as the characterizations grow.

Naturally a personality from the middle classes has the heaviest appeal because the bulk of the radio audience is most readily identified with such people. Experience has proved that the hero had better be

elderly or at least middle-aged. If you prefer a younger leading actor, then plan to make him strive against odds, fail, pick himself up with courage and determination until he has achieved success in a venture which only draws him on to another striving against odds and failures.

The listener cannot keep track of many invisible actors; consequently the number in any given scene is limited to five or six important people—two or three is even better. In the course of time, however, radio serials can introduce a great variety of people who have some connection with the central characters, and these can be picked up or dropped at will.

The balance of character in the standard legitimate drama is perfectly good for radio—a juvenile lead and an ingénue, a “heavy,” and a couple of character parts. This provides a scattering of appeal to different ages in the audience and also takes care of voice contrast, which is very important over the air. A fan who follows any given program expects to know who is talking almost the instant the sound begins to register, and a newcomer can tell a motherly, middle-aged voice from a young girl’s, even without the name tags which must be thickly sprinkled through all radio dialogue.

The setting is best when it is familiar to the author; however, a different, unique, or unshopworn one would attract attention. Cottages and palaces, hospitals and orphanages, boardinghouses and theaters, newspaper offices and airplane cockpits—these are ordinary. It costs no money to build a new set for a radio drama. However, if you cannot produce a novelty along that line, pick the one you know best. Familiar material can be handled more efficiently and plenty of material will be required.

If you can write clever, realistic dialogue, preferably of a whimsical nature, or if you have a neat hand with good clean humor, start on an episodic serial in which each installment is complete by itself. These have the advantage of entertaining the occasional listener as well as the regular dialer-in, but they are tricky to handle. The episodic serial is not very different from the single radio drama, except that it concerns itself with one or more main characters who appear in a series of shows, and a large part of its appeal lies in the creation of people so distinctively human that the fans want to hear more about them. If the fan misses one show, the next episode will be a complete story in itself.

It is easier, however, to write a serial which carries its suspense over from day to day. For the first installment it is better not to get deeply involved in plot, because it is going to take a while to pick up an audience and you will only have to repeat later. Arouse curiosity about your characters and the situation in which they find themselves, so that at the

sign-off listeners will be eager to know more about them and what is going to happen to them. It is best to start each program, after the series is well started, on a relatively high note, relax the tension somewhat, and then climb up to a high point before the program goes off the air for the day. It is not at all necessary that episodes follow a day-by-day relationship. Thus two or three scripts appearing on three successive days may deal with action that takes place in the space of a few hours. Do not allow the story to become so complex that a great deal of exposition is essential.

The second and subsequent installments will start with what is known as a "leadin"—a brief reference to the previous broadcasts. Authorities agree that no attempt should be made to summarize the story to date, since this would grow increasingly difficult in the allotted time. Most scripts have a few sentences to reveal what is going on during the current sequence or to tell where the protagonists were left yesterday. If you have any doubt as to how this is done, turn on your radio and listen.

One of radio's most serious limitations is the time element. Most of the daily serials are 15-minute spots, with nearly a third of the time allotment taken by station breaks and commercial announcements. Nearly all serials are sponsored programs and those that are sustaining are only being nursed along until they have sufficient pull to interest a sponsor. The average 15-minute serial should have from two to twelve lines of leadin, be about 2000 words long, and end with a "closing tag" which poses the what-will-happen-next formula in from one to six lines. It is wise to write 1 minute more of continuity than the time allotment permits. It is always easier to cut than to fill. The 15-minute broadcast period contains an average of $2\frac{3}{4}$ minutes of commercial copy. Approximately $3\frac{1}{2}$ minutes of each program are devoted to theme, tie-up with the preceding episode, and a "come-on" for tomorrow. The average dramatic time is $8\frac{1}{2}$ minutes to a 15-minute program.

Most authorities suggest that in submitting a proposed serial to an advertising agency or script department, two or three installments should be written, with a synopsis of additional material sufficient to make up a 13-week series. It might be wise to write the whole first sequence before you venture to submit anything, even though the extra installments are laid away until they are needed. It takes more time, ingenuity, and energy to write five scripts a week than you realize until you have tried it. Furthermore, do not submit a synopsis, for not even a common-law copyright protects an idea.

The experienced serial writer is usually working with two threads of suspense in his story—a major suspense, which will build up to the near-

est climax, and a minor suspense, which will become the major as soon as the current pressing problem is solved. This is valuable because radio serials differ from every other form of writing in one important respect. If they are good they may go on for years and years without an ending. Since this is true, a radio serial is built on sequences, rather than on individual, distinct plots, and it is always a good idea to let the sequences overlap.

It may be true that there is no substitute for good writing, but in the concoction of radio serials good writing does not mean fine writing. Reluctant though you may be to face it, a beautiful, poetic flow of language is not appreciated by the average soap-opera fan. Commercial radio does not seem to concern itself with minorities; mass appeal is its creed. The masses are drawn to the program by the commonplace in style, diction, story, and characterization.

Radio serials are the etheric counterpart of the pulp literature which burdens the newsstands, and the devotees want to know in advance that everything is going to come out all right for their favorite characters. They like to identify promptly the hero, the heroine, and the villain; they want the proper people to triumph and the wrong ones to get their comeuppance. Further, it gives them pleasure to be so familiar with the language of these people that they can almost say the words themselves.

Interest is aroused in the serial through the suspense that develops in how the problem is solved, and the interest is held by a flow of perpetual emotion. Remember, too, that the radio audience is more interested in people than in ideas. If you have any pet propaganda about social uplift or intellectual development, couch these ideas in homely language and let some sweet character already admired by your listeners receive the credit for having said something.

The theme, then, should have a tremendous appeal to the emotions of the multitude, but should be written in a way to hold the solitary listener. While millions of people may be tuned in, they are listening in small units of not more than five individuals, usually less. You may be as cozy as you please with them.

There is no use trying to be subtle, because the average fan will not get it. You should be careful that the whole point of your installment does not hang on one sentence, because perhaps the telephone rang at the moment that sentence was uttered and when the listener returned from answering the phone she was baffled about the story, which she doesn't like being. Be as sentimental as you can without gagging, and you may ladle out tragedy with a trowel, provided it is clean dirt and will all come out in the wash.

Juvenile Serials

In serials for children there has been a campaign directed toward more wholesome broadcasts. Cheap melodrama playing upon fear is frowned upon, but continuous action is necessary to hold the attention of children and it must be used in larger proportions than are encountered in real life. The story of the experiences of a pioneering family has received the approbation of parents and educators because it teaches many facts of history, nature study, and character development, while maintaining a thread of steady adventure. Care must be used not to talk down to the child, and the use of bad grammar to characterize juveniles is rarely successful. If you know what children like, there is a great demand today for good scripts aimed at the juvenile audience. The broadcasting companies are eager to keep the parents pacified, provided the script actually interests the young people enough to give the sponsor the reaction he demands.

Children are able to transport themselves without any embarrassment to any setting to which the radio may direct them. Imagination knows no limits. This very fact has given rise to problems in writing the children's radio story. It has become necessary to exercise the greatest amount of control and caution. In the early days of radio for children, writers literally ran away with themselves and failed to realize the power of the medium with which they were working. Children's programs took on the color of the macabre, and nightmares instead of peaceful sleep resulted for many too impressionable but normal children. Finally protests began to flood the studios. Mothers all over the country demanded less violent and disturbing stories. The networks established a list of policies that were to govern any future writing. "The exalting, as modern heroes, of gangsters, criminals, and racketeers will not be allowed . . . cruelty, greed and selfishness must not be presented as worthy motivations."

Actually, the establishment of the list of policies had little effect on the writing, because script writers had seldom been guilty of the violations that the policies warned against. Gradually writers did become aware of at least one thing; scenes of cruelty which might be acceptable in print became too vivid over the radio. Efforts were made to subdue scenes that might offend or disturb. The youngster's love of adventure had to be catered to, but it was not necessary to inject horror to meet the demands of action.

As far as the structure of the children's serial is concerned, there is little difference between it and the regular daytime serial for women. Daily, end-of-the-week, and sequence climaxes are all part and parcel of

children's radio writing, but there is this exception. Long sequences are best avoided. Especially is this true where young children constitute the major portion of the audience. As the audience age increases, the sequence length may grow.

Dilemmas in children's serials are without exception less mental than those designed for women. A children's serial must provide the young listener with hazard-studded adventures. A writer very easily can work problems into his story that in being solved teach a lesson in any one of several educational fields. Natural history, geography, first aid, and many others may at some time in the story become the pivot around which an entire sequence revolves. It has been found that information is best retained when learned against an emotional background. In this way radio serials can be educational as well as entertaining.

The protagonist in a child's serial is usually one of two types. He is either a youngster of the same age as the oldest of the child listeners, or else he is an older man with the reputation for infallibility. Because the age of the listeners seems to be related to the age of the child hero, it is wise not to make the hero too young. Fourteen would seem to be a reasonably safe age. The sponsors of a children's program discovered that they were losing the patronage of thousands of potential listeners and purchasers because the hero was too childish.

Care should also be taken to avoid excessive realism. For example, in a western serial the ranch went broke and the place was converted into a dude ranch in order to recoup some of the losses. Letters started coming in asking how much it would cost to go to the ranch. This was proof of the effectiveness of the story. It was real to thousands of children and apparently to many parents. But when the answers to these inquiries were sent out and it was learned that the ranch was a fake, many loyal fans were alienated.

The writer of the radio serial for children should cater to boys' interests, for girls will listen to stories for boys but boys refuse to listen to stories about girls. If there are any girl characters they should be tomboys, and adults should retain their youthful interests and attitudes as much as possible. The real solving of any problems or difficulties should always be done by a youthful character. The characters should never be given a definite age as children prefer to believe that their heroes are but slightly older than they are themselves. The characters' action should be consistent throughout the series. Plenty of action and a good plot are demanded by children, as they revel in experiences and adventures of all kinds, but the young mind insists that truth be accurate and that fiction be consistent.

One of the faults of radio serials for children is oversimplification. Surveys show that children listen to and prefer serials prepared for

adults to those expressly written for the child listener. The elements of the adult serial should be modified only slightly for youth. Children have to look to the adult program for humor, for amusing family experiences, for the realism of childhood problems, for character interest rather than a continued series of thrills. Allow the child listener to visualize himself in place of the radio character. The secret of writing for the radio child is to put the child listener into the play rather than in the audience.

Boys from eight to fourteen years prefer plots that are exciting, filled with adventure, action, and travel. Comedy also has its appeal but wild-west and cowboy tales fit into their games. Girls like excitement but they will listen to sentimental plays; the slightest mention of love scares off the boys. Mystery, crime, and detective stories maintain their appeal but gangster and horror dramas no longer hold high favor with children or their parents. Actual historical characters were introduced and geography, natural history, and zoology were skillfully worked into an exciting series of events. "The Lone Ranger" has a mysterious masked rider whose life is one of adventures in which virtue triumphs. Older children have expressed interest in travelogues; a serial could be written about a boy who accompanies Commander Byrd or Roy Chapman Andrews. However, it is not vital that adventures be about pearl diving, jungle exploration, or sea voyage, for there is plenty of adventure upon our rivers, lakes, railroads, and mountains. The N.A.B. code states that writers need not remove the "vigor and vitality common to a child's imagination but rather base programs on sound social concepts, presented with a superior degree of craftsmanship." Possibly there is the real problem in improving programs for children—stop considering from the viewpoint of childless psychologists and enjoy yourself as you live and play with the kids.

When you have finished your first draft of the script, it is a good rule, as in all writing, to lay it away for a time to "jell." You will see it in a clearer perspective after a brief absence from it. In the meantime, read more scripts or listen to another round of serial broadcasts and you will probably get fresh ideas which will improve your own copy.

Do not try to write a sample commercial to go with your script. The advertising agency can do that better than you can. Besides, you do not know who the sponsor may be. Of course some serials are written with a tie-up to the sponsor's product, but they are written on order, under contract. Next to writing gag continuity for radio's big comedians, the pay in radio writing goes to those who turn out serial scripts; serial dramas are remunerative because they go on the air from three to five times weekly and because they go on forever.

From the writer's viewpoint, this perpetuity demands the constitution of an ox and the fertility of a guinea pig. The chief qualification is en-

durance, rather than artistry. It is true that Archibald MacLeish and Maxwell Anderson have written some fine dramas for radio, but they do not write them every day, nor even every week. A creative worker, be he painter, composer, or writer, has a limited amount of original material stored up within himself which he pours out into his creations, and when he has emptied himself he must rest until his reservoirs fill up again. If he doesn't rest he has a nervous breakdown, which ends his output temporarily, or else he drifts into producing machine-made drivel.

Furthermore, as has been already pointed out, the radio audience prefers factory-made fiction, and that is something else you have to take into consideration if you have cast your eye on the commercial profits to be made in this sort of writing, rather than on the artistic side of it. Excepting a few top-flight writers, most of the acclaimed scripts don't earn much money for the man who grinds them out.

Very few listeners give undivided attention to these serial programs, so pace your script slowly enough and make it simple enough to be readily understood by such divided minds. However, you must also take into consideration that someone somewhere is probably paying attention at any given moment, and, if his pet prejudices are offended, he is more apt to voice his condemnation than he ever would be to write his appreciation. For this reason there are many strict taboos in radio. Profanity is carefully censored, even when it might realistically belong in a story. Guard against political, racial, moral, or religious controversies, since the vast audience is touchy about these things and unfavorable reactions are promptly registered with the sponsor.

In spite of the many restrictions which have been stressed, there are compensations in the writing of serial scripts. A writer who has only average ability and who is equipped chiefly with determination and good health can make a very decent living by writing for radio. While his name will rarely be published abroad, there are other rewards. It is sweet to know that 10 million people may become interested in the welfare of the characters he created, and if they do become so interested, his material rewards are not inconsiderable.

The broadcasting companies and the sponsors invest an enormous amount in these programs, and they will be happy to grab what you write if you can do a better show with an appeal to the masses. Styles change constantly, giving opportunities to newcomers.

SELECTED READINGS

WARNER, W. LLOYD, and WILLIAM E. HENRY: *The Radio Daytime Serial*, Journal Press, Provincetown, Mass., 1947.

Study of a typical daytime serial.

DIRECTING THE RADIO PLAY AND THE ACTOR

First among the essential qualities of the radio dramatic director is knowledge of the legitimate theater, a knowledge based upon experience. Experience on the stage gives the director an ability to sense character and a power to carry that perception to the audience. His own experiences teach him to visualize the scene and, since he often must teach the actors to visualize, an ability to do so himself is imperative. A dramatic script, as it comes to the director, is nothing more than a cold black-and-white story, a drama set down in symbols, symbols which mean nothing until translated in terms of sound. The director infuses into the script a certain liveliness and lifelike quality through the means of voice. He is the final judge in matters of conflict, characterization, motivation, and technique. He is both the critic and the listener. Although radio is essentially different from the stage, the theater director brings with him a quality which permits him to eradicate all impressions except those that can be produced and suggested by the voice of the actor to the imagination of the listening audience, aided and abetted, of course, by proper sound effects and music. The director of the stage soon learns to "feel" the play, to live and think in terms of the play, and he brings to the microphone this ability to cut a script and still retain the dramatic effect.

One of the greatest directors of stage drama in the country today has stated that it is always his purpose in the final production to create for his audience the same emotional feeling he had when reading the script. All good directors should strive to do this. Every play has a mood and an emotional experience to present. A clever and wise director will strive to give his entire production the benefit of these qualities. Actors should feel this idea of the play-as-a-whole. It is the duty of the director to inspire them. An uninspiring director is forced to rely upon mechanical devices for every effect. The radio actor cannot count on the glamour of the stage to fill him with emotion just before he walks upon the scene.

Consequently, an inspiring director in radio is perhaps more important than one for the stage.

A quality second only to theatrical experience is the ability to teach. If a man knows all the tricks of voice, all the attributes and artistry of characterization, all the subtleties of emotion, but cannot succeed in training his actors to produce these effects, he can never succeed in artistically producing a show. The dramatic director in radio must be able to teach his casts radio technique. He will often have to teach the stage actor to be an acceptable radio character. The excessive preciseness of stage diction, the voice throwing of the theater, the magnified or elaborate naturalness of the actor are not suited to the comfortable listener in his home. His work is principally with voices, and voice work requires voice training and a knowledge of voice science. He must realize that the spoken word is an inflammatory thing, that the human voice is the most potent conveyor of emotion, an instrument that appeals to the imagination of man. He must coach his cast and train himself to listen for flexibility of voice, variety of inflection, lack of affectation, and good, clearly understandable diction. He must be ever cognizant of the fact that diction includes more than mere pronunciation and articulation. He must remember that it also involves phrasing, stress, the placing of groups of words into spoken italics, and, above all, a command of pitch.

The mere fact that the director has produced plays and knows dramatic technique does not mean that he can effectively direct a radio program. The fact that he has been a teacher of speech does not mean that he will be able to produce his radio show in an interesting fashion. He must have something else. He must be one who has come to the realization that there is a very definite technique peculiar to radio directing, and he must have availed himself of every opportunity to study that technique in the various ways that are at his disposal. Actual experience on radio programs would probably be the best training. There he would have the chance to learn all the phases and to saturate himself with the atmosphere of the broadcasting business. The most effective radio directors are probably those who have gained their experience in this way.

The director must have the confidence of his entire staff, and the ability to lead them. Cooperation between the director and his many assistants is of utmost importance. The actors can give better performances if they feel respect for the director's ability. His treatment of them determines to a great extent the value of the actors' performance. Those directors who are most outstanding are accessible, open to suggestion, and tolerant. They know that they know their job; yet they are seeking constantly to increase the effectiveness of their work, for they know that there is much to be learned in the radio profession.

A knowledge of music is another valuable asset for the director. Music is an integral part of the radio dramatic performance. It has various and sundry uses. It may be employed as a framework or theme to mark the general outline of the show; it may supply an identification factor for the play or for a particular character; it may serve as a device to carry action from one sequence to another, or as a bridge from locale to locale, time to time, or mood to mood; it may be used to back a scene, that is, to play at a background level behind that scene and thereby enhance it by creating and intensifying a particular mood; it may subtly appear, or be realistically used, as a part of the dramatic scene or story; it may become an arbitrary studio device to lengthen or shorten the broadcast in the event that the running time of the drama does not fill the period or that overcutting of the script has created a need for filler. Finally, the music may be used as a sound effect which serves to interpret the particular action of the moment. In any case, the dramatic director must know his music sufficiently to be able to blend his atmospheric bridges into the thought of the play. But in his blending he must bear in mind that the ear of the radio audience is keen—much keener and more critical than the eye and ear of the theater audience, which has the added factor of scenery to help create the effect of illusion.

A proper and adequate knowledge of the use of sound effects is a further aid to the dramatic director. Most scripts are written with many superfluous sounds, and the careful director will eliminate these as his first step in production. Again, he must be certain that the sounds to be produced really achieve the effect that they are intended to achieve. This may entail modifying or completely altering the sound cue indicated in the script by the writer. Most studios have a sound-effect library that is in recorded form—but these often are not so successful as sound effects that the director and his staff may concoct and execute manually.

Studying the Script

Too frequently young directors go into rehearsals without sufficient knowledge of the script with which they are to work. It is not sufficient merely to read the script; it must be *studied* and then thoroughly digested. The man who is the power behind the microphone must know each and every character and that character's value to the plot. He must first get the mood, the feeling, of the show. He must understand the locale, sense the rhythm of the drama. This he should get in the first reading.

Before any rehearsals, he must see to it that the script is approximately the right length—at any rate, not too short. If some part of the script is not clear to the director he should discuss it with the author, if he is available. The director might even suggest small changes in the script if he is certain

that such changes will benefit the performance. If the writer is not available, these changes are made by the director himself, although it is much better to have it done by the original writer.

One reading is never sufficient, however. A good director is never quite satisfied until he is able to *hear* the script while he reads it silently. In his second reading he makes his notes, writing ideas into the margins, checking positions of actors in relation to microphones and arrangement of studio equipment to fit the play. The director decides on the best arrangement of the microphones to pick up the words of the actors, the music if it is performed live, and the sound effects. If he has six characters in conversation, he may place them on both sides of a bidirectional microphone; the use of a nondirectional mike will permit the entire cast to surround and speak into the mike. It is best to use a single microphone for the cast, although there may be additional pickups for the orchestra and for sound effects. Use the minimum number of mikes since additional instruments introduce additional problems of mechanically controlling unity, perspective, and balance. He checks on speeches to be filtered—the mechanical elimination of certain high or low frequencies to produce distorted sound as in telephone conversations or ghostly conversation; he jots down ideas for the sound effects man and the control operator; he decides on the incidental music which will be needed. It is wise to have at this time a separate sound rehearsal, since unsatisfactory or badly timed sound will ruin an otherwise good scene. The director decides whether recorded or manual sound effects give the better impression.

With these details, the director is now ready for the third reading. He now has an idea of his characters, of the sounds, and of the music. In his third reading he reads with his mind focused on actors who are to portray the parts, deciding on types of voices and vocal traits which will most properly create the aural picture he requires. He is now ready for his next step, the casting of the play.

Selecting the Cast

The dramatic director must ever be aware of the fact that the microphone permits no letting down in interpretation. There is no bodily movement to help emphasize and interpret the spoken word. The voice alone conveys ideas, and the voice must be such as to remove from the mind of the audience any sense of remoteness and must cause that audience to perceive living personalities enacting a portion of life. Since the actor's voice must give the character meaning, that voice must be accurately chosen. A poor cast can ruin a good script, and a poor script may sometimes be made into a fairly decent show with carefully chosen voices artistically blended.

If the dramatic director is fortunate, he will know his potential cast. Low-pitched voices should predominate. High-pitched or harsh, rasping voices are seldom welcomed on the air. The casting committee is concerned with two things—what comes out of the loud-speaker and what happens in the mind of the listener. In the commercial studio, there is generally a file listing names, phone numbers, and addresses of talent available “on call.” The director knows the limitations and capabilities of each of his co-workers. He knows each person’s voice qualities and each person’s depth of emotion, and he knows which character portrayal each person is best capable of producing.

If the dramatic director does not know his potential cast, it is wise for him to hold auditions or tryouts for the various parts. Here he may carefully select each voice, in order to avoid any confusion of voices over the air. He will be certain to see that voices with similar characteristics over the microphone will not be brought together. Though auditions may play their part in casting a play, they are never wholly satisfactory, because the actor never feels that he has done his best and the director never knows what an actor can do until he has heard him work in a play. In any event, it is best to cast by hearing the voices over the loud-speaker. The director listens for the flexibility of the voice in displaying an understanding of the lines, in varying speed according to the material, in expressing emotion without shouting, in giving emphasis, and in throwing cue lines. He tries to find the voice to fit each character, whether youthfully exuberant, mentally sluggish, hard, worn, plaintive, or happy. There is a great danger of casting two voices which have the same qualities over the microphone; select voices which will be different in quality to the extent that the listener may be able to discriminate between his characters simply by the tones of their voices.

It is a good idea to hear the possible cast of each scene read the same material in teams of two, in order to find the voices which are most easily distinguishable. When casting, it is best not to watch the actors through the control-room window. Casting hastily can give the director a tremendous amount of trouble; unless he knows his actors very well, he should try many voices before deciding on the final cast. Sometimes the dramatic director wonders about the effect of a voice on other people; in this case he can ask other members of the studio staff to comment.

Casting for radio must be done by voice alone, taking into consideration, of course, that the ability to read with smoothness and meaning is one of the attributes of a good voice so far as radio is concerned. There is no excuse for read-yness on a radio program. By the term “read-yness” we mean that quality of unnaturalness in the actor or speaker which gives the listener the feeling that he is reading rather than talking.

Having decided upon his selection of players for the show, the dramatic director next must set the time for the first rehearsal. It is rather politic to allow the members of the cast to retain the copies of the script, after the initial read-through, or first rehearsal if the two are combined, for thus they can thoroughly familiarize themselves with the characters they are to portray and also gain an idea of the whole drama. Knowing the show well, the actor will be able to give a more intelligent reading of his lines and thus time will be saved in rehearsal. Since the ordinary dramatic director must work against time, each bit of time saved is valuable to him and to the organization for which he works. Each actor underlines the name of the character whose part he takes each time it appears, and, if a speech is carried over to the next page, "More" is written at the bottom of the first page. Every effort, however, should be made by the typist to avoid carrying a speech from one page to another. The director goes over unusual words and gives character descriptions to the actors. Having completed the cast, the director is ready for the next step—rehearsal.

Rehearsing the Play

Before going into the actual rehearsal for the play, the director's task first is to consult with the sound-effects man and to make all arrangement for proper sound routines. He also must hold a conference with the music director, or other music personnel, and outline the music requirements.

The first rehearsal is generally quite informal, merely a reading of the script without the use of microphones. The director explains *his* idea of the script and tells his cast the effect he wishes to create. The director will encourage the actor to interpret the part that has been assigned to him. Naturally the director will endeavor to guide the actor's interpretation but he should avoid dictating the characterization. He must make the character feel his part rather than tell him how to speak his lines. He gives the cast the picture as he desires it and places upon them the responsibility of the achievement. The first reading should be allowed to proceed without interruption by the director in order that the entire cast may sense the play as a whole by the end of the session. However, if during the initial read-through any misreading threatens to jeopardize the actual significance of plot or characterization, the director must intervene long enough to steer the violator back onto the course.

During the second rehearsal the director usually listens in the control room, from where he interrupts the rehearsal to give suggestions either by means of signals or through the talk-back microphone. He makes further suggestions concerning characterizations, interpretations, pronunciation, enunciation, and so forth. The actors are encouraged to use natural body movements, as they promote ease of interpretation.

The third rehearsal is held with the microphone and the entire personnel of the show is present. All the instruments and apparatus are in place and the members of the staff know their parts and their duties. There may be a certain amount of rearrangement, but never a great deal if the preparations are made carefully. Each time the director interrupts the rehearsal, he stops his stop watch or stop clock and starts it again when the rehearsal is resumed. The director and the engineer must cooperate; besides interpreting his script in terms of drama, the director must also interpret it in terms of sound level and volume. The engineer is the equivalent of the chief electrician in a stage production (a man who is capable of making or breaking the show); the dramatic director therefore listens to the suggestions he may make in regard to placement of actors, sound effects, and music.

Before the last rehearsal, the director has a fairly accurate timing of the program and he will know which parts can be eliminated without loss to the performance. Most directors time every page of the script, writing down the exact time at the bottom of each page. Additional notations are made at the conclusion of every scene and of the time used by fades, bridges, or pauses between scenes. This detailed timing is necessary for the perfect control of the time element while the program is on the air. Most dramatic presentations stretch slightly when they go on the air; therefore, it is a good idea to cut a script before the broadcast to allow for stretching. If cuts are made, the director will have to correct the timing notations on his script, following the place where each cut was made. By looking at these notations, the director can tell whether the program is running short or long. In larger studios, timing is done by the production man, or assistant director, but in smaller studios there is seldom both a dramatic director and an assistant director.

No exact rule can be laid down for a required number of rehearsals, for many factors enter into the determination of the answer: the script itself, the ability of the actors, the amount and degree of difficulty in musical transitions, and, above all, the efficiency of the director himself. Comedies require less rehearsal time than drama because rehashing of lines, dwelling on them, is apt to kill spontaneity. No *good* director will stop rehearsing until he is certain that his show has reached the highest degree of perfection which he and his crew are capable of attaining. The dress rehearsal constitutes a complete performance of the script, precisely as though the program were being presented for an audience; in fact, it frequently has its most important audience—the sponsor. Before dress rehearsal is started, the director should time the musical portions of the program—the curtains and bridges for scenes. Every music cue should be numbered in rotation straight through the script, and these numbers

should be entered on the director's script and the engineer's script. Thus, if a musical number is to be cut out, it is necessary only to indicate a number to the orchestra rather than a complete title. It is vital to time the commercials because these must be given regardless of time limitations. Dress rehearsal must be exactly as the actual broadcast; there can be no lackadaisical, perfunctory reading of lines, no lax routine delivery. The director must be a good disciplinarian as well as director. He must demand, and *obtain*, strict attention for the business at hand. During dress rehearsal, the dramatic director should accurately time the whole performance, making notations on his script. This rehearsal should show the director exactly what is wrong with the show. He should take notes, and wherever corrections are necessary they should be given to the persons concerned. But no actor should be disturbed just before he goes on the air. It is best to hold the dress rehearsal sometime before the broadcast and to record it so that dramatic deficiencies may be pointed out to the cast.

Timing and cutting the show is an integral part of every dress rehearsal and results in having every part of the show get off "on the nose." In order to accomplish a split-second finish, the director must cultivate a sense of time, a power to know how long it takes to say or do a given thing. He knows from experience and the studio logs the actual time allotted for the various periods on the air: the quarter-hour show allows 14 minutes and 30 to 40 seconds, the half-hour show, 29 minutes and 30 to 40 seconds. A like allotment is made for the shorter periods. The remaining 20 or 30 seconds of each period is allowed for telephonic and engineering operations or sold for station-break announcements by local stations. It then becomes the effort of the director so to time and arrange his show (by cutting the script, by shortening or lengthening musical cues, by stretching or diminishing time for sound effects, by coaching casts to gauge their reading rate more accurately) that his show finishes on the second of the period. There should be some part of the show—music, sound, narration, transition, or speech—which can be stretched and used as a cushion. Music may be faded or repeated, as the case demands, without damage to the action, thought, or idea of the program. An audience is less likely to be offended (and, incidentally, less aware) when a show is being stretched than when one is rushing the show to get in under a dead line. If the director is to have any definite idea of how long his show is to run, proper addition and subtraction of timings is essential. Slovenly timing will result in a haphazard show. The use of a stop watch is recommended, and a fairly high-priced, progressive type of stop watch has proved to be the best. Further, it has been proved that jotting the time on

the script at 30-second intervals is the most effective practice. Timings should be placed over words on which they fall or in the right-hand margin of the script at the end of the line in which they occur. They should be written clearly and legibly.

The dramatic director may, on the other hand, time each page of the script and note the exact elapsed time at the bottom of each page, or he may mark the elapsing of each succeeding unit or scene on the script. However, it is essential that the director know the time consumed by musical curtains, bridges, fades, and pauses.

The question of pauses is another matter to which the director must give some attention. He must bear in mind that pauses make ideas stand out prominently. A pause may take place before or after any utterance in order to gain a desired effect. An idea can be made to stand out with special significance if it is both preceded and followed by a pause. Yet even these pauses must be carefully timed, for only in this way can the director be certain of the over-all time consumed by the broadcast.

Scene and act transitions are made in different ways by different directors. The gong has been used to denote a change of scene or lapse of time. Frequently a strain of music or a few measures will create the desired mood between scenes or acts. Sound effects, such as the automobile, a train, or an airplane, may convey the listener from one setting to another. More frequently the dialogue following a brief pause will show that the scene has been transferred in the play. The radio director takes a great many liberties with the time element, not delaying the play to allow exact time to elapse for various actions.

The final presentation of a program is the director's busiest and most nerve-racking moment, for this is the test of his ability. During the performance, the director must be constantly on the alert, cuing actors, music, and sound effects, making sure that each line registers at the proper sound level. He must listen for extraneous sound, as of rustling scripts and squeaking shoes, and, at the same time, he must watch his stop watch or clock and be prepared to signal the performers to speed up or slow down to conform to the perfect timing of the program. In reality, everything that he can do for the performance should have been done before the time of its final presentation—everything except one thing: his ability to remain the calm master of the situation. Radio has devised a set of signals which enables the actor, sound man, announcer, and musician to know exactly what the director in the control booth desires. Wild gesticulations, glaring, hair pulling—and sometimes pantomimic mouthings of directions—will only serve to upset further an actor who has made a mistake.

Studio Audiences

A studio audience has been found useful in improving the quality of the performance of a comedian who desires the necessary timing for his jokes. The preview idea is one that is somewhat new to broadcasting, but it affords the producer and the actors a magnificent chance to see what will be appreciated by the audience and what will not. It is usually held two or three days before the show is actually scheduled to go on the air and is a kind of testing ground for the material which has been written.

However, a closed broadcast is preferred when the program is in dramatic form, for the distraction offered by a visual audience often prevents a smooth performance. Another advantage of the closed program lies in the mystery surrounding presentations that never admit guests. It is a well-known fact that some people, after witnessing one of their favorite broadcasts, listen with less interest to future programs. Their illusions are smashed by the nondramatic manner in which some plays are broadcast from the studio. From the advertiser's standpoint, both methods have their advantages. A large studio audience is usually gathered by inviting distributors and dealers of a client to the program. This builds good will for the advertiser, and, if the program is very interesting to witness, it is an excellent low-cost form of advertising.

The Radio Actor

The success or failure of a stage play is primarily in the hands of the playwright. The eyes of the director are responsible for the outstanding motion picture. The vocal interpretation of the actor makes the radio drama. Early in radio history advertising experts, educators, journalists, politicians, and preachers seized the opportunity to use their natural element—the air; but until recently the dramatic stars have been contemptuous of the opportunity to shine in the night air.

In the early days announcers and station help doubled as dramatic artists; the station help still sounded like the station help, the announcer like the announcer. Only the radio-trained actor can lift the etherized play from its mechanical setting. The stage actor, however, is overcoming his mike fright and braving the indifference and cynicism of the commercially minded broadcasters. Perfection has not been a requirement of radio performance, but the sincerity, intelligence, and imagination of the artist will create the impression of reality. The stage actor must accept the challenge of justifying his art by his voice alone and must master this simple vehicle of his emotions and thoughts. He must put aside his temperament and submit to the sponsor's demands in the interpretation of hurriedly produced dramatic skits.

Yearly, a great proportion of radio actors are enlisted from the stage and motion pictures. In spite of the lack of applause and color, there is a fascination in playing to millions on a single evening. Great actors are selling their names to advertisers. There is no better training for the broadcasting actor than a few years in a dramatic stock company. From the lecture circuits come recitationists, humorists, and monologuists. In the smaller broadcasting stations amateurs are trained for the big league; however, their dramatic directors must be efficient trainers, for poor training makes a poor actor. The "broadcast actor" who is not a stage actor, when he is successful, is often the most successful of all. Departments of radio dramatics in colleges and universities are providing graduates with excellent foundations for success. Commercial radio, like the theater, had an antipathy for schools, but today a high percentage of radio actors are college trained because such teaching usually results in good speech; the broad cultural background which the college educated person brings with him equips him to understand more profoundly the full values of each situation which confronts him in radio.

Ability to Read Lines

Experienced stage actors have to be trained for radio appearances, where the first essential is the ability to read lines so that no listener will suspect that they are being read. No radio dramatic directors require their casts to memorize their parts, because of the time limitation placed upon production. Reading also tends to destroy the actor's own illusion. Then there is the difficulty of concentrating upon one's own part in the script so that cues are not missed while the eyes are following the speech of another character. Frequently the dialogue lacks spontaneity because of this failure to pick up cues—an artificiality that is particularly noticeable to the radio listener.

In radio acting, cues must be picked up with greater speed than in stage acting, as there is no visual stimulus for the audience to fall back on. The speed of picking up cues, however, will vary, even in radio. Variation in speed of picking up cues, along with variation in the speed of talking, is a matter of pace. Pace is one of the most important elements of radio dramatics.

Radio has suffered from a mechanical reading of lines. The greatest asset of the broadcasting actor is the ability to read understandingly and, while reading, to express emotion. When one appears for a dramatic audition, one is usually given a reading test; there must be no stumbling over lines, no mind wandering. The reader must feel the part he is reading, must articulate clearly, must, through his voice, project himself as the character he represents through the microphone to the receiving set.

While the time is too short for the lighting and smoking of a cigarette, as is frequently done on the stage, the radio actor should nevertheless recognize the value of short pauses in his media.

The Voice

The sole medium of conveying the actor's mood, his characterization, and his surroundings is his voice. It alone can create the desired effect upon his listener; hence he must project and color it to capture the listener's interest or otherwise his artistry will fall flat. The radio actor cannot depend upon gestures, stage business, or facial expression to aid in expressing thoughts and attitudes. Emotional crises and dramatic tensions are orally portrayed by one who cannot be seen. There is no give-and-take contact with the audience, no supporting scenery—just a finely tuned vocal instrument.

The radio actor must be a living personality who has experimented with emotional changes of the voice. Most radio voices sound insincere, and histrionism is greatly exaggerated by the microphone. The actor must control the volume of his voice before the mike, yet he must not fail to retain the emotion necessary for motivation. Another requirement is that the radio actor must not permit himself to adopt another player's emotional mood instead of observing his own.

If he puts sincerity into his part and individualizes his delivery, he becomes a living personality entering the living room through the loud-speaker. All impression of remoteness must be removed. Above all, words must be spoken clearly, without leaving uncertainty in the mind of a listener as to what the character really means.

Stage Diction; Radio Speech

The merciless microphone, by focusing attention on the audible to the exclusion of all else, records affectations so faithfully that the stage diction of an actor of the old school sounds artificial when heard in home surroundings. Underplaying a part, however, does not get across to the radio audience. The radio actor must punch certain words in his part. This seems somewhat inconsistent with the fact that radio is an intimate presentation, but unless there is some overemphasis the scene does not become alive. On the loud-speaker stage, an actor who strives to be precise or dramatic often appears to be mincing or ranting. The "sweet young thing" sours the listener. Unleashed joviality makes the character into a boisterous clown. Radio enunciation must sound natural to common folk in the home; yet it must be precise, with a colorful quality that marks the artist. The radio actor must not be slipshod in his delivery, his pronunciation, or his diction. The quality of naturalness is not easy

to attain; in fact, it is difficult to convince an "artist" that he is not being natural. The best teacher is a phonograph recording of the voice of the speaker or actor before the mike, provided, of course, that the recording is accurate.

One of the outstanding dramatic directors in radio has summed up the matter thus. "What we most strive for in radio diction is the fine line between diction so precise that it will sound affected and diction so natural that it will sound too casual. Naturalness is at a premium on the air as nowhere else. . . . A child who is being just naturally 'natural' . . . is better on the air than is many an old-school actor who is studiously trying to be natural."

In a theater play, the actor is trained to throw his voice to the back rows of the balcony, but when he appears in a radio play he must learn to control the volume of his delivery. Otherwise the control operator will be forced to modulate artificially the actor's voice, which may spoil his tone quality. The radio actor or speaker is trained with a volume-level meter in front of him, on the dial of which the strength of his voice is indicated by a fluctuating needle. The trained radio speaker will keep his level of volume upon the dial within the limits where no adjustment must be made mechanically by the control operator: the best actor is the one who has trained his delivery so that modulating is not necessary by the control operator. An excessive throwing of the voice frequently results from the actor's being too conscious of the vastness of his audience. He feels that he must put on a particularly high pressure, which makes his speech sound, in the home where the receiving set is located, like a person shouting. It is not necessary for the radio actor to raise his voice where there are background noises, sound effects, or music, because he is always located closer to the mike and his voice will come through clearly over the sound effects. He may train himself to modulate the voice by turning on his radio to some musical program and speaking his part at the regular level, frequently increasing the volume of the music but keeping his voice at the same level.

Acting

The physical exertion of acting for the radio is just as great as that expended by the stage actor. Added to the tension incited by the time element, by the awful zero-hour silence, and by the vastness of the radio audience is the physical participation in the dramatization of the part. While the area of the stage is limited by the sensitiveness of the microphone, the actor should actually throw himself into his part. I have seen radio actors portraying a man and his wife fleeing from wolves. During their entire skit they faced opposite sides of a ribbon mike and went

through the motions of running as they read their parts from the manuscripts they held. Meanwhile in the background a dignified imitator howled and bayed. The two actors really became breathless and every fine emotional shading was clearly picked up by the microphone. The use of a mike suspended on a boom permits greater freedom of movement by actors since no upright stands are in the way (Fig. 35).



FIG. 35. A dramatic action before the microphone. The shooting of a pistol for sound in the studio is inadvisable for AM but perfectly all right for FM. (*University of Michigan.*)

The dramatic reader who is presenting a reading from "The Deacon's Masterpiece or the Wonderful One-hoss Shay" will sit in a squeaky chair which he will work back and forth as hard as possible. He will chew on an imaginary "chaw" of tobacco. He will crack an imaginary whip, acting the part that he is endeavoring to portray as he recites the lines, while in the background sound operators will turn wheels in a gravel track and produce the sounds of the horse's hoofs. Greater realism is produced when actors really act their parts.

Microphone Position

In general, the radio speaker stands about 1 foot from the mike. If he is farther away, he is not, in theatrical parlance, "center stage." When

distance is necessary to create the desired effect for the listener, the actor will back away from the microphone. If the performer needs to exceed conversational loudness, he must step back from the microphone for such passages. In exceptional instances he may need to turn completely away from it in order to avoid blasting. All entrances which are indicated as fading-in are made from about 10 feet away and on the beam of the microphone. The actor speaks at the same level of volume during his approach to the mike in order to convey the perspective of coming on the scene from a given distance. If the listener is to "see" this movement through his ears, the actor must speak all the time that he is moving. If he pauses in his speech, but keeps on moving, when his voice is next heard from a lesser distance it may sound like that of another person. Another difference between the regular theater and the radio theater of the air is that in the former an actor must use strength to be heard above the mob. Over the air the mob is put into the background and the speaker who is close to the microphone should not raise his voice. While the radio speaker acts his part, he cannot be weaving to and fro from the microphone, for this will cause distortion. His movements must be determined by the control engineer rather than by his emotions. By changing the position or varying the delivery, different attitudes may be projected. When the actor is excited, he will stand at some distance from the mike, raise the pitch of his voice, and speak more rapidly. Sympathy brings the actor in closer contact with the sensitive diaphragm, where he will raise his voice only slightly above a murmur. Ghostly laughter, so frequently heard over the radio, starts some feet below the microphone and comes up to it. It has been said that the impression of loyalty is best created by speaking in a quiet kindly voice close to the microphone.

The distance at which radio actors work from the microphone varies with the type of scene being played. If it is a scene with many characters the control operator increases the volume to the level necessary to obtain the desired perspective; under these circumstances actors may read their lines 3 feet from the pickup. On intimate scenes the speakers may come as close as 3 inches; thus the scene not only sounds but is intimate. When a filter mike is used for a telephone conversation the off-stage speaker talks within 1 inch of the microphone. The engineer will raise the volume according to the wishes of the director.

When acting before the microphone the actor must be paying attention to a number of things at once. Aside from a strong concentration on the characterization he must read the script, take care to be the right distance from the mike, watch the director for signals concerning sound cues, speed of delivery, and distance, and pay attention to sound effects incidental to the action of the play.

SELECTED READINGS

BARNOUW, ERIC: *Handbook of Radio Production*, Little Brown & Company, Boston, 1949.

A detailed description and analysis of each element of program production, with sample script to illustrate producer's direction.

CARLILE, JOHN S.: *Production and Direction of Radio Programs*, Prentice-Hall, Inc., New York, 1939.

Federal Security Agency: *Radio Program Production Aids*, U.S. Office of Education, Washington, D.C., 1948.

Includes suggestions to school and nonprofessional groups for the production of educational radio programs, a glossary of terms used in the production of radio programs, and a handbook of sound effects.

KRULEVITCH, WALTER, and C. ROME: *Radio Drama Production*, Rinehart & Company, Inc., New York, 1946.

A handbook for the average classroom workshop giving background of production theory. Contains scripts with exercises for developing skill in elements of radio drama production.

Reckoning with Radio (A Guide to the Production and Promotion of Local Radio Programs), rev. by Nancy Faulkner, The Association of Junior Leagues of America, New York, 1948.

A practical guide for radio chairmen in planning and writing programs and getting them on the air.

SKORNIJA, HARRY J., ROBERT H. LEE, and FRED BREWER: *Creative Broadcasting*, Prentice-Hall, Inc., New York, 1950.

All the steps in the preparation of a broadcast with twelve scripts. A combination textbook and workbook.

TELEVISION PRODUCTION

This chapter will be concerned only with the creative field of television and not with that part of television devoted to the transmission of motion pictures not conceived especially for this medium.

Those people engaged in the various aspects of "show business" seem to think that television is merely an extension of each individual's particular field. Radio people see it as visualized radio programs; theater people look at it as merely Broadway shows seen through a camera; and motion-picture people likewise think it is a new branch of the motion-picture industry. It is true that all of them will contribute in a measure to television, but to be successful, it must be looked upon as an entirely new art form.

Radio will contribute little to television except in helping to give everyone concerned a sense of urgency. Television, like radio, will be rigidly timed, both in rehearsal and in performance. Radio's greatest contribution to television will probably be in furnishing the over-all commercial foundation upon which the development of television as an art form will finally be predicated. There has been a noticeable evidence on the part of radio stations to program radio shows, as such, on television. But responses of people who have had sets over a period of several months show an alarming alacrity on their parts, now that the novelty has worn off, to turn off their sets unless a good television program is being offered.

There are obviously fundamental differences between radio and television production. Radio uses only one transmission system—sound—while television uses both sight and sound. Radio appeals to one sense only and depends greatly upon the imagination of the listener. What we hear stimulates us sufficiently to help supply the missing picture. Television, on the other hand, gives us the pictures, and the director knows exactly what his audience is seeing because he supplies them. Thus the director in television has a great deal more control of his audience than does a radio director. We are all familiar with the material that a radio director

has to work with. Television has all of that plus a great deal more. It can work with completely unrehearsed and unprepared scenes, without attempting to achieve effects with lighting and devious camera work. It can work with carefully done pictures in which lighting, angles, sequence of pictures create a specific effect. It can bring us such things as microscope views, miniature scenery, and process shots. And finally, it can give us such effects as cartoons, animated and graphic, maps, statistics, puppets, optical effects, painting, sculpture, etc. With approximately 90 per cent of our learning accomplished through seeing, it is obvious at once that television is a much more potent medium, and that the possibilities of television programming are so vast as to be almost boundless. Even such a thing as music, which has its entire appeal to the ear, can be presented on television with a certain amount of visual enhancement.

The television writer cannot hope to succeed if he thinks only in terms of dialogue as in a radio script. He must think both visually and aurally, pictures and sound, and if he does not have that talent he must develop it. In his mind's eye he must both see and hear the scenes and situations. Just as in radio, however, he must recognize the necessity for capturing his audience in that first all-important minute. This will be especially true as television programs get better and competition for an audience increases. Because there is so much "half listening" in radio, a radio writer (and for that matter the whole cast and director) can get by more easily than he should. In television where the attention will be much more concentrated, this will not be true.

We have come to accept certain conventions in the theater, and in so doing we allow our imaginations to work freely, and with our own minds and emotions create an illusion. But the camera sees a scene and passes it along as a realistic image. On the other hand, the TV play is not being seen as is the ordinary stage play, which is usually done in the confines of a three-walled stage. The fourth wall is there, but it is an imaginary one that allows the audience an opportunity to see through it. Furthermore, each member of the theater audience views the play from his seat—a fixed position. In television the audience does not see the play from a single viewpoint. It sees it from a great many moving points—by means of a number of movable cameras. There have been attempts, especially in television's earlier days, to frame a picture inside a proscenium arch and view the scene from one angle, but it just does not work. Whether this effort was made because of adherence to theatrical convention, poorly designed studios, or because directors identified the proscenium arch of the theater with the frame around a television set, is a debatable point. But to limit oneself to a single view-

point when provided with highly mobile equipment—cameras, microphones—obviously was the wrong way.

In television the angle of view is unlimited both physically and psychologically and the three unities—time, place, and action—can be tossed about with facility. In television there may be three or four scenes



FIG. 36. Television studio setup and equipment.

progressing simultaneously in the viewer's mind. This can be done by cutting back and forth from one scene to another, or by superimposing one picture on top of the other. The theater is limited to a single scene moving forward in one place.

The production of a TV drama is not ordinarily a one-man job. The producer is aided by assistants in scenery, props, costumes, make-up, a T.D. (technical director) who has charge of the video and audio equipment and operators, and the very essential stage manager or floor contact man who is capable of taking over in emergencies and who shoots the cues. When you add to these directors a film supervisor and projectionist, the cameramen, boom microphone operator, lightmen, scene shifters, costumers, and the cast and put them in the studio with four or five sets, from three to five cameras on dollies, boom microphones, cables, sound operators with their sound tables and musicians if the

music is live, you can see that the TV studio must be huge and that it will be confused and disorderly (Fig. 36). The ceiling must be high and the studio must be easily accessible for anything from trained seals to a ballet. In the elevated control room on the lowest level will be the operators each with a screen viewer (Fig. 37); on a higher level will

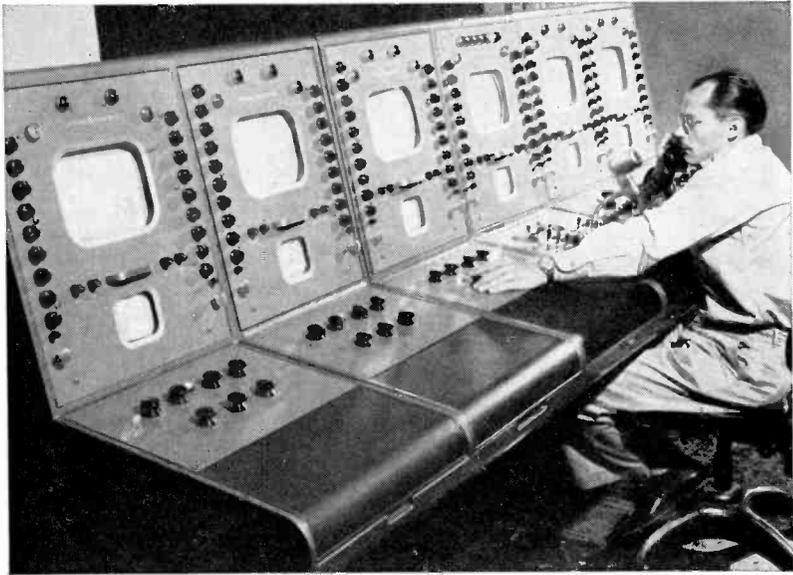


FIG. 37. Monitoring six television screens at once in the WRGB control room at the "shading desk." Three screens duplicate what each camera sees on the studio floor. Two screens show what the two cameras in the movie and slide projection room are seeing, and the sixth shows the picture actually being broadcast. The technician maintains a perfect picture by continually adjusting his controls which are similar to those on home receivers. (*General Electric-WRGB.*)

be the producer with a script girl on one side of him and a communications operator on the other side who can connect him with the ear-phones worn by any assistant in the studio.

Despite all this help, the producer has the hardest job on the air waves. After he receives the script he studies it to determine its appeal, its purpose. Is it to be presented as a comedy or a drama, a farce or a melodrama? He then selects his cast from the casting file, and, while it is being assembled, he consults with the author. The film supervisor is called in to determine what motion pictures or slides will be used for transitions, mood shots, or titles. Then the musical director will discuss incidental and introductory selections. By this time the cast

has gathered and the "read-through" rehearsal starts. The producer marks upon his script directions for the camera takes, close-ups, fades in and out, angle shots, warnings to film supervisor and music. These are first impressions and will be revised many times. The cast just read their parts—no stage, no props, just to get an over-all understanding of the show.

The stage director brings in the floor plan—just the floor. Then, with makeshift props, a camera rehearsal is held to make certain that the layout will allow the desired camera movement and hold the actors. This rehearsal places stage business and action.

When the layout is approved the sets are constructed; the color specialist decorates them with colors best adapted to black-and-white TV. The producer plans as many close-ups as possible because the home screen is small and the audience wants to see the actors and actresses. As the rehearsals proceed the camera shots are planned to cover every bit of business, and the angles or shots are noted on the script as are warning of music, film, or camera shifts to come. The actors are instructed about these camera positions so that they will be just where it has been planned when the show goes on. Copies of the script with camera instructions are sent to the T.D., film, music, sound, and other operators.

During the time on the air, the producer in the control gallery watches the screens, three to five of them, which shows what each camera is picking up and supervises the shifts, blending, etc. One screen shows just what goes through the air to the TV audience. I once told my class that a dramatic producer who had lost his sight made the best radio producer because he relied upon his ears. Zeus, who sat upon Mount Olympus and saw all and was the ruler of all that he surveyed, would make a good production director.

During the ten hours of advance preparation, the five hours of rehearsal without cameras, and the two hours of final and dress rehearsals that are recommended for a half-hour show, every minute detail has been planned to the exact spot and second. There are no retakes in TV. It is understandable that a producer and his cast cannot present more than one show a week and one in two weeks is recommended.

The TV Actor

Television will obviously draw its actors from radio, motion pictures, the stage, and schools of dramatics, but in addition to these television will absorb animated cartoonists, set designers, puppeteers, professional fashion models, and all others whose activities have a visual appeal. Those who come into television will have to adapt many of the tech-

niques they have learned and become acquainted with this new medium in which they will be seen upon the screen.

It will not be so much forgetting what they used to do, because it is better to overdo and overact in the early stages and then temper it down to a fine point. The limits of the screen will affect the stage actor

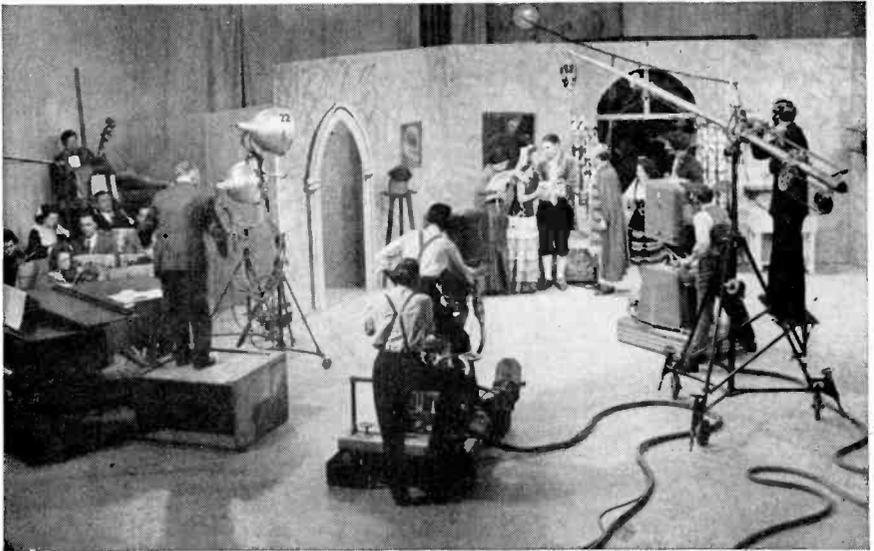


FIG. 38. This photograph in the studio of WRGB shows how compactly the actors are grouped. To the left is the orchestra for musical interludes and background. In the immediate foreground is a camera on a dolly; another camera is to the right; and the microphone boom to the extreme right is hung above the actors. (*General Electric—WRGB.*)

most. While the television camera may be pointed from a distance at the stage to give the effect of a large area, the actors must compress themselves into a small group if their facial expressions are to be important in the development of the plot. The television actors stand or sit very close to one another (Fig. 38)—unnaturally so for conversation. There seems to be a quality in the camera pickup that makes them seem at natural distances when viewed upon the screen. This acting close to another actor must not affect the naturalness of action and speech. The group must not appear to be cramped or crowded. Being so close to one another, the speaker will be inclined to drop his voice. He must remember to speak in normal voice tones despite the fact that he is crowded to the person to whom he is speaking. A limited number of people, within the area of productivity, will have to take on what normally would be done on the stage by many people.

Many of us are guilty of little trick manners, facial contortions, etc., of which we are probably unaware; if one performs constantly to a television audience the viewers are apt to become familiar with his little mannerisms and those that are irritating to any degree will bore the individual.

The TV show features more facial animation and stress than does the stage because the TV close-up brings the actor closer to his audience. Facial expressions run the gauntlet of expression and bring about ease in bodily activity; when these expressions come naturally, they lead to the natural use of the head, eyes, lips, and body. All emotions can be shown in the close-up. Let your feelings show on your face and movements will naturally follow.

Action before a TV camera should be more purposeful than in life, but never stilted poses of folding the arms or habits such as scratching the head. Being positive or purposeful is being vitally interested. Lose yourself in the character you are going to be. Being positive or assured has to come from understanding the part, the words, the effect, etc. Movements should be slower because they fit better and do not distract the person watching the screen. If movement is too fast, the quick movement takes attention from the emotion or feeling. Every movement must be sincere, meaning something about the spoken word. Action must be timed exactly to help the sincerity of speech to create the mood for the viewer. In rehearsals, the actor probably will overplay his part, but his acting is toned down by the director. It is easier to go from overplaying to correct playing than it is to go from underplaying to what is desired by the director.

The actor will find it difficult to memorize letter perfect all of his lines, gestures, and standing positions, and the changes in these that are made after rehearsals, possibly just before going on the TV air. Good experience received in public-speaking courses will enable the actor to carry on in case his memory fails him. In trying to memorize a part letter perfect, one frequently loses the train of thought and his facial expressions and body movements evidence this loss. Therefore, it is more important to memorize thoughts than to concentrate on lines. Train yourself to memorize thoughts, *then* memorize words, for if you forget words you will always remember the thought and thus can find your way back. The actor must have a good ability to memorize because he has to learn his cues, learn his playing position, and to unlearn and then relearn them many times during the rehearsals. He must remember his gestures and be careful that they remain within the area covered by the camera. All the time he must appear perfectly natural in his part. The TV actor must deliver his lines and limit his move-

ments just as he has been told to by the director. Many directors draw a chalk line on the floor of the set to indicate area or focus of the camera. With these chalk lines, the actor can put less concentration on where he is supposed to be and more concentration on thoughts and actions. When impossible to draw an actual chalk line, draw a mental chalk line. If the actor moves too far or gestures in a different way in the performance than he did in the rehearsal, the camera placement, which has been determined upon, will not pick him up. He has to know just where on the stage he has to be and yet this realization must not affect his dramatic performance.

The TV actor must never appear to be conscious of the camera but he must, at all times, mentally keep track of which camera is picking him up and make apparently natural changes in his position and eyes. He can generally accomplish this subconsciously. When the camera starts to pick him up, a small signal light on its face shows that that camera is in action. Many cameras have a green light which goes on just before they start the pickup and a red light when they are in operation. However, the actor does not look directly into the camera unless he has a speech which he has been instructed to deliver to the camera. Don't play to the cameras, play to the other characters in the play. The TV camera will pick up the shifting of the eyes, and if the movement is inconsistent with the part the actor is portraying, it will spoil the entire effect. Let the director or producer punch the proper camera. Forget the cameras, but it is good to know in the back of your mind that there are cameras; that is enough consciousness of them. The director should pick out the camera and the angle of the shot according to the effect or view desired.

If the TV actor or speaker knows where he is going and what he wants to get across, the program is going to be interesting, for his interest is obvious to the viewer. He must be completely in control of every item of the plot, not just putting it across in so much time, so much space, or so much action. It depends entirely upon what the effect is intended to be on the TV viewer. What makes TV is that it gives the viewer an opportunity to look at something he isn't expected to see. In a sense, he is a "peeping Tom" and the actor must play up that impression. The attention of the motion-picture audience is just as much held by the actor's ability on the screen as it is by the live actor in the theater; but in a dramatic program originating in TV studios, there has to be a psychological undercurrent because, right from the flick of the dial, the actors have to give the listener or viewer the feeling that he is being allowed to see something by happenstance. It is difficult to produce that feeling in live studio presentations.

One of the important things in both radio and television is the secret of comedy timing. This is a natural instinct in the individual, practically impossible to develop except through experience. The actor may be assisted in his timing by the producer.

Finally, the TV actor must have stamina to stand the strain of rehearsals and the concentration upon lines and business. He must have an agreeable personality and possess the ability to take directions. At times, he will work under excessively hot lights but he must not seem to wilt. Clothes do wilt some and are uncomfortable. If the actor thinks too much about the lights and their heat, he becomes even hotter. When one gets used to the lights, they are forgotten, but new actors are affected by the heat.

The TV actor is picked for the part; he is generally cast in character and should look the part he plays. Actors must screen themselves and check their every movement to observe what they do that might be an embarrassing movement before the camera. They must not have any repetition of habits or mannerisms or wasted motions. Actors are told to keep their gestures and their hands close to the body. Otherwise they get in the foreground out of focus and detract from the impression sought. The TV actor has the same awareness and feeling that a person on the radio stage has. He may know that he is appearing in his part in many living rooms (and bars) but he is concerned only with the people on the stage with him.

Never be conscious of the microphone; forget it entirely. The microphone moves every time the actor moves. The movement of the dollies becomes a part of the whole thing. You get used to them. They do not distract a veteran actor. One thing that the TV actor doesn't have to worry about is microphone position because the microphone hangs on a boom above his head and is moved about on a dolly. The actor speaks perfectly naturally. The microphone is set for average speech but it can be varied for those with gentle voices and for those with particularly strong projection.

If there are to be costume changes the actor must work fast in making such changes. He must shift from set to set and never come in breathless.

SELECTED READINGS

ALLAN, DOUGLAS: *How to Write for Television*, E. P. Dutton & Co., Inc., New York, 1946.

Designed to show opportunities in television for the skilled writer. Considers different types of programs and how to build them effectively. Also contains sample scripts and glossary.

BETTINGER, HOYLAND: *Television Techniques*, Harper & Brothers, New York, 1947.

A guide to good showmanship in television practice, covering every aspect of television production. Line drawings are used to illustrate the means and methods discussed.

CHESTER, GIRAUD, and GARNET R. GARRISON: *Radio and Television*, Appleton-Century-Crofts, New York, 1950.

Deals, in separate sections, with the historical and social aspects of radio and TV and then with its skills and techniques.

DUERR, EDWIN: *Radio and Television Acting*, Rinehart & Company, Inc., New York, 1950.

The text is oriented toward radio and television acting and presents a study of dramatic technique and principles as well as the work of the director, producer, and script-writer.

DUNLAP, ORRIN E., JR.: *The Future of Television*, Harper & Brothers, New York, 1947.

Includes important television programs for 1939 to 1947.

DUPUY, JUDY: *Television Show Business*, General Electric Company, Schenectady, N.Y., 1945.

A handbook of television programing and production based on five years of operation of television station WRGB.

EDDY, WILLIAM C.: *Television, The Eyes of Tomorrow*, Prentice-Hall, Inc., New York, 1950.

HUBBELL, RICHARD W.: *Television Programing and Production*, New York, Murray Hill Books, Inc., 1945.

An introduction to the art of television, picking up where author left off in his previous book, *Four Thousand Years of Television*. Provides fundamentals for techniques in television program production.

PATCH, BUEL W.: *Television Boom*, Washington Editorial Research Reports, I: 4, Jan. 26, 1949.

Analysis of TV's rapid growth, uses, and programs as well as a comparison of TV with the radio, movies, and press.

POOLE, LYNN: *Science via Television*, John Hopkins Press, Baltimore, 1950.

How to plan, write, and produce informative TV programs.

ROYAL, JOHN F.: *Television Production Problems*, McGraw-Hill Book Company, Inc., New York, 1948.

SPOSA, LOUIS A.: *Television Primer of Production and Direction*, McGraw-Hill Book Company, Inc., New York, 1947.

TERRIS, TOM: *The Mysterious Mummy Case*, National Broadcasting Company, New York, 1940.

Television script presented by N.B.C.

SOUND EFFECTS

Sound effects are to the radio play what scenery is to stage production. Of course, there may be radio plays that are produced without the aid of sound effects, just as there are plays in which scenery is not essential. Sound effects are largely dependent upon the listener's imagination and are presented in order to make him create a visual picture of the scene in which the play is being produced. Much of their value depends upon the psychological suggestion of mentioning what the sound represents to stimulate the listener's imagination. In the majority of instances it is quite essential that the actors in their lines allude to the sound so that the listener will form the correct visual image. In this way the rustling of a piece of paper may carry the listener's imagination to the crest of Niagara Falls, where he will hear the roar of the falling water, or into the woods at autumn, with the rustle of falling leaves.

By far the largest proportion of sounds used in radio dramas are produced by recordings, which are made from the actual sounds. These records, which ordinarily cost \$2.50 each, are manufactured by Standard, Speed-Q, Major, Gennett, and other companies. Over 12,000 sounds are available and the list includes such unusual items as closing a barn door, sounds in a bowling alley, cats fighting, chopping through river ice, corn popping, drilling an oil well, horse and wagon in the snow, snores, man walking and running, milking a cow, a camel crying, and an elephant trumpeting. The company that manufactures these transcription effects takes its sound-recording equipment to the football game to record the crowd noises and to the lighthouse to record the fog horn. As an illustration of this, a manufacturer recently came to me and stated that the recorded sounds of screams and groans had been made by dramatic stars and were not realistic. He wanted to know whether it would not be possible to place the sound-recording equipment in a local hospital in order to record the shrieks of a person injured in an automobile accident. In addition to the recording of noises and sounds, special background music is supplied by these companies to be used in creating the right

atmosphere for scenes of sorrow, approaching danger, underhanded procedure, quarrels, and love-making. A number of variations of a sound may be recorded upon one side of the record; for instance, on one side may be the sounds of an automobile starting, door slam, speeding up, and stopping, while on the other the automobile will run continuously. As an economic measure, when we buy a sound-effect record we make a copy of it, using our recording equipment. The original record costs us \$2.50; the



FIG. 39. Sound table. Four pickup heads, three turntables, mixers, record racks in the front, speaker set into recess at the end of the sound table. (*University of Michigan.*)

copy costs only the price of the disc, about 30 cents. We use the copy for our broadcasts and retain the original for a master record for future copies.

In some studios the sound recordings are played in the control studio and are wired into the mixing panel without the actor's hearing them. Whether the sound-effects records are played in the studio with the actors or in an adjacent studio, a separate microphone must be used in order to have absolute control over sound levels. Otherwise, if the sound pickup is on the same mike with the cast, it is impossible to have proper

control of the balance of sound in relation to speech. The larger studios have a multiple-turntable equipment which may be rolled into the studio in which the drama is to be presented. The multiple turntable is used in order to blend sounds. For instance, a play may be taking place in the interior of a freight car. One of the records being played will be the



FIG. 40. Sound recordings upon the turntables. Notice how the recordings are held with the needle set upon the record, the turntable revolving, until the cue is picked up by the operator. The circular mat in the foreground is a stroboscopic disc used to test the constancy of the revolving speed of the turntable. When seen by the light of a neon lamp from a 60-cycle current, the outer circle of teeth will seem to remain stationary when the disc is revolving at $33\frac{1}{3}$ revolutions per minute. The inner circle will appear stationary when the disc is revolving at 78.26 revolutions per minute.

noises heard in the freight car while the other will be the noises of the engine and the train itself. In a ghost-story recording, one record may bring in the shrieking of wind while another record conveys to the listener the sound of howling wolves. Alert sound operators experiment in the combining of records in order to create new sounds and the playing of existing recordings at different speeds in order to create desired

Not all sounds are created by such recordings. The expense of building up a library of sound records is too great for the smaller station; consequently experimentation must be conducted by the dramatic director or sound-effects man in the local studio. As he experiments in order to create desired sounds for his radio dramas, he adds to the equipment to be used for sounds in the studio. All manner of junk such as tin cans, bottles, and broken china, as well as good cups, saucers, and plates, silverware, rocks, a bag of gravel, whisk-broom, soda-fountain straws, and other things are gathered by the experimenting sound-effects man. In the studio there will be planks which may be laid upon the floor in order that the actors may walk upon them to create the sound of walking upon a stage. There will be creaky rocking chairs and squeaky hinges which are treasured by the sound-effects operator. A good reliable squeaky door is a treasure. Very simple things may be used to create sounds. The radio warrior selects his swords by ear; and every 6-foot length of chain carries a different sound picture to the listener.

Manual Sound Effects

There are some manual sounds which are as important today as they ever were. These have been retained because they synchronize with speech or suggested action.

The opening and closing of doors and windows, movement of furniture, and so on may partake of the character and mood of the persons in the drama at the moment they occur. For example, when a person is angry he opens and shuts a door in quite a different manner from that which he uses when he is being stealthy or feeling calm.

As a basis for the card catalogue of manual sound effects the following may be used. For the card catalogue, items should be cross-indexed and listed under all conceivable headings.

Airplane. A recording is preferred; however, if one is not available, hold a folded piece of blotting paper against the blades of an electric fan. Try out different weights of paper. Run the fan at low speed.

Another method of creating the same effect is to take an old motor and attach to it a disc from which are suspended a number of light straps of leather. As the disc revolves, these light straps hit against the blotting paper and create the correct sound.

Airplane Crash. Smash a wooden matchbox and tear heavy paper near the microphone.

Arrow. Whip a reed or long, thin stick through the air.

Automobile. Again the best effects are produced from recordings; however, the same experiment may be tried for the automobile as was suggested for the airplane.

Automobile Brakes. Drive two or three nails slightly through a piece of wood and scrape the points on a sheet of glass.

Sliding a drinking glass with the top placed against a pane of glass may produce the required sound.

Automobile Tires. Push erasers across a piece of glass.

Automobile Door. The only way to get the sound of an automobile door closing is to buy a section of an old automobile door from a junk yard and mount it in the studio. It should contain the glass in the frame. Mount it on castors so that it can be slid out of the way into a corner.

Bells and Chimes. Glasses with varying amounts of water in them are tapped gently. For heavier bells, a variety of old brake drums come in very handy. They must be hung free so that they can vibrate. The school band sometimes has chime effects. The studio should be equipped with doorbells, bicycle bells, school bells, dinner bell, etc.

Boat Whistles.

a. It is best to buy whistles from a musical supply house. In some cases whistles may be borrowed from the physics department, where they are used for demonstration purposes.

b. Blow across the mouth of a bottle. By filling the bottle with different amounts of water different tones may be created.

Body Blows.

a. Body falling from a great height. Drop a melon from the top of a ladder upon a piece of concrete.

b. Drop a gunny sack filled with sawdust or sand on the floor.

c. A hit on the head may be made by hitting a head of cabbage with a club or hammer.

d. A sock in the jaw. Drive the fist into a rubber sponge or a loaf of bread.

e. To simulate a fight, actors may hit themselves upon the chest.

Bones, Skeleton. Very much like the marching-men equipment is that used for producing the sound of a skeleton. A number of pegs of hard wood of various lengths are hung by different length strings from a handle. As these pegs are rattled, the skeleton effect is produced (see Fig. 42).

Bottle. To open:

a. Press two plungers together and pull suddenly apart.

b. Open mouth; snap cheek with finger.

Breeze. Fold a newspaper into quarter size, then cut slices up from the bottom nearly to the top. Holding at the top, sway the paper near the microphone.

Brush Crackling. Use broom straw; it is handy to have in the sound-effects storeroom. Work it between the hands, close to the microphone. An old broom may be cut apart and used, but it is inclined to be rather stiff. Sometimes it is possible to use heavy cellophane.

Bubbling Brook. Gently blow through a straw immersed in a glass of water. Test for volume. If you have a studio drinking fountain put some pebbles in the basin, turn on the water, and put the mike close to it.

Carriage. A roller skate run over whatever soil material is suggested by the

locale. A studio should have a supply of flats such as are used in greenhouses, each filled with a different material—sand, gravel, dirt—as well as a slab of concrete.

Chimes. It is advisable to have in the sound-effects storeroom dinner chimes, Chinese gong sets, etc., and other bells that may be bought in the 10-cent store or picked up. (See also Bells.)

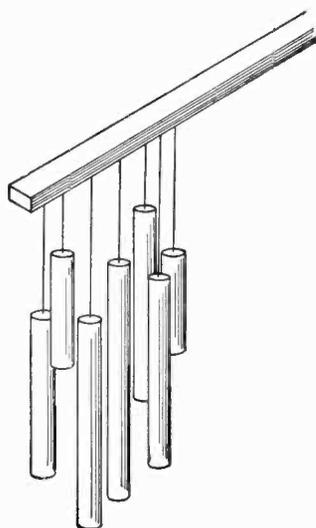


FIG. 42. A radio skeleton.

Chopping Wood.

a. An ice pick driven into a piece of soft wood.

b. Use a large jackknife against a branch of a tree, quite close to the microphone.

Cocktail. To shake: put small amount of water and a small piece of glass in coffee can. Shake.

Construction Noises. Nothing is better than sawing, filing, and hammering right in the studio.

Cow Being Milked. Squeeze two ear syringes alternately into a bucket. It is advisable to have an additional supply of syringes if the effect must last for a length of time.

Crash. Build a crash box, which consists of a wooden box filled with broken glass and light pieces of metal and tin cans. Nail on the cover, and simply by turning it over near the microphone you get a crash.

Crash, Glass. Place some cotton or soft material in the bottom of a box and fill the box with glass. Then drop some heavy article on the glass.

Crash, Wood. Splinter a berry box; crush it by pushing thumbs through the bottom. A supply of berry boxes is essential to the studio equipment.

Dead Leaves. The effect of walking in dead leaves can be created by stirring corn flakes in the top of a cardboard box.

Dishes. Use real dishes, china dishes being preferred.

Door.

- a. The door that is used in broadcasting should be made solidly. It is advisable to use a standard door from a lumberyard and set it into a frame constructed of 2-by-6-kiln-dried oak. Have the construction dovetailed to

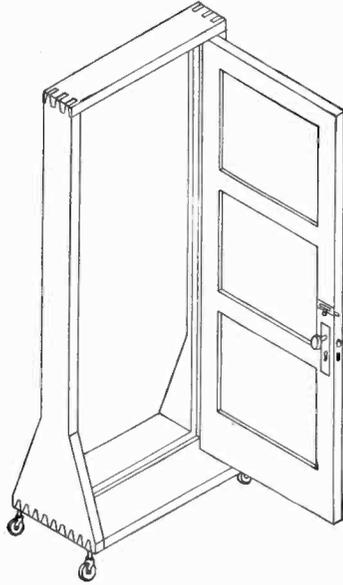


FIG. 43. Sound-effect door.

avoid warping. Use heavy hardware—hinges, lock, doorknob, and catches, and put a knocker on the door. It is foolish to build a cheap door because it will always sound like a summer-cottage door on the air. A lighter weight door may be hinged at the other side of the frame and a screen door between the two in order to get a variety of door effects from a single unit (Fig. 43).

- b. For the hollow clang of iron doors opening, draw a roller skate over an iron plate. Rattling a heavy chain and a key in a lock add to the effect.

Door, Elevator. See Elevator.

Door Knocker. Attach one side of hinge to board; rap with loose wing.

Earthquake. Roll rocks down a sanded board into a drumhead. Use the bladder with the shot in it also.

Echo.

- a. Large studios usually have echo chambers to produce this effect. They are usually in some part of the building where a loud-speaker can be placed at one end of a long hall or cellar room and a microphone at the other end. The voice is fed into the room through a loud-speaker and its echo is picked up by the microphone. However, if it is not possible to

have an echo chamber, the same effect may be obtained by facing a directional microphone into a long-fiber wastebasket. Throw the voice from behind the microphone into the wastebasket so that it comes back to the microphone.

- b.* In case you do not have a directional microphone, drop the wastebasket over the microphone so that the voice must go up into the basket and resound into the microphone.



FIG. 44. The sound operator is picking up the sound of the opening of a door with the microphone close to the door. Equipment shown is a combination of three doors, heavy outside door, screen door, and indoor door, all in one frame.

- c.* It is also possible to create an echo by placing a microphone over one of the holes in the sounding board of a grand piano. Hold the damper pedal down, allowing the strings to be free. With the top of the piano half open, direct the voice or effect into the piano. Frequently a cardboard mailing tube, 5 or 6 inches in diameter, may be used to direct the sound over the strings. The strings vibrate the sound and continue for a period afterward.
- d.* Another method of creating an echo is to talk through or rather around an inflated basketball bladder, holding the bladder between the mouth and the microphone.
- e.* To give the voice a hollow ghostlike sound, place one end of a 10-foot

length of 2-inch pipe about 2 feet from the microphone. The actor will then speak into his hands, which he cups over the other end of the pipe.

Elevator. To create the sound of an elevator door opening or closing, a small slab may be made with a metal track in it. This can be made out of sheet iron. The sides should be just far enough apart for a roller skate to fit between them. The track should be $2\frac{1}{2}$ feet long and at one end should be a wooden bumper and at the other end several nails. Rolling the roller skate down the track to hit against the nails will give the sound of the opening of an elevator door; rolling the skate the other way to hit against the wooden bumper will give the effect of closing the elevator door. A vacuum-cleaner motor can be used for the sound of the elevator if the skit is laid within it to any length (see Fig. 45).

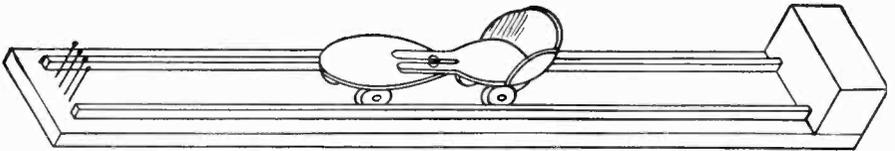


FIG. 45. Elevator door.

Explosion. Use an inflated basketball bladder with 15 to 20 BB shot in it. Get an old type of bladder that does not have a valve. Holding the bladder about 3 inches from the mike, suddenly give it an upward jerk, or hit the bladder soundly upon something near the microphone and hold it up to the microphone so that the reverberations will be heard for some time.

Fire. Lightly crackle cellophane between the hands, or crunch the heavy end of a bundle of broom straw. In case it is a forest fire, combine with the breaking of berry boxes.

Flood. Using compressed air, release the air from a nozzle submerged in a tub of water.

Footsteps. A small section of sidewalk made of wood should be available in the studio. This can be walked upon with hard soles and rubber heels to give the effect of footsteps (Fig. 46).

Footsteps on Stairs. If actual stairs are not available for walking upstairs, walking backward upon the planks will give the effect of walking upstairs. Most studios have short portable flights of steps.

Footsteps in the Snow.

a. Grind thumbs into a cigar box filled with cornstarch.

b. Fill two small sacks, not too full, with cornstarch. Tape them with electrician's tape to keep them from breaking and squeeze them with the correct rhythm near the microphone.

Ghostly Speech. Use the filter microphone (modern consoles have the filter installed in them), which removes the low-frequency vibrations. The effect thus produced is a hard and chilly tone. This may also be done into an echo chamber.

Glass Crash. Break small panes of glass; pieces 8 by 12 inches are generally inexpensive when bought in boxes of 50 or 100.

Gunshot. No manual effect is realistic. It is best to try a pistol shot. Recorded effects are not very good either.



FIG. 46. Sound action.

Hail. The sound of falling hail may be simulated fairly well by dropping rice onto glass, tin, or wood.

Hammock Creak. Scrape a toothpick on a nail file.

Handcuffs. Turn a key in a cheap padlock.

Horses.

- a. Use coconut shells with a little finger strap on the top so that the first finger may be slipped through the strap. These are used with the correct rhythm in flats filled with the proper type of soil (Fig. 47).
- b. Another method to reproduce the sound of horses' hoofs is to use rubber plungers. They are held by their handles and rubbed across each other in the correct rhythm. This also gives a good effect.
- c. If the effect of a number of horses is desired, the actors may use their cupped hands upon their chests.

Ice.

- a. Ice jam breaking up may be produced by twisting an inflated toy balloon close to the microphone.
- b. Crumple an electric-light carton.

Kiss. There is not the fun in radio that there is on the stage. Kiss your wrist close to the mike.

Liquids. Pour water into whatever kind of container your script calls for.

Machine gun. Hallowe'en ticktack. Some electric vibrators when passed over a drum will give the staccato sound of a machine gun.



FIG. 47. Plumber's aides against the chest for the sound of horses' hoofs on sod or soft ground; the coconut shells upon the gravel for horses on a road; the sound man's foot disturbs the straw and brush.

Machinery. Gears are very handy to have and special equipment can be built for machinery sounds. No instructions can be set forth for all types.

Marching Men. The accompanying illustration (Fig. 48) shows the marching-men equipment. This consists of a wooden frame about 18 by 24 inches. Nine strong cords are strung about 2 inches apart from end to end and 12 cords are strung from side to side. The ends of these cords are attached to a device which will tighten them, a bolt which can be screwed out. From each intersection of cords is hung a wooden peg, perpendicular to the frame. A screw eye is inserted in the end of each peg and is tied to the cords; this allows the pegs to hang loose. For the pegs we use round dowel rods. As these pegs are lifted and pushed back and forth upon a large sheet of paper or upon a wooden table top, the sound of marching feet is produced. It is advisable to sandpaper the bottoms of the pegs a little to take off their rough edges before using.

Metal Money. Large coins may be used, such as quarters, half dollars, and even nickels. Lead washers give an equally good effect if you don't trust your coactors.

Motorboat. See Airplane.

Motorcycles. Use method suggested for airplanes.



FIG. 48. The sound of men marching is being made with equipment constructed for that purpose. It is generally advisable to have a suspended mike for sound, no part of which rests upon the surface from which the sound is being generated. Notice the box is used with an end-to-end motion, not vertically up and down.

Picks and Shovels. Use a small trowel or children's toy spade in a box of dirt and gravel. Give a scraping and shoving effect. Hit the stones with a tack hammer to give the effect of the pickax.

Porch Swing. Rock an old swivel chair rhythmically.

Rain.

- a. The accompanying sketch (Fig. 49) shows a rain machine which, despite the fact that it looks like a Rube Goldberg cartoon, is the most effective one that I have attempted to use. Into a large funnel is poured birdseed. When the birdseed comes out of the spout of the funnel, the stream of seed hits against a ping-pong ball; this disperses the seeds so we don't get a steady stream. Below the ping-pong ball is a paper bag which is blown up. Some of the birdseed hits upon this, bounces off it, and falls into a basket which is filled with crumpled paper.
- b. A ball of cellophane loosely wrapped in tissue paper, rolled slightly between the hands.
- c. Drop salt on different materials; in case it is a tin roof, on tin, etc.

Riveting Machine. Use the alarm of an alarm clock, with the bell deadened.

Shots. See Gunshot.

Slap. This must be done very close to the mike or it will be lost. In order to avoid an explosion sound when slapping the cheek, the mouth must be kept open.

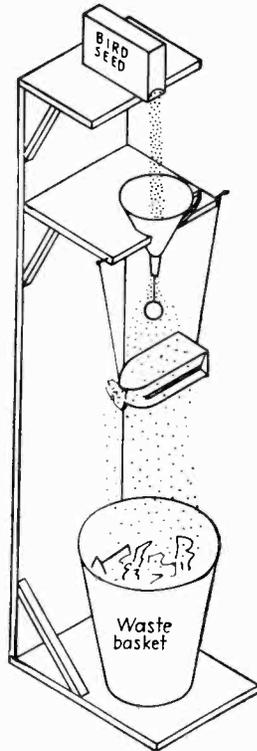


FIG. 49. A variety of the rain machine. A rapidly revolving disc may be used to distribute the birdseed, replacing the funnel, ping-pong ball, and paper bag used above.

Speech, Off-stage. When it is desired to give a muffled tone of a person speaking from inside a door, take a cigar box and cut a semicircle out of one end, retaining the top, of course. This, held up to the mouth, allows the person to speak into the closed cigar box, giving a muffled tone (see Fig. 50).

Splash. Simply drop a flat block of wood into a tub of water well off mike. Be careful not to hit the side of the tub. Line tub with canvas to avoid metal sound.

Squeaks. Rusty hinges or pulleys. A wooden peg twisted in a hole in a board may help, or turn a moistened cork in the mouth of a bottle.

Steam. Steam is done by the sound man, who expels his breath abruptly through a half-closed mouth.

Surf. Saw an old bass drum into two sections so that there would be two heads. Then take off one head and replace it with netting. By rotating dried peas upon this netting, the sound of waves may be created. In some studios the drumhead or the large top of a butter tub is hung by three cords from a tripod.

Telegraph Keys. It is best to use a regular telegraph key. It must be attached to a battery. It is important to use an unintelligible message because the



FIG. 50. Actor using a muffle box, which is a cigar box with a half-moon cut out of the end, to create the effect of a person speaking from behind a closed door or of an off-stage voice.

Communications Code prohibits the sending of intelligible messages. However, the Morse code should be used.

Telephone. It is best to use a real telephone for the click of the receiver. Discarded hand or desk sets are usually available from the telephone company. Rig up a board with a battery- or electric-current-operated bell and the buzzer to be heard while waiting an answer and when receiving a busy signal.

Telephone Conversation. Use filter system.

Thunder. The best device for creating the effect of thunder or the booming of cannon in the studio is to mount a copper window screen and to attach to it an 8-inch spiral wire which acts as a phonograph needle in conveying the vibrations of the screen to an electrical pickup head which may be taken from an old electric phonograph. An electric cable transmits from

the pickup head the sound of artillery fire or thunder directly to the line, when the screen is hit with a soft-headed drumstick (see Fig. 51).

Train.

- a. Probably the best method of creating the sound of a railroad train is to use a recording. If, however, you are without a recording, a four-sided grater may be used, and, by rubbing across it with one of those wire

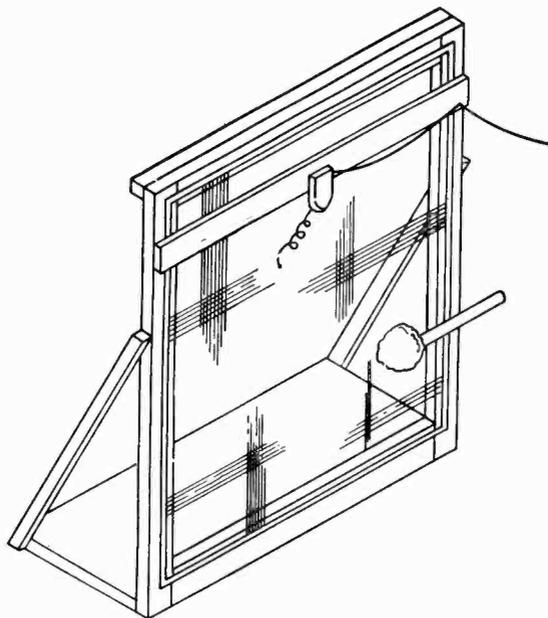


FIG. 51. The thunder screen.

brushes that seem to be a favorite of the trap players in an orchestra, you can get the effect of a railroad train.

- b. Bladder filled with BB shot rotated to the correct rhythm.

Underbrush. Twist the bundle of broom straw near the microphone.

Wagon.

- a. One of my greatest problems has always been to get the sound of a wagon wheel. We needed this one time when we were broadcasting the "Ransom of Red Chief." A wagon wheel may be mounted upon rollers, barely touching different tops containing different types of soils. Use these different tops of flats when different types of road conditions are to be evidenced. An old wagon wheel can generally be obtained (see Fig. 52).
- b. This effect can also be created by a roller skate on a box with some sand in the bottom of it.
- c. Use a small toy wagon with wheels and pull it along a model road of dirt or sand or gravel, close to the microphone.

Water.

- a. If you want the sound of a paddle wheel in the water or a boat being rowed, or any other splashing of water, use a tub full of water. However,

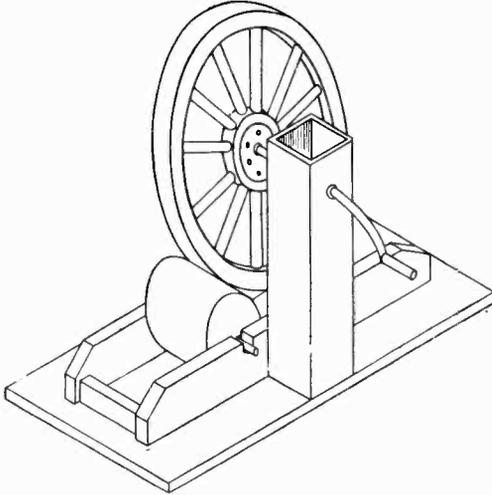


FIG. 52. Wagon-wheel device.

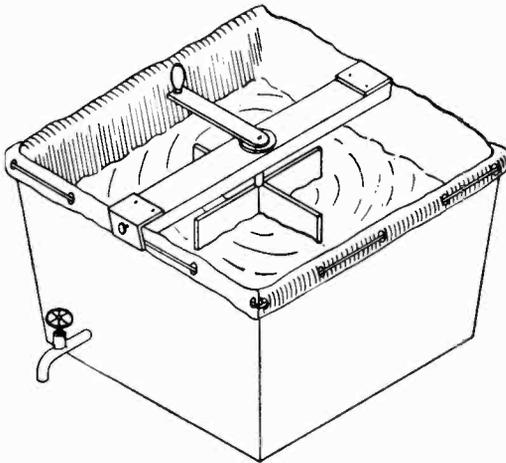


FIG. 53. Splash tank for water effects.

a metal tub filled with water will produce a metallic sound over radio; consequently if a metal tub is used, it must be lined with canvas, hung around the sides, to eliminate the metallic sound. By placing a board from side to side and attaching a paddle wheel to an axle dropped from

this cross piece, a paddle-wheel effect may be created in the tub. Of course, a good many different effects may be created with this equipment (see Fig. 53).

- b. A garden-variety spray tank with several gallon capacity, equipped with a hand pump and a hose, may be utilized for water faucet, shower-bath, water hose, and other effects. If compressed air is available, the tank may be fitted with an air valve and pumped up to 25 pounds of pressure.

Wind. The wind machine used in radio is very much like a wind machine used on the stage. It consists of a drum with its crosspieces made out of $\frac{7}{8}$ - or 1-inch strips. The drum is turned by a handle. A piece of canvas is draped over the drum so that when the drum is turned the strips rub against the canvas, creating the wind sound. We have made this drum to serve two purposes. Before the wooden strips are put on, we have covered the edges of the drum with netting and left a small opening that can be corked up, into which we pour dried peas. Then by turning the drum at correct rhythm, we can get the effect of surf, or waves upon the beach.

Window. The requirement for good window sounds in radio is the same as for good door sounds. Good solid frames and real sliding windows should be used. A shade can be attached to one side, and possibly a Venetian blind on the other side, in case you need either of these for an effect in a play. Both the door and the window should be mounted upon castors so that they can be rolled in corners of the studio when not in use.

Wood.

- a. Splintering: Use wooden matchboxes or berry boxes, or peach crates, according to the sound required.
- b. Chopping down a tree: Use a knife on a branch for the chopping sound. For the cracking sound, pull off a section of veneer from a piece of three- or four-ply wood. This shows that the tree is cracking and starting to fall. Jump into a berry crate to give the effect of the crash to the ground.

Every time a new effect is created and proved satisfactory it should be filed in this catalogue no matter how unimportant it seems to be at the time. We have found it advisable, when a special effect has been desired and finally created manually, to record that effect and add it to our library of recordings. Then when the same effect is needed at a later time, we do not have to experiment a second time.

The operator must be careful that the equipment he uses will not break and cause a sound not desired. Furthermore, the control operator should be informed of the sound effect to be used and when it is to be used.

The sound-effects man should not neglect to experiment with the actual source of the required sound. Dishwashing is a sound that is difficult to imitate, so it is best to wash dishes before a microphone. Nothing sounds more like pouring water from a glass than pouring water

from a glass. Try out the sound itself first if it is convenient. If it is not reproduced satisfactorily, then seek to create it by other methods. One station, desiring to get the sound of the starting of an old Model T Ford, its cranking, explosions, and sputtering, found that the best way was to bring an engine into the studio.

The sound-effects man should possess a good sense of rhythm and timing. His position requires finesse, artistry, and good judgment. He works closely with the director, keeping one eye on the script and the other on the director. He may ring his cues in the script with red pencil and indicate where the sound is to be peaked and where it is to be faded out. He must be willing to experiment for hours creating new effects and getting the presentation of other sounds just exactly right. An active imagination and ingenuity are also essential. He should also be what is called in the theater a "quick study." It is helpful if he can memorize cues so that no time will be lost. When he has 50 or 60 cues, this is not too easy! The sound man must be absolutely dependable, for the sound effect must come on time, at just the right level, and for just the proper duration. Before the broadcast he should arrange everything in the order that it is to be used, and everything must be close at hand so that he will not waste time getting it into the microphone. While the show is in progress, the sound man is given his cues by the director. He, after all, can hear how the show sounds, since he is in the control room. So the sound man must watch constantly in order that he may tell by signals if the volume and the quality of sound are correct. He should be resourceful, eager to experiment, know radio engineering and studio technique, appreciate dramatic values, and have a workable knowledge of music and rhythm. Added to all this he must have a pleasant personality to withstand the rigors of long rehearsals and tired radio directors. I have used the masculine pronoun, but many sound operators are women.

It is far better to have no sound at all than a sound that is a poor representation of the desired effect. Sound effects should never be injected into a radio drama for their own sake. They must be a valuable aid to the visual imagination of the listener or else they must not be included. It is true that the youthful audience desires more sound effects than the adult audience. In order to get the proper reaction, the sound effects must be timed perfectly. Consequently it is better, according to the American system, to present them in the same studio with the actors.

Sound may be used as a background for short scenes. In longer scenes this effect may become irksome and in this case the sound is not continued throughout the whole scenes but is "sneaked in" or "sneaked out." This means in the case of a play laid upon a train, that the sound is brought up strong at the beginning of the scene and then gradually

faded out, perhaps all the way. Then at the close of the scene or during short intervals, the sound may be brought up again to remind the listener that the scene is laid on a train. If the listener is too aware of the background sound, something is wrong—it should be almost completely unnoticed except at short intervals. Sound effects may also be used to great advantage as transitions from one scene to another in the radio drama. In writing the radio play, sound is not imperative unless it clarifies a piece of stage business or intensifies the atmosphere.

Sound effects have other uses than those which are already stated. In many cases deliberately unreal sounds are used to aid in creating a certain effect. For instance, the opening and shutting of a door so rapidly that no one could possibly get through it is a favorite with radio comics. Sound effects may be used in an expressionistic fashion; for example, the use of a clock or a metronome to help emphasize the slipping away of precious time.

In dramatic programs over a frequency-modulation station, the producer cannot rely upon experience gained in the production of sounds in AM broadcasts. Many of the manual sound effects previously outlined will sound just like what they are instead of like what they are supposed to represent. Within the limits imposed by studio space, it is best to use the actual sound-producing equipment. Sawing wood, hitting a nail with a hammer, pouring a glass of water, Chinese gongs, ship's bells, and the triangle all reproduce fine over FM. They were usually unsatisfactory over AM. Major Armstrong used the lighting of a match and the exhalation of smoke from a cigarette to demonstrate the fidelity of FM. If recorded sound is used in FM dramatic shows, the recordings must be free of all scratch noise.

Visual Effects

For twenty-five years dramatic producers for radio have been experimenting with all sorts of equipment for the correct reproduction of sounds for dramatic productions. The advent of television has caused a new problem in experimentation—that of making things look right for the viewer. For instance, white does not come to the television screen looking as much like white as does gray. The advertiser finds that white enameled electrical equipment appears better if it is painted bright yellow; and white cloth can be best reproduced if it is tinted blue. Objects which have a high polish which reflects the light must be sprayed with a clear liquid wax; and if oilcloth is being used it can be improved in appearance by spraying it with a shaving lotion. A glass of beer quickly loses its foam under the lights of the television studios, but it will be improved with a pinch of bicarbonate of soda, which brings back its foamy

head. Steam is made by the use of dry ice; and one authority disillusioned the hungry televiewer by stating that a steak should be painted with grape juice. Glycerin sprayed upon studio properties makes them look as if they have been out in the rain. Ice cream salt can be used for hail, and white rice through a sieve will give the effect of rain. I am sure the children will approve of the use of dry pabulum or corn flakes for snow. Just as was stated concerning sound effects, we must experiment to get the right visual effect.

SELECTED READINGS

BATSON, CHARLES A.: *Production Pointers for More Effective Television Commercials*, National Association of Broadcasters, Washington, D.C., 1950.

CREAMER, JOSEPH, and WILLIAM B. HOFFMAN: *Radio Sound Effects*, Ziff-Davis Publishing Company, Chicago, 1945.

General nature of sound effects, control-room signals, and a glossary of radio terms.

RADIO HUMOR

For a college professor to assume that he can tell students how to be funny is an appropriate beginning for this chapter. He has lectured to what is known in radio as a "captive audience" and while he does not have the radio announcer to hold up a sign "Laugh" he can rely upon final grades to accomplish the same end. The matter of timing, however, is difficult because his captive audience bursts into laughter at most unexpected places and fails to laugh when he springs a joke that has been sure fire for years.

Probably the first rule that I would suggest for the radio humorist is one most frequently violated by the professor, namely, don't run a good joke to death. Once a semester is enough. In broadcasting, crack it and let it lay. A joke whose ending is already known is no longer a joke. It is the unexpected that amuses. A most enjoyable program for years was "It Pays to Be Ignorant." However, the format got into a rut. There was a sameness week after week that bored the listener. The listener demands newness, variety, surprise.

In the theater, laughter is a mass reaction—get them rolling in the aisles and the individual joins in. But on radio the laughter of the studio audience is frequently bewildering. Of course, the televiser can see the facial expression of the comedian, but what the radio listener hears when the participant in "People Are Funny" is hit with a pie is just mush. Too many comedians rely upon local jokes concerning the Hollywood smog or upon Bing Crosby's clothes. Such local jokes appeal to the studio audiences but the distant listener is left cold. A feud between two comedians may be amusing if the listener whirls his dial and is familiar with all radio personalities.

If he does dial the jokesters, he becomes indignant with the gag thief. Of course, no joke is original, but there are endless variations for each humorous idea. There are many "fems" with whom one unfortunately may be seen besides his wife. Draw upon your imagination, or experience.

Don't rely upon famous personalities; many of us don't know them and care less and less about ever knowing them.

One of my students, when asked to diagram the route of programs, showed the comedy writer turning out a brilliant pair of red flannels labeled "joke" which traveled to my office and into a washing machine and came out a limp and shrunken neutral gray, with a faded label. That's radio—keep it clean—not a blush in a compact. Never put in a joke which the younger generation will have to explain to their elders. Nobody wants obscenity, but too much radio comedy is geared to the immature mind. The joke is how close can you come to being naughty. Radio humor must make the listener laugh but never blush. ("Blush," see Glossary.)

Laughable situations are the real foundation of humor, not comment. Human beings in amusing situations make the listener feel that he is in like circumstances. It is the effect that counts. Good-humored slapstick and the "belly laugh" pay the sponsor, not wit. Noel Coward and Oscar Wilde need not apply.

Radio humor is dependent upon the comedian, except that a queer voice won't give him a squeak. Unlike the announcer, he must have copy, he can't punch his humor across with volume or speed. And the most important attribute is timing—choosing the right time, the right place for the joke. Don't crowd the jokes, don't overlap the laughs, give the listener time to appreciate, to understand, to explain the joke to his wife.

Always remember the listener. Too many small-town jokers put forth too much effort in making their fellow broadcaster laugh. The program becomes a silly duet by a claue. Well, they are having a good time. Let's go back to the subject of radio humor.

Topics for radio humor are practically endless. There are always a whole variety of timely references. They must fit the established character of the person for whom they are written, and they must also fit the situation and the comedy plot as well. The joke would be composed of (*a*) straight lines, and (*b*) punch lines. The straight line is the bait, and the punch line is the fish we are trying to catch. We start with the straight line. There is a great portion of radio comedy that depends upon insult. The average audience loves to see a big-shot taken down a bit. The major object is the creation of this ridiculous picture in the minds of the audience by means of words. Plays on words have long been standard fare in radio comedy. Whimsical humor forms still another part of radio comedy. Here the humor derives from incongruity.

Most jokes are neither one nor the other of these forms. They are combinations which contain elements of two, three, and sometimes more

of them. It is a play on words. It is certainly an insult. And it also forms a mental picture. The second problem, wording that idea to its best advantage. The joke must be worded in a certain way to suit style and radio personality. Flip manner, dry and multisyllabic wit, the pushed-about, the boastful yet friendly naïveté, the malapropos attempts at speech, the double-jointed conversations—all require specific treatment of joke ideas. However, regardless of the distinct needs of the particular comedian, the language should be radio language, that is, it should be written for reading aloud. Word or letter combinations difficult to pronounce should be avoided. Tongue twisters which result in stumbling not only ruin the joke itself but sometimes several jokes which follow. Momentary “fluffs” of this kind can hurt any type of radio script, but probably none suffers from this more damagingly than comedy. For this reason, many writers like to read their material aloud to make certain the jokes won't suffer in the transfer of words from the printed page to the air waves. The least contrived way, the most natural way, is the best way. If the idea involved is fairly complex, or if it needs establishing by repetition or other means, there will be more lines necessary than if the idea is a simple one. There should never be a sacrifice of words at the expense of clarity. On the other hand, superfluous talk will very often weaken a joke—a completely pointless sentence between the key matter of the straight line and the punch line. This prevents the audience from following the thought.

There should be only one joke idea established. The attention of the audience must remain sharply focused on one thought, and for this reason all confusing elements should be eliminated. Instead of the image-producing words, neutral words should have been used.

This mental picture has nothing whatsoever to do with the joke idea and merely distracts attention from the main point. The use of simple English is invariably best. Words people are familiar with don't worry them. If a strange word is used it takes their minds away from the thought at hand, and they very often lose the thread they must follow in order to understand the joke. Technical terminology of any sort is inadvisable unless it is for a special audience which is sure to understand. Simple language does not mean ordinary or dull language. On the contrary, colorful words will often improve a joke. Another point to remember is that there are usually two key words or phrases in a joke. There is a key word in the straight lines, and there is a key word in the punch line. These two must be closely associated in the minds of the audience in order that they “get” the joke. Therefore, the sentences should be phrased so that the key words are as close together as possible. The key word in the punch line must be placed as near the end

of the line as can be managed. The reason for this is that the joke is usually over as soon as this word is spoken. If it were in the middle or beginning of the punch line, some of the audience would laugh too soon and the remainder of the sentence would be covered up. For bright comedy the writer must have bright and human characters. The writer must know his characters well. "No matter how funny the line, if it doesn't fit, forget it!"

Start writing and see what happens. Get a collaborator, somebody compatible you can work with. Two persons writing together can give each other friendly reactions to lines. Comedy in radio is an allegedly humorous period of time devoted to the development of some simple basic plot. *Keep it clean and keep it friendly!* Should there be a routine of insults, everyone involved must have an even break and the vilified be given an opportunity to retaliate. Even then the attack must carry an undertone of "We're just kidding, folks." Any line or any attitude which has a tendency to make the listener wince or cringe is bad. Entertainment should relax and not exhaust.

One of situation comedy's most precious chattels is the recognition device. An advertising message which has been adroitly worked into the script is many times as effective as a formalized, and-now-a-word-from-our-sponsor approach. The gag commercial is an integral part of the "keep it friendly" blueprint. The audience feels that the sponsor has so much faith in the quality of his product that it will survive any amount of kidding. The humorous introduction is disarming, and the announcer, or whoever delivers the message, is a pleasant acquaintance rather than a stranger voicing unctuous fears over the state of your health or household. The comedy commercial, however, like the recognition device, must be approached with respect. No matter how much fun it might be, no sponsored product must be perverted to fantastic uses. Whatever is being sold must never, never be held up to ridicule. The circumstances under which the subject is introduced, the person who introduces it, everything surrounding it may be made the butt of devastating wit. Every word of every line in every script must be scanned for possible offensiveness to groups, races, religions, and parties. In a story show we get one basic plot, and stick to it all the way through. Most comedy shows start off with either a monologue by the comic or a scene between the comic and his cast. The average comedy show, after you deduct commercials, opening, closing, musical numbers, and musical transitions, contains a grand total of 18 to 20 minutes of dialogue. Therefore, if you want laughs, you had better keep that plot simple and uncomplicated. Build it so that there is room for plenty of sock comedy bits. You have to know what your comic's strong points are, and in your plot include lots of op-

portunities for him to parade these strong points before the microphone. So, before you try to get a job as a comedy writer, make sure that you know how to put your material down on paper.

SELECTED READINGS

BRUMM, WALTER: *How to Write Your Own Jokes*, Comedy World Publishing Co., New York, 104 E. 40th St., New York.

CAVER, JACK, and DAVE STANLEY, eds.: *There's Laughter in the Air*, Greenberg: Publisher, Inc., New York, 1945.

Twenty-one scripts of the best shows of radio's top comedians, with short biographical sketches of the comedians themselves.

HENLEY, ART: *Radio Comedy: How to Write It*, Comedy World, 62 W. 46th Street, New York.

Information on gag-writing, situation comedy, comedy characterization, and comedy construction.

LAWRENCE, JEROME: *Off Mike*, Essential Books, Duell, Sloan & Pearce, New York, 1944.

THE BUSINESS OF RADIO AND TV ADVERTISING

I have no intention in this handbook of tracing the history and development of sound advertising from the town crier, who rang his bell in the city streets, to the network whose gong announces that this is the National Broadcasting Company, or from the advertisements of the United States Gramophone Company in 1894, offering to record any musical selection with a sponsor's advertising announcements, to the modern electrical transcription. Suffice it to say, the contention of the Gramophone Company that "nobody will refuse to listen to a fine song, or concert piece, or an oration—even if it is interrupted by a modest remark: "Tartar's Baking Power is the best'" has proved to be true. In 1923 Station WEAJ announced that 10 minutes of its time on the air could be purchased by an advertiser for \$100. Today on WNBC (formerly WEAJ) the same period will cost the sponsor \$400. It was estimated that sponsors in the United States paid broadcasting stations \$428,990,000 in 1949 to advertise their products over the radio. This amount does not include what was spent for talent, for writing the continuity, and for advertising the programs but is merely what was spent for the use of facilities and the air.

The radio salesman must be aided in his job of selling time to a potential advertiser by his own station management. In other words, the station must sell itself in order to sell itself to others. It is not enough to be on the air; the station should grasp every other opportunity in other media to attract listeners. Advertisements in newspapers, on the motion-picture screens, on billboards, and in window displays should not be neglected. The station is advertised by its audience-participating shows, its monthly schedule releases, and by stage contests in the movie houses. That's sales promotion. Intelligent selling is dependent upon a businesslike management. The salesman's job is half done if management has made the station outstanding in the community. A public-relations

man is the best salesman a station can have even though he never sells an announcement.

The station whose staff is well informed, through surveys concerning the coverage of their station and everything about the market it is offering to the advertiser, is most likely to succeed. The salesman should have a coverage map and understand upon what basis it was made. He should be able to justify his station's rate card. He should be familiar with the programs presented by his station and their popularity rating. His surveys should enable him to give information to the advertiser about the age level, sex, and economic status of his station's listeners. He must be able to prove the effectiveness of radio advertising for other advertisers who have used his station. He must be familiar with his competition and the relative cost per person reached. From the viewpoint of the radio time salesman and the sponsor, "size of the audience" is the yardstick used to measure the relative worth of competing stations. In commercial radio, a radio program is a medium of advertising. If radio advertising is to be effective, there must be an audience. Since people listen only to programs that they like, the more enjoyable the program is, the larger the audience will be, and the commercial message will be heard by more potential purchasers. A radio program is considered successful when its listening audience is shown to be large enough to satisfy the advertising aims of the sponsor.

Radio stations, advertising agencies, and special agencies conduct surveys to determine the popularity of programs, presentation types, and stations. These surveys not only concern themselves with the preference of the listener but also with his economic and social status and his intelligence. The listener's habits and his activity while listening are also discovered by surveys. This information is sought to determine whether the program is reaching the audience to whom the product advertised will appeal. Surveys of this type are made by mail questionnaire, mail response to broadcast offers, personal interview, or telephone questions. The interview survey by a trained staff brings the most satisfying results. Devices which attach directly to the radio receiving set and which record electrically the stations tuned to are being used experimentally at present. These electric recording devices have a stylus, resting upon a tape, which is connected to the dial.

The commercial department of a radio station is filled with surveys and statistics to prove the worth of radio advertising. Ohio State University conducted a survey among Columbus housewives between 7:30 A.M. and 6 P.M. which revealed that whatever the household activity might be, these homemakers listened in large numbers to the radio. While they were ironing, 48 per cent of the housewives listened to the

radio; while sewing, 41 per cent; while preparing meals, 40 per cent; while eating, 33 per cent; and while relaxing, 58 per cent.

The prospective sponsor, at first, considers the cost of radio advertising to be high, but according to nation-wide surveys a one-half page ad in a newspaper in each of the top 32 markets will have a total cost of \$24,600. These papers have 2,670,000 readers. The average full-page black-and-white ad in the nation's most widely circulated magazine will cost \$17,950 for one issue. This magazine has 1,400,000 readers. Radio in a one-half hour evening network program will have a combined cost for talent and time of \$24,890 and the program will be heard by 11,924,000 people. Thus radio reaches 22 per cent more than can be reached by 32 newspapers at approximately the same cost; and radio will reach 66 per cent more people than the magazine with only an increase of 39 per cent in cost.

According to the Gilbert Youth Survey, figures show that 64 per cent of the young people or teenagers have their own radio sets and 60 per cent use them daily. It is also interesting to note that the buying power for boys was found to be \$14.65 and for girls \$10.77 a week. According to this survey, the teenagers present a potential purchasing audience with a total expenditure amounting to approximately \$8,000,000,000 a year.

The Service of the Agency

The listener tuned to a star program being broadcast over the network is thrilled by the glamour and romance of broadcasting and desires to gain a position in the key station. The listener does not realize that the staff of the broadcasting station has about as much to do with the nation-wide sponsored program as the owner of a theater has to do with a play presented upon his stage. The key station merely leases its air rights, its facilities, to the sponsor. The advertising agency is the sponsor's agent in making the lease, the sponsor's booking agent in signing up the star performers, the dramatic director for the cast, the author of the commercial plugs, and the agent through whom the script is purchased. If one desires to observe the origin, development, and evaluation of a big program, one should seek a position in the radio department of the large advertising agency.

The client must give the agency all the information concerning the distribution of his advertising budget so that all media can be coordinated. In most instances a single agency will be in charge of the whole campaign: outdoor, newspaper and magazine, mail, window displays, and radio. All these must be unified in their purpose. Different media may be used for direct selling, for education, and to create good will.

In order to select the most efficient broadcasting stations, the agency should know the location of distributors and of wholesale and retail outlets and where purchasers are most likely to be reached. The client's methods of merchandising are considered, even the distinctive package, its size, its shape, and its color. If there is a special offer, a bargain package, or a product to be pushed, this information is essential to the agency in planning the campaign. Such items as the counter, display cards, and window streamers, also usually designed by the agency, are considered in the composition of the radio continuity.

A superficial knowledge of the product is not sufficient. While the agency should know how it is manufactured and what its ingredients are, the really important thing is what the product does for the purchaser. The listener is not interested in anything except how the product will aid or affect him.

In order to build a program designed to appeal to the potential purchaser, the agency must know whether the product appeals to the rich or the poor, the man or the woman, the child or the adult, the rural or the urban. The agency is also interested in the seasonal appeal of the product, in order to include it in the radio programs planned for certain seasons.

These are but a few of the facts that must be gathered before anything is done about the radio program. From these facts the agency will determine whether to recommend radio as an advertising medium, what stations to use in the campaign, whether a network or spot program is to be used, whether to have live talent or to use transcriptions, and for what type of program and commercial continuity to plan.

When the use of radio is decided upon, the agency contracts for time, either with the network or with various local stations. In the selection of stations the agency is indispensable. The agency, to perform efficient service for the advertiser, must possess information as to actual station coverage, type and schedule of programs being carried, the approximate number of receivers in the locality, as well as the percentage likely to be tuned to the station at a certain time, and the purchasing power of the listeners within the area. All such information is based upon surveys made by special agencies. The agency books time with each station for a period it considers best for that particular locality. A big advantage of the transcribed program is that the agency can select times without regard to a nation-wide hookup, thus obtaining the best time in different parts of the nation.

The agency should consider the type of customer that presents the greatest potential market and should build a program to appeal to that purchaser. A program should be arranged which is expressive as a unit of the sales message and of the character of the sponsor.

Generally speaking, recognized stars are handled by individual agents or bookers, and the advertising agent and client deal with these representatives in endeavoring to build a program. There is an exchange arrangement between agents which permits the employment of stars by competing companies. The advantages of prestige, proved acceptability, and free newspaper publicity which big-name talent will bring to a program are obvious. On the other hand, the incorporation of the name of the product in a pseudonym for the artist is another opportunity to introduce advertising.

The agency usually goes to a client with a general idea of the radio program. After the client has approved of the general idea, which includes the type of show, type of music, name of the star, master of ceremonies, etc., the agency begins working with the network production department or an independent producer or does all the work in its own production department—building and rehearsing of the production. This finished program is then auditioned by the client, usually the president, sales manager, and other interested persons. It is at this time that they accept or discard the plan. After the client has approved of the show, the proposition goes to the dealers and distributors, with the purpose of “selling” them on the sales value of this new operation.

The commercial announcements are a matter of pure advertising, the first purely advertising copy, in fact, for the radio department of the agency to write.¹ When the artists are employed, the script for the entire program accepted, the musical numbers chosen, and the entire program rehearsed and timed, then the sponsor is invited to a dress rehearsal.

Before the program is broadcast, there is conducted a tie-in campaign, consisting of the distribution of window streamers, show cards, publicity to newspapers, and in some instances a direct-mail tie-in to customers. The merchandising campaign is conducted by the agency alone, the agency in cooperation with the client's field force, the agency in cooperation with the radio chain's sales department, or by any combination of these three. Dealers are notified of the coming broadcast. A big factor in the success of the radio-advertising program is the advertising of the broadcast program through other media. Spot announcements are sometimes used in advance of the program to announce a forthcoming series. In the merchandising campaign the retailer is contacted to learn if his stock is adequate to take care of the anticipated demand, to give advice concerning the display of his stock, to furnish him with samples if a sample offer is to be made over the radio.

The local station performs the same services for the local store or sponsor that the agency does for its national and larger accounts, only

¹ Refer to Chap. XXIII, Writing Commercial Continuity.

on a smaller scale. The local station often goes to greater effort to give personal services.

The Radio Time Salesman

A position in the sales or commercial department of a radio station carries a better income than does a position in nearly any other department. The income is better. In most instances the salesman is on a basic salary, but in many stations he receives a commission above his salary on his sales of time. The hours of labor are more satisfactory because the salesman should be diplomatic in selecting the hours when he will call on prospects. There is not the glamour that one enjoys before a microphone and having a contact with listeners; but there is the realization that without the salesman the local and the independent stations could not exist. A person who goes into radio sales must have a personality that will appeal to the purchaser of time. He must be an excellent salesman; he must have a thorough knowledge of the medium; he must have endless imagination and pep, a good educational background, and be a pleasing conversationalist.

The salesman should study his prospect and his prospect's business or product before approaching him concerning the purchase of time. He must know of the prospect's program likes and dislikes. He must be aware of the sex, economic status, and interests of the audience to whom the radio sales appeal will be addressed. He must be fully cognizant of the competition of other media and of radio programs sponsored by his prospect's competitors. It is easier for a local man to make good not only because he will be known by the merchants he will approach, but because he knows local conditions. The salesman for the station must have a thorough knowledge of the medium and of the station that he represents, understanding its opportunities and its limitations. He must have a fertile imagination to conceive and build programs that will appeal to the prospect and the listener. He must keep abreast of program ideas that are used in other localities and originate proposals of his own.

Ideas are the greatest asset of the radio salesman. It is hard work thinking up something original. Then in presenting the idea to the prospect, the salesman should spend his efforts in selling himself on the idea. Don't think about the prospect; if the salesman can sell himself, he will sell the merchant. When he has sold the sponsor, then he must deliver the goods; justify the faith of the purchaser. Even though the salesman neither writes, produces, nor announces the program, he and only he is responsible to the sponsor. Therefore, he must check up on the program's effectiveness and see that it comes up to the forecast he presented while selling it. If he does not deliver what he has promised

to deliver he has lost his contact, he has lost a permanent customer. The salesman is the liaison man between the station and its supporting client. He must not promise what he can't deliver and must deliver what he promised.

The radio advertiser generally relies upon the advice of the agency or the time salesman of the local station in determining the length and type of his commercial announcements, the number of announcements per day, as well as the over-all length of the radio advertising campaign. Nearly all stations sell commercial time on the same basis. The evening periods and late Sunday afternoon and evening are the most expensive (Class A); the morning and afternoon periods cost a little bit less (Class B); the very early morning sunrise times are still lower (Class C); and the periods between midnight and dawn are the least expensive (Class D).

Each station has a different method of classifying the time which it sells for commercial plugs. These range from (1) station breaks, chain breaks, or spot announcements which generally run about 15 seconds, announcements of from 20 to 50 words, the 1-minute or usually 100-word spot; (2) 5-minute commercials; (3) $\frac{1}{4}$ -hour programs; (4) $\frac{1}{2}$ -hour programs; and (5) 1-hour programs. Stations which are considerate of their audiences limit the minutes of commercial time on quarter-, half-, and full-hour programs. The price for each of these different commercial periods differs in accordance with the potential audience of the station, with the survey rating of the programs presented by that station; with the economic status of the listeners of the station; and other factors which are taken into consideration in determining the worth of time upon that station to the advertiser. Each station gets out a rate card upon which is listed the price of all types and periods on the basis of use of one time, thirteen times, twenty-six times, fifty-two times, etc. The more frequently time is used, the cheaper the rates become. In addition to the time periods, stations have specified rates for commercial plugs that are inserted in many programs that are given in connection with weather reports, time signals, and upon different participation programs such as disc jockey programs and programs for women. Two participating programs by the station may have different rates depending upon the popularity of the two programs. The stations have special rates for the presentation of transcribed announcements, and some stations refuse to put on transcribed commercials or singing commercials. In case there is the slightest bit of dramatic effort or effect—such as the announcer being required to cough while plugging a cold remedy—a talent fee is also charged in addition to the cost of time. This is true also when sound effects are ordered by the sponsor. It is amusing to note that some stations require payment in

advance for political announcements. As a comparison of rates, I have selected below three different stations located in the same city (Detroit). Because of potential audiences, rates in smaller communities would be much less.

RADIO AND TELEVISION BROADCASTING RATES
EVENING PERIODS—CLASS A

Watts	1 hour	½ hour	¼ hour	5 minutes	1 min. or less spots and breaks
Amplitude-modulation rates:					
250	\$140.00	\$ 84.00	\$ 50.40	\$ 30.24	\$16.00
5,000	700.00	420.00	280.00	175.00	84.00
50,000	900.00	540.00	360.00	180.00	100.00
Frequency-modulation rates:					
10,500	50.00	30.00	20.00	12.50	6.00
30,000	70.00	42.00	28.00	21.00	7.00
Television rate:	800.00	480.00	320.00	200.00	160.00

When TV rates are quoted they include advisory services of the program, production, and engineering departments in arranging and presenting programs. Production services consisting of scenic design, construction and execution, set furnishings, dressings, properties, including studio installation of foregoing, costuming, make-up, visual and audio effects, titles, and orthographic work including necessary research are made available for use as a service at a reasonable cost. Charges are quoted on request. There are additional charges for mimeographing scripts for agency- or client-produced programs and commercials.

Every authority on advertising will advise a prospective advertiser that a long-time policy and an extensive repetition of sales messages over the radio are essential to effective radio advertising. The honest station salesman will not accept an order which calls for a few announcements.

The Television Commercial

In advertising or commercial sales, as in nearly all other fields of radio, television offers unlimited and untried opportunities to the person with imagination and ingenuity. Television adds to eye and ear appeal the factor of action. Action inspires action, which is the aim of all com-

mercial copy. Television brings a living display or demonstration into the home of the prospect.

Various types of commercials have been tried on the TV audience. Probably the most successful are the demonstration sales appeals in which the product is shown and demonstrated, through close-ups during its use. "Before" and "after" pictures may show how it accomplishes its purpose. The demonstration that a vacuum-cleaner salesman puts on in your living room can be demonstrated upon your TV screen.

Reminder copy or institutional advertising may be subtle. The product itself may be a prop in a drama but the article will always be identifiable. The actor may reach for a Lucky or he may always be seen in a Ford—both may give him a lift.

Of course, the commonplace radio commercial may be given, supplemented by close-up shots of the product or other visual effects to emphasize the commercial. There may be a short educational commercial, not to exceed 3 minutes, showing how the product is painstakingly made or the sanitary conditions under which it is manufactured.

In any case, allow the visual product to carry the burden of selling itself. When well planned and produced, it will not require a lot of words. The demonstration and pictures take the place of the super salesman. The serious presentation of the sales message is, on the whole, better than comedy, but the entertainment value of the comedy presentation helps the prospective customer to remember the product. In radio, repetition was conceived to be of vast importance—L S M F T—but the repetition of the visual sales message has not been accepted. As every product and every sponsor has a different appeal the TV commercial salesman must consider the sales approach for each article individually. When the purpose, the appeal, is determined, present it dramatically. The singing commercial may come back to life in TV and a barbershop quartet may sing the virtues of a hair tonic in an appropriate setting. An animated Lil' Abner may grow powerful as he eats Cream of Wheat. Time signals may be visual as the televiewer watches the close-up of the second hand upon a Bulova watch. The TV commercial must be short, entertaining, or informative, and have movement. The fundamental principles which have been set up for radio commercials apply to TV.

It is the producer of the TV commercial who sweats. I have watched him try to place a bottle of beer on a set in such a position that its location will seem natural and casual but so that the actors will not prevent its label being read by the set owner. The producer struggles with the lights so that no reflection will prevent the reading of the label; so that there will be no shadows to distort the size or shape of the bottle; so that there will be no reflection from the glass. It took over 3

hours just to locate that brand reminder satisfactorily. I don't know how many bottles were emptied, for in some lights an empty bottle looks more natural to the camera eye.

The problems of the producer of a television commercial are exemplified by the following instructive excerpt from *Production Pointers*, copyrighted by Broadcast Advertising Bureau, 270 Park Avenue, New York, and the National Association of Broadcasters:

Television stations and networks have discovered that another key to the production problem of getting a good silverware display on TV is *proper lighting*. And here is the answer which has been worked out for getting a good picture of polished silverware.

Construct a canopy of white or beige pongee or other silky material in a square frame over the silverware. Cut a slit in one side for the camera lens. Light from the *outside* with strong incandescent light. Inside the canopy, light will be diffused and even. Silver will reflect the canopy and gleam brightly without halos.

Use dark backgrounds for silverware. Avoid satin or other smooth materials in favor of velvet and velour.

The smooth surfaces cause flares. Rough materials behind silver emphasize texture contrast in your picture.

The most widely used commercial in television is a short film. This method is expensive, and unless the film is frequently changed it bores the viewer. However, the film commercial can be timed precisely, can be discarded if it contains errors, and can show the use of the product away from the studio.

The personal endorsement in radio is practically discarded, but now that they can bring into the studio an athlete or a public personage and have that individual present his endorsement, such type of commercial has restored value. One of the problems involved in placing commercials on a dramatic program is that when the commercial is placed in the middle of the dramatic show, it spoils the continuity of the dramatic action and the mood of the program.

At present, the television stations have no code such as the broadcasters have, limiting the amount of commercial upon fifteen-minute, one-half-hour, and full-hour programs. The result is that on the curtains of the portrayed theater they have an advertisement of the sponsor; on the fence of a ball park they have a sign put there by the sponsor. When all of these indirect commercials are added together, the number of minutes per program far runs over the time limit set by radio stations.

The salesman's job in television consists of educating the advertiser; therefore he must have an extensive knowledge of the medium. The prospect will want to know how large the TV audience is, how many

receivers there are in the station's area, how many receivers there are in homes and their income level, how many there are in public places and who frequent these places, what age level TV reaches, and what its national status is. Just as in radio-time sales, surveys play a most important part in selling the TV advertiser.

Advertisers spent 35 million dollars in 1949 on TV. The trend in TV is to have a number of sponsors for a single presentation upon the participating basis. Department stores are natural TV advertisers. Advertisers have found that TV is not merely an advertising medium, it is a sales medium. Advertisers who have never used radio are buying TV time. In 1949 there were 1350 TV clients who had never used radio. TV is in the competitive phase. The three vital ingredients to success are radio experience, showmanship experience, and shrewd business management.

SELECTED READINGS

BARTON, ROGER, ED.: *Advertising Handbook*, Prentice-Hall Inc., New York, 1950.

Thirty-three top experts in advertising and related fields have contributed chapters to this book.

BENNETT, PHILIP A.: *Television as an Advertising Medium*, Government Printing Office, Washington, D.C., 1949.

Data on stations, sets, marketing areas, program costs, and possible influence on advertisers and agencies.

BRIDGE, HARRY P.: *Practical Advertising*, Rinehart & Company, Inc., New York.

Several chapters are devoted to the specific problem of radio and television.

CHIRURG, JAMES THOMAS: *So You're Going to Choose an Advertising Agency*, Funk & Wagnalls Company, New York.

Evaluates work within specific departments (research, copy, art, media, production).

DAY, ENID: *Radio Broadcasting for Retailers*, Fairchild Publications Co., New York, 1947.

A guide for the sponsor and the radio salesman.

GARVER, ROBERT I.: *Successful Radio Advertising*, Prentice-Hall, Inc., New York, 1949.

Analyzes sponsor participation programs such as disc jockey, farm, musical clock, women's service, audience participation, and husband-wife combinations.

HOWER, RALPH M.: *The History of an Advertising Agency*, 2d ed., Harvard University Press, Cambridge, Mass.

Specific references to radio and television advertising are interwoven throughout its pages.

LAZARSFELD, PAUL F., and HARRY FIELD: *The People Look at Radio*, The University of North Carolina Press, Chapel Hill, 1946.

Report on a survey conducted by the National Opinion Research Center, University of Denver, Harry Field, director; analyzed and interpreted by the Bureau of Applied Social Research, Columbia University, Paul F. Lazarsfeld, director.

LAZARSFELD, PAUL F., and PATRICIA KENDALL: *Radio Listening in America*, Prentice-Hall, Inc., New York, 1948.

Contents: The Communications Behavior of the Average American. Programs and Their Listeners. The People Look at Radio. Some Observations on Advertising. Toward an Even Better Radio. Details of the Survey.

MIDGLEY, NED: *The Advertising and Business Side of Radio*, Prentice-Hall, Inc., New York, 1948.

A practical textbook giving detailed information on sponsorship of programs on the major and regional networks and on spot campaigns, as well as on the management and operation of local stations. Based on a course given by the author at the New York University School of Adult Education.

Production Pointers, Broadcast Advertising Bureau, New York, 1950.

Designed to point the way toward better, more effective, less expensive TV commercials. Shows how products can be given greater television appeal.

Radio—One-quarter Century of Progress, Free & Peters, New York, 1946.

Costs of spot broadcasting, as compared with newspapers, magazines, and network radio.

SANDAGE, C. H.: *Radio Advertising for Retailers*, Harvard University Press, Cambridge, Mass., 1945.

Considers the extent to which retailers and others have used radio, the character of such use, and the factors that made for success or failure.

SILL, JEROME: *The Radio Station: Management, Functions, Future*, George W. Stewart, Publisher, Inc., New York, 1946.

Some Billion Dollar Questions about Television and Some Suggestions on How to Think about Them, The Faught Co., 342 Madison Ave., New York, 1949.

A public-relations firm analyzes TV's balance sheet and recommends some form of pay-as-you-view system to augment advertising income.

Spot Radio Promotion Handbook, Standard Rate & Data Service Co., 1949.

A new book for radio station managers, promotion men, and sales representatives which analyzes the viewpoints, practices, and needs of spot radio-time buyers and users.

WOLFE, C. H.: *Modern Radio Advertising*, Funk & Wagnalls Company, New York, 1949.

A wealth of up-to-date information on all phases of radio advertising, covering fundamentals of radio advertising, radio advertising techniques, network advertising, spot radio, commercial announcements, past, present, and future of radio, and the opportunities in radio.

WRITING COMMERCIAL CONTINUITY

In the American system of broadcasting the commercial sponsor is the angel for the broadcasting station. Without the money he pays for the presentation of his advertising continuity, the commercial broadcasting station could not exist. The sponsor is interested only in the entertainment value and the appeal of his program to the extent that they will attract and hold a large enough audience to make the delivery of his commercial copy profitable. Consequently it must be written to comply with the general requirements of the psychology of advertising and the rules of grammar. By the term "commercial continuity" I refer to all types of advertising plugs; the 20-word station break; the 100-word commercial announcement, which is frequently sold as a 1-minute announcement; the 5-minute commercial program; and the advertising portion of longer entertainment features.

In writing the commercial it is wise to keep in mind that people do not buy things, they buy uses. They buy the skin you love to touch, not soap. They buy kissable lips, not lipstick. The Simmons Mattress Company doesn't try to sell mattresses; it tries to sell sleep and comfort. Thus it is the result of the purchase that should be spoken of rather than the product itself. Here are some emotional motives that can be played upon in the commercial:

1. Self-preservation from harm or danger, which includes care of health.
2. Satisfaction of appetite; pleasing taste.
3. Romantic instinct.
4. Care of children and family.
5. Ambition and advancement, economic or social; intellectual desire for advancement.
6. Desire for securing comfort, personal comfort or comfort in the home.
7. Desire for entertainment, pleasure, leisure.
8. Cleanliness. This is a deep-seated instinct.
9. Pride—in appearance, in one's home, in one's family, etc.
10. The expression of artistic taste, which takes the form sometimes of the selection of gifts.

On the other hand, the rational motives for buying are handiness, efficiency in operation or use, dependability in use, dependability in quality, durability, economy in use, economy in purchase. By comparison, it may easily be seen that the emotional motives far outweigh and outnumber the rational motives.

The continuity writer is concerned primarily with writing copy expressly for the purpose of advertising a product. In order that he may write such advertisements well, he should be thoroughly familiar with the product that he is to advertise. It is wise for him to visit the plant where it is made, see the conditions under which it is made, talk with people who have used the product, and sell himself thoroughly before attempting to sell the radio audience. Only when he has had such a thorough working knowledge can he enthusiastically portray the product's worth in words. However, such an investigation should not result in the writer's viewing the product from the manufacturing point of view instead of from the point of appeal to the buyer. An interview with the sales manager or someone who will recommend the product is usually of value.

The continuity writer must have all the originality, new ideas, and new methods that are to be found in the capable advertising man. Because of the innumerable commercial programs that are on the air, methods of presenting commercial plugs soon become hackneyed and trite, and the man who conceives new styles becomes a leader in this field.

An example of good advertising was that in which the announcer spent at least 1 minute advertising Jello without mentioning the product or any of its slogans. He pretended to have a telephone conversation with his wife and, although they didn't say what they were talking about, every listener knew what was going on. It was amusing. It did not mention the name of the product in an irritating way. The advertising became actually enjoyable for the audience because they had so much fun guessing what was going on and the right answer helped their ego a bit. This is a dangerous practice, for it demands a steady audience, one which listens every week without fail, so that the listeners become familiar enough with the product, its claims, and its slogans that these need not be mentioned, yet everyone will know what is being talked about.

The reading of advertisements is fine training for writing them. The writer must have a sense of both dramatic value and newspaper-writing principles. When the writer lacks these qualities, his commercials will strike the radio public as deficient in grace, tactless, or uninteresting—hence unproductive.

It must be remembered that only a small proportion of the commercial continuity that is heard from a broadcasting station is written by the staff of that station. Most of the programs that advertise national products

are bought directly from the writers by advertising agencies, who also cast the shows and turn to the broadcasting network for the purchase of time on the air. Furthermore, many of the advertising agencies prepare the short commercial plugs for their clients. The larger advertising agencies have their own radio departments with continuity writers who are experienced in the writing of advertising copy. In every instance the broadcasting station endeavors to work in harmony with the advertising agency and to suggest changes in style and content in the continuity that is to go out over its facilities. The station advertising department, however, must use great tact in suggesting changes, because the copy may have been written by the sponsor, or the advertising agency may have submitted the copy to the sponsor and would feel that its services were being belittled if the copy were criticized and changed by the station's experienced continuity writer. Ordinarily the work of the continuity writer of the broadcasting station is offered free to the advertiser who purchases radio time. He works directly for the studio, writing copy that is used to bring in revenue to the organization.

Great care should be exercised in the placing of commercial credits in the longer type of commercial programs. The best times are shortly after the opening and, if the program is to be a full-hour program, at the half-hour break; if the closing announcement is employed at all, the commercial plug should be brief and to the point and should precede the actual closing of the program. The style and form of these three commercials should be varied, for nothing so annoys the radio audience as unnecessary repetition, especially if it is of a descriptive character.

Subject Matter

Considering the need of originality in advertising copy, it is not advisable to lay down any hidebound rules for writing it. In general, however, there are three types of commercial copy: reminder copy, educational copy, and action copy.

Reminder copy is that type which endeavors to keep before the purchaser the trade name and slogan of a well-known and widely advertised product, and generally consists merely in giving this slogan, the trade name, or a description of the distinctive wrappings or appearance of the product. This type of copy contains a minimum number of words phrased with skill and subtlety to convey the desired suggestion. Any attempt to make a direct sale with a mention of price is detrimental to this type of copy. It is purely good-will advertising used in connection with national advertising programs.

Educational copy is used primarily in the introduction of a new product and gives information about it, stimulates the purchaser's curiosity,

and arouses in him a desire to purchase it. This type of continuity should point out the results of the product rather than the ingredients that are used in making the article. Of course, in every instance the name of the product must be emphasized. However, the name of the manufacturer is not always necessary or advisable. One of the more subtle uses of radio is the elimination of a sales resistance that results from the purchaser's fear of appearing foolish by asking for a product whose name he is unable to pronounce. The announcer may make the pronunciation of the name clear.

Action copy is the salesman of the air, for it announces price cuts and new models and assumes that the listener is familiar with the product. This type of copy is written to induce immediate action and contains what is known in rhetoric as "the interest of stimulation," which impels the listener to clap on his hat and go out and buy. While the masculine pronoun is used here, surveys seem to show that the housewife is the one to whom radio advertising should be directed, for she is the one who has the most influence upon family purchases and spends the greatest amount of time in the home.

Commercial continuity should always attempt to create good will and friends for the product. The copy must have a style that will attract attention and through this attention make its sales appeal.

There is a favorable reaction to the type of continuity in which the sponsor makes himself known indirectly, possibly by naming the orchestra after his product. Such names connected with artists create a lasting impression, which is the main objective of the advertiser.

While advertising continuity must not be too sweetly appealing, it should be persuasive. There are various methods of making an idea persuasive, which include appeals to patriotism, to the property-owning motive in human nature, to the desire for power and superiority, to health as a means of achieving power, and to the affection instinct. The sex motive looms large in advertising, and an indirect sex motivation can often be found in products. Frequently, if the program is a local one, the injection of a bit of local news or interest will make the appeal more personal. Nearly every subject permits an appeal to some kind of human fear, which is always effective, or an appeal to human desires, which are equally or more important. Primary motives are food, shelter, and ornamentation or luxuries. Over 60 per cent of our national income is expended for things or services under the classification of ornamentation or luxury. Ordinarily, therefore, any advertising appeal should be addressed more to desire than to fear or necessity.

False or questionable statements and all other forms of misrepresentation must be eliminated. The Federal Trade Commission acts as the

watchdog for accuracy in radio as well as in other forms of advertising. It is interesting to note that the percentage of criticism for radio is less than that for other advertising media. It is ill-advised to belittle the product of a competitor. All stories and pictures of an unpleasant or a disgusting nature should be avoided. Make the copy pleasant because it may be received during a social event or a dinner party and would create a bad impression for the product if it were not in good taste. Human nature does not like to hear or to discuss disagreeable things. Questionable and risqué stories, songs, or jokes should be forbidden; and, of course, general broadcasting principles eliminate profanity, sacrilegious expressions, and all other language of doubtful propriety. Statements or suggestions that are offensive to religious views, racial consciousness, and the like are to be avoided. If testimonials are given, they must reflect the genuine experience or opinion of a competent witness who speaks in an honest, convincing manner. When dramatized commercials are used that involve statements by doctors, dentists, druggists, nurses, or other professional persons, the lines must be read by a member of these professions reciting actual experiences, or explanations must be made by the announcer that the scenes enacted are fictitious. There must be no misleading statements concerning price or claims of the product; and comparison with other products is not diplomatic.

The radio public objects frequently to the amount of advertising included in a radio program. The continuity writer should therefore use discretion in determining how much continuity to include in his period. High-powered salesmanship, undue repetition of price, and the excessive use of superlatives are not in good taste.

It must be recorded that these cautions against the use of questionable claims, superlatives, unpleasant ideas, the imperative tense, and disparagement of competitors—while undoubtedly for the good of commercial radio and its advertisers as a whole—are being conspicuously violated, principally by local stations, for the immediate advantage of individuals. The networks seem to have higher commercial ideals.

The continuity writer should see that there is no conflict between the broadcast announcement and the sponsor's advertisements for the same product in other media. All types should coordinate. It is good policy to mention the names of local dealers of a product in order that they may appreciate the value of the radio advertising.

Style

The two main faults of advertising writers in preparing copy for radio announcements are (1) that the copy is written to be read, not heard; and (2) that interest-seeking advertisers use unjustified methods of

attracting attention. Commercial writers are inclined to use a newspaper headline style instead of the conversational form. Sentences are inverted; words are left out; the advertisement is prepared to be seen, not heard. When a reader sees the same copy in a newspaper or magazine, he unconsciously fills in the missing words, but when this copy is heard over the air the incomplete statements are meaningless. Possibly this style results from the limitation imposed by broadcasting stations on the number of words in certain types of commercial plugs. Conciseness and simplicity are major requisites, but nevertheless clearness is essential. The continuity writer should explain his points in simple, direct language. He should be concrete, not abstract. Large figures are not easily followed and may be misunderstood. Percentages are confusing. The use of similes and vivid figures of speech is desirable.

The style of the radio announcement should be simple and personal, for the announcer is talking to an individual, not to thousands. He should never be "high-hat," no matter how expensive the product he is advertising. In writing copy never visualize the radio audience as a tremendous number of people seated together, but rather as a family group or an individual. Material that is presented in a personal way is given more attention than material that is presented objectively. The listener should be made to feel that he is buying a product from a friend, from one who has taken the trouble to entertain and to help him. Talk with the listener in the second person; be chatty, intimate, and persuasive.

While the listener may be addressed in the second person, the announcement should never make the announcer a member of the firm that is advertising. He should not say, "Come down to our store," because his voice is known as that of an announcer connected with the broadcasting station. Such a style would be misleading and, moreover, would constitute an endorsement of the sale or article by the station.

Facts and products are most easily popularized through an engaging personality, and the words of the continuity must create this character. The radio listener reacts better to a modest and unobtrusive approach. If the words are shouted at him, there is no opportunity for the speaker to emphasize certain vital words and facts. The writer should examine his copy to see if it is in the same form and has the same content that he would use if he were calling upon and talking to the listener personally. It is very good practice for the continuity writer to test out his copy by putting it onto the office dictaphone and then playing it back to see whether it sounds friendly and convincing. Probably a better practice would be to have someone read the announcement back to the writer, who may be surprised how one who is unfamiliar with the sense intended by the writer may interpret the copy. Write so that only one interpreta-

tion can possibly be given to the message. Make the continuity for your sales talks as attractive as you would endeavor to make your application when seeking a position.

The tendency of certain advertisers to introduce their commercial announcements with interest-catching devices such as "Important news flash" or "Calling all cars" is bad, because such an introduction is misleading and is inclined to offend the listener rather than appeal to him. Announcements can be interesting without being heralded as "news," so that such introductions are a waste of words. To "soft-soap" the listener is bad, to plead is worse, and to bully is the worst of all. The program should be appealing, but not commanding. Mechanical methods of approach do not make for vital, attractive, or inoffensive continuity.

A short announcement, to be effective, should contain not more than one idea. If you wish to make a lasting impression, do not have more than one request for action in a single short announcement and do not arouse conflicting appeals; to describe vividly the gnawing on a chicken leg overshadows the appeal of a tooth paste. Place the name of the product advertised and the point to be impressed early in the announcement; then, if the listener turns off his radio, you have at least introduced your product to him. If the continuity includes an offer, it should be stated simply and clearly without any involved or prolonged explanation. A well-centered climactic sales script is better than one that has many cheap and obvious clinaxes. While repetition is used to drive home a point, the same phraseology should not be reiterated to the point of annoyance. Trade names and addresses should be given a number of times, but the form of delivery should be changed. The most productive way to obtain direct-mail response is to have replies sent directly to the broadcasting station, for the call letters of this station will be heard a number of times whereas the address of the sponsor can be heard only upon that immediate announcement.

Dramatized Commercials

The inclusion of the commercials in the continuity of the variety show is desirable, for programs should be knit closely together. The director must bind the program into a unified production instead of shoveling it out to the audience in unrelated parts. There is no excuse for a break of movement or a shift in the tone of the broadcast. The most successful programs on the air today build the announcers into the structure of the show and make them human and appealing characters who carry weight in their own right. This simplifies the task of putting human interest into the selling, and often the commercial hardly seems to be a selling announcement. If the show has been properly constructed, it will hold the

listeners' interest throughout and they will listen right through the commercial without knowing that they have invited a salesman into their homes. The best announcement is that which becomes part of the entertainment and follows the spirit and the tempo of the show.

The straight commercial announcement no longer is so effective as the dramatized commercial. More and more advertisers are realizing the wisdom of dramatizing their announcements as part of the entire show. A radio show cannot be allowed to lag or it will lose the listener. Careful attention is paid to this requirement during the entertainment part of the show, and there is no reason why all this effort should be nullified by permitting the commercial to change the tempo. After all, this is the most important part of the show to the sponsor, and he should take care not to lose the listener to some other program because of dull announcements.

When the announcement is given, it should be right in step with the rest of the show. The product, however, should not be dramatized. A dramatic situation should be created, and the solution achieved through the agency of the product. The more natural the solution, the more believable the dramatic situation.

A great variety of forms are used today in radio advertising, which may be traced back to an early phase in the history of broadcasting. The commercial theme song came first for promoting the sales message. In 1920 it was used as the main selling factor in many advertising campaigns, and no sponsor in those days was too dignified to make use of the theme song. It did have a valuable purpose, too—that of associating a product with a hummable tune, creating a melodious slogan.

During the twenties the continuity writer wrote his product into the introduction of the musical numbers. This practice has developed into the incorporation of advertising with the regular script of the show and now is used in most comedy shows. The product is usually worked into a gag and draws a laugh and oftentimes applause. The listener does not object to such advertising and yet at the same time the sales talk is being put across.

In the dramatized commercials, the writer has a wide variety of devices from which to choose. He can use lyrics, dialogue, or straight selling. His dramatization may be one, two, or three episodes, all linked, if necessary, by swift narration. But whatever devices he chooses to use, his commercial must have three basic divisions, (1) the teaser, (2) the message, and (3) the compulsion.

The teaser must create an appetite for the message. It decides whether the listener will listen. Its job is much like the illustration, color, or catch line in the printed ad. The teaser can employ many techniques to seize

the immediate interest. The play can be on (a) timeliness, season, holiday, special events, etc.:

ANNOUNCER: Now that warm weather has come, no doubt many of you are planning many delightful outings for the beautiful week ends to come, just like the Smiths are in this little scene . . . (*Fades into: skit in which the Smith family agrees that the sponsor's product is necessary for a perfect time.*)

The public is always eager to use the latest gadgets and devices on the market, and the idea of (b) newness will catch the ear:

ANNOUNCER: Are you burdening yourself with the old-fashioned ways of working around the house? Mrs. Darwin isn't; she's enjoying an afternoon at the club with her friends . . . (*Fades into: women chattering at club, talk of scores, shots, and putts.*)

MRS. A: You played a wonderful game today, Jane.

JANE: Yes, my game has steadily been improving, but that's because I've been able to get more afternoons off to play golf.

MRS. A: However do you manage it? Why, I had so much ironing yesterday I was almost too tired to come out today.

JANE: Oh, that hasn't bothered me since I got a new Whizzo Ironer. Why they're just too (etc.).

Appeal directly to the listener is often made in order to give the commercial (c) personal touch. This suggests the heart-to-heart talk between announcer and listener:

ANNOUNCER: (*Sneezes loudly; talks through nose as if he had a bad cold*) Ladies ad geddlemen (*Sneezes*) . . . Ads I wads zaying (*Sneezes again*) . . .

ANNOUNCER B: (*Interrupting*) Say, Jim, you can't make an announcement in that condition. Ladies and gentlemen, you will please excuse my fellow announcer, but as you can see he is in no shape to go on the air. Evidently he hasn't heard about Dr. Zilch's famous cold remedy. *You've* heard of it no doubt—of course you have—that's the remedy with zenoxytol, the latest discovery of science for fighting off colds. Well, I'm sure you'd want me to tell my friend Jim about it so that he can be back on the job tomorrow, and then he can tell you what was on his mind.

Flattery (d) is often an effective appeal to catch the listeners' attention, although it should be used with discretion. The announcer says: "Every intelligent person knows," etc., etc., or "No really wise buyer will spend more than," etc., etc.

The best means of attracting attention is that which will immediately bring some sort of emotional reaction. An emotional receptivity for the coming message is more desirable than the mere creation of mental curi-

osity. This is the specialty of the dramatized commercial, for drama more quickly than any other approach can mold our emotions. The idea is to create a situation in which the listener imagines himself to be and from which the only escape lies in the purchase of the advertised product. But care must be taken to picture the outcome of the use of the product not as shiny white teeth, a clean body, or sweet breath, but a successful romance, a happy life, or a good job.

The actual message is merely a description of the product often laid down by the advertiser in his own phraseology. The script writer has little opportunity for ingenuity here; his task is merely to link together, in the smoothest way possible, the sponsor's favorite phrases.

The compulsion line is usually as terse and as compelling as possible. These lines run: "Don't wait, it may be too late! Buy yours today," or "Go to your nearest dealer and have him show you the latest model cleaner." In this final and important phase of the commercial is included: "Save the coupon on the back, it may be used to obtain valuable premiums." One of the most popular methods today is the contest; compulsion lines in such campaigns run: "Visit your nearest Gaso dealer and get your free entry blank for the big \$10,000 contest!"

A further modification of the use of dramatics in advertising is the personification of products, with all the emotions of humans. Such stunts as a vacuum cleaner humming and singing as it cleans and the almighty dollar shouting that it is being stretched too far are of this type. It is a vulgarization of dramatics, a burlesque, but it nevertheless is an example of radio advertising in forms other than the usual straight announcing.

In the limited dramatic skit used in dramatized commercials, sound saves time without depriving the ad of any of its desired effects. The sound of a car saves the wordage a straight commercial would use in setting the scene. The same sound can give the impression of speed, progress, or other similar effects without using a word. Sound effects will catch the listener's ear more quickly than an announcement. A shrieking siren or clanging bell will take the listener's mind off whatever he is doing more quickly than will a human voice. Wherever possible, sound effects should be used in the dramatized commercial in order to obtain the most effectiveness in the least time.

Length

The advertising man appreciates the value of white space in the layout of a magazine or a newspaper advertisement, but inconsistently he endeavors to fill every second of a radio announcement with copy. This is a mistake. White space in entertainment—in the form of brief

pauses—has just as much value in radio copy. Nearly all advertising continuity is too long, and the principal reason for this is that the writer does not seek vivid words to take the place of groups of words. Verbs and adverbs are neglected for adjectives. The advertising story should be told quickly. Condense and intensify. Give the salient qualities of a product, its trade name and slogan, its price, and where it can be purchased.

The apparent length of a commercial depends a great deal upon the interest it can arouse. Many an interesting announcement has taken up twice as much time and seemed only half as long as most uninteresting ads. When the advertising message has been completed, stop before you become an obnoxious salesman.

Diction

Words used in radio commercial copy should be simple, dignified, and in good taste. The announcer does not make friends if he attempts to use high-flown words or to display an extensive vocabulary. If it is necessary to use a technical phrase, define it. It is a well-recognized fact that words of Anglo-Saxon origin are stronger than those with foreign base. Do not use any words that may have a double meaning. Because his entire impression on the audience is made through the sense of hearing, the radio writer must be even more careful than others to write in words understandable to the audience. The person listening to a speech cannot stop to look up unfamiliar words without losing a part of the message. Furthermore, a startling or unusual word will attract attention to itself, rather than to the commercial message. Choose language that expresses big ideas rather than that which displays big words.

Advertising copy should be addressed to the level of those people to whom the sponsor expects to sell his product and to the audience expected to listen at the particular time—juvenile, adult, feminine, masculine. The writer of copy addressed to adults must adjust his vocabulary so that all his listeners, who, of course, have varying degrees of education, may be reached. His speech must be understandable to the least learned as well as to the most learned. The successful writer always selects words that will be within the scope of his prospective listeners.

While good usage is considered essential, certain programs allow some liberty. Slang and sport phraseology have a place only on certain types of programs. Trite and hackneyed expressions are offensive; foreign derivatives should never be used; figures of speech should be carefully chosen. In the preparation of copy a thesaurus (Roget), a book differentiating between synonyms (Crabb), and a good dictionary are most useful.

Do not use words that don't add color or motion. Don't even write "the" unless you mean "the." Edit all words that gray (the) color or clog (the) motion. Don't use (the word) "and" unless you (actually) need to emphasize the impression of adding (something).

Sentence Structure

The structure of the sentence plays a great part in the clearness of the material presented. If the thought is obscured by complicated and involved sentence structure, the audience can do nothing to rescue itself from wandering. The best way to be sure of sentence clarity is to use simple and compound sentences and to avoid complex forms. If the listener does not understand every sentence as the speaker utters it, he immediately loses interest. Avoid the use of adversative and coordinate conjunctions. Break your sentences in two, but, on the other hand, do not let them be of the same length, for in that case the delivery will have a monotonous melody. It is not always easy to make short sentences beautiful, but they will have force and drive home the idea. Do not fail to read aloud each sentence to see whether it clearly states the idea, and be sure that it cannot give any other than the desired idea; you cannot rely upon your announcer's delivery.

While short, glowing sentences are most successful, certain statements demand longer sentence structure; but where this is the case, the sentence should not be involved. Each successive phrase and clause must clearly unfold the thought. Sentences should be built up to an important word or idea. They must not flow downward. Of course, in general, grammatical rules must be obeyed; nevertheless speech permits some liberties. The chief concern is, Does the copy read well? Is it easily understood when heard?

Rhetoric

Correct grammatical rules are not always followed in this type of writing. Occasionally it becomes suitable to change and deviate from rules in order to give the copy a unique and forceful style. However, strict attention should be given to accurate grammatical relationships, such as the agreement of verbs with their subjects, pronouns with their antecedents, and pronominal adjectives with substantives, and the agreement of tenses. A grammatical error in any of these catches and holds the attention of the listener whom you wish to impress by your sales talk. The use of the imperative is rather irritating to the listener, who would prefer to be permitted to arrive at his own decision rather than to be dictated to by the announcer. The use of questions is an old device for

demanding attention, but the writer must be very positive that no humorous answer or no antagonistic answer can possibly be given. He must be certain that the only answer possible is the one that he desires. One of the oldest axioms of successful advertising is to pursue a positive lead of the listener's or reader's thought; this is immediately defeated when the writer asks a question. Therefore it is obvious that the safer course to pursue is to omit the question element entirely. Tongue twisters should be avoided, for the most experienced radio announcer may become nervous and make a slip, regardless of how well he knows the material. Certain methods of arrangement and phrasing of material help to secure effectiveness in a radio message. Suspense may be created by allowing the listener to be conscious that you are working toward an objective, an interesting objective. The placing of emphasis upon certain words by the announcer may be assured by placing these words following pauses indicated by marks of punctuation.

In many instances the copywriter is so intent upon making a point that he fails to see that what he has written will make a different impression than that which is in his mind. This is often caused by misplaced modifying clauses, stringiness, or poor construction. A few illustrations of careless writing heard over the networks and the stations are: "See Harry Applebaum for that new pair of Sunday pants, open evenings and Sundays for your convenience"; "Don't wait until you have a headache; ask for it today"; "Thank you for feeding your dogs and cats Thrivo and we want you to recommend it to all your friends and relatives"; "Thousands of people who have listened to this program have headaches right now"; and "When I see a lady who does her own housework and dishwashing and who has soft, pretty hands I know she has been using her head." How would you retain the intended ideas and correct these announcements so that the announcer could not go wrong? You must not rely upon an announcer to say what you want him to say unless you write the announcement so that he cannot possibly give a misinterpretation.

Contests, "Give Aways," Offers

The contest and the "give-away" programs became very numerous in 1949. Awards to winners in the "give away" rose to \$50,000. The programs themselves had little continuity, slight entertainment value, except for the listing of prizes and the excitement of finding a winner. The programs were widely condemned and yet had very high Hooper ratings. The F.C.C. attempted to ban the "give away" under the following regulation:

On the subject of contests and offers, Sec. 316 of the Federal Communications Act reads as follows:

No person shall broadcast by means of any radio station for which a license is required by any law of the United States, and no person operating any such station shall knowingly permit the broadcasting of, any advertisement or information concerning any lottery, gift enterprise, or similar scheme, offering prizes dependent in whole or in part upon lot or chance, or any list of the prizes drawn or awarded by means of any such lottery, gift enterprise, or scheme, whether said list contains any part or all of such prizes.

Any person violating any provision of this section shall, upon conviction thereof, be fined not more than \$1,000 or imprisoned not more than one year, or both, for each and every day during which such offense occurs.

The Mutual Broadcasting System set up the following regulations relating to contests and offers:

When an advertiser proposes to use a contest in connection with any program, full details must be submitted to Mutual in advance of the first public announcement in any medium tying in with the program, and at least 10 days prior to the first broadcast announcement of the contest.

Contests will be permitted only when they fulfill all the following standard requirements:

1. Equal opportunity to all contestants to win on the basis of skill and ability, and not on chance. Contests based on chance are not acceptable.
2. The basis for judging entries must be clearly stated in each contest announcement, except in preliminary or "teaser" announcements.
3. The decision of the judges must be final; and duplicate prizes must be awarded in event of ties. These provisions must be included in each contest announcement.
4. All prizes and awards must have the approval of the network before the start of the contest.
5. Mutual must be informed of contest closing dates. In a contest lasting two weeks or less, the closing date must be included in all announcements from the start; in longer contests, closing dates must be announced at least two weeks in advance.
6. Box-tops, wrappers or other evidence of purchase may be required of contestants; but provision should be made to accept "reasonable facsimiles."
7. Judging must be completed as soon after closing date as possible; and announcements of winners must be made promptly, on the program itself. When, because of length, announcement of all winners cannot be made, the network must be supplied with a list of winners so as to be able to answer queries from contestants.
8. Entries to contests must be directed to the advertiser.
9. All announcements are subject to approval by Mutual; and must be made within the time limits set for commercial messages in the programs involved.

Offers

1. An advertiser must in all cases completely fulfill the conditions of his offer to each qualified acceptor thereof.
2. No premium will be approved which may prove harmful to person or property, or which plays upon superstition.
3. An offer which involves monetary consideration may not be described as "free" or as a "gift"; the consideration charged is subject to approval by Mutual and must be commensurate with the value of the article offered; and the advertiser must agree to refund such consideration if listeners express dissatisfaction and request it.
4. Mutual and all Mutual stations must be held free and harmless by the advertiser from all liability in connection with offers.
5. Termination date of offers must be announced as far in advance as possible. When an offer is to be withdrawn, full details must be broadcast, including date and time.

Commercial Announcements, F.C.C. Regulations

The F.C.C., as you are aware by this time, completely oversees the activities of the radio station, even regulating commercial announcements.

Sec. 317. All matter broadcast by any radio station for which service, money or other valuable consideration is directly or indirectly paid, or promised to or charged or accepted by, the station so broadcasting, from any person, shall at the time the same is so broadcast, be announced as paid for or furnished as the case may be by such person.

The rules and regulations of the Federal Communications Commission (Section 3.409—Announcement of Sponsored Programs) reads as follows:

(a) In the case of each program for the broadcasting of which money, services, or other valuable consideration is either directly or indirectly paid or promised to, or charged or received by, any radio broadcast station, the station broadcasting such programs shall make, or cause to be made, an appropriate announcement that the program is sponsored, paid for, or furnished, either in whole or in part.

(b) In the case of any political program or any program involving the discussion of public controversial issues for which any records, transcriptions, talent, scripts, or other material or services of any kind are furnished, either directly or indirectly, to a station as an inducement to the broadcasting of such program, an announcement shall be made both at the beginning and conclusion of such program on which such material or services are used that such records, transcriptions, talent, scripts, or other material or services have been furnished to such station in connection with the broadcasting of such program; provided, however, that only one such announcement need to be made in the case of

any such program of five minutes' duration or less, which announcement may be made either at the beginning or conclusion of the program.

(*c*) The announcement required by this section shall fully and fairly disclose the true identity of the person or persons by whom or in whose behalf such payment is made or promised, or from whom or in whose behalf such services or other valuable consideration is received, or by whom the material or services referred to in subsection (*b*) hereof are furnished. Where an agent or other person contracts or otherwise makes arrangements with a station on behalf of another, and such fact is known to the station, the announcement shall disclose the identity of the person or persons in whose behalf such agent is acting instead of the name of such agent.

(*d*) In the case of any program, other than a program advertising commercial products or services, which is sponsored, paid for or furnished, either in whole or in part, or for which material or services referred to in subsection (*b*) hereof are furnished, by a corporation, committee, association or other unincorporated group, the announcement required by this section, shall disclose the name of such corporation, committee, association or other unincorporated group. In each such case the station shall require that a list of the chief executive officers or members of the executive committee or of the board of directors of the corporation, committee, association or other unincorporated group shall be made available for public inspection at one of the radio stations carrying the program.

(*e*) In the case of programs advertising commercial products or services, an announcement stating the sponsor's corporate or trade name or the name of the sponsor's product, shall be deemed sufficient for the purposes of this section and only one such announcement need be made at any time during the course of the program.

DO'S FOR COMMERCIAL WRITERS

Continuity should

Attract attention.

Arouse interest.

Create desire.

Impregnate remembrance of product name.

Suggest action.

Develop new ideas, new approaches.

Make the commercial palatable.

Think and write in the positive—adds strength.

Write "do" copy.

Use "go," "do," "remember," "buy."

Descriptive words should describe and speak that description.

Use words that have character, life, sparkle, meaning.

Be choosy in your diction.

Use only selling words.

Test every word for ear value to impress name and action.

- Make it clear.
- Write copy in plain simple terms.
- Follow the verb with its object.
- Strong verbs are better than weak adjectives.
- Use active verbs in the present tense.
- Avoid superlatives.
- Brief copy to avoid wasted time.
- Avoid stating the obvious.
- Eliminate unnecessary "the" and "that."
- Avoid the close repetition of a word.
- Make copy "sayable."
- Use a practical language that listeners understand.
- Use short sentences.
- Too many thoughts confuse the listener.
- Watch for inconsistencies in copy that make for humor or misunderstanding.
- Cut all material from copy which distracts from the product's name.
- Leave adequate white space for emphasis to grasp effectiveness.
- Indicate pronunciation of names.
- A store name is always singular. Stofflet's *is*. . . .
- Speak the truth—state facts—believable facts.
- Be concrete.
- Seek personal contact through person to person conversation.
- Create good will.
- Use repetition when emphasis is to be placed on one outstanding point such as slogans, addresses, prices, etc.
- You may sum up what has been said.
- You may begin and conclude with the same thought.
- Eliminate anticlimax.
- Repeat good copy.

SELECTED READINGS

- BORDEN, NEIL H.: *Advertising Text and Cases*, Richard D. Irwin, Chicago, 1950.
- CREWS, ALBERT: *Professional Radio Writing*, Houghton Mifflin Company, Boston, 1946.
 An analysis of radio writing for all types of markets and listeners. A glossary of terms and assignments for student practice are included.
- HEPNER, HARRY W.: *Effective Advertising*, McGraw-Hill Book Company, Inc., New York, 1949.
- PALMER, B. J.: *Radio Salesmanship*, B. J. Palmer, Publisher, Davenport, Iowa, 1947.
- SEYMOUR, KATHARINE, and JOHN T. W. MARTIN: *Practical Radio Writing*, Longmans, Green & Company, New York, 1938.

THE MAKING OF A RECORDING

Recording today is a process of impressing sound by electrical means on a variety of media: film, magnetic wire, plastic- or paper-backed or impregnated magnetic tape, steel tape, thick wax discs or cylinders, lacquer-coated aluminum base. Of these media, we will herein concern ourselves with lacquer-coated aluminum discs and plastic-backed or impregnated tape.

Magnetic wire has a definite place in the recording field as it is an inexpensive type of recording with adequate results. Anyone can learn to use a wire recorder quickly and efficiently, but these machines are rapidly being replaced by the magnetic tape recorders. Tape or wire has the definite advantage of being able to be reused many times through erasure and rerecording with no appreciable wear. Tape recorders for the most part give higher fidelity than do wire recorders, have a greater frequency range, and can be "patched" or spliced more easily and quickly in case of breakage. Tape is very adaptable to editing. Wire is not satisfactory for broadcast operations as it has high background noise, low frequency response, and is not adaptable to editing.

Disc Recording

The acceptance of disc recording (that is, electrical transcriptions) has been universal in the present-day broadcast field. Records have been enjoyed in the home for many years, and in recent years, the stigma attached to the broadcast of recorded shows has been dispelled. Improved equipment and recording techniques have made it virtually impossible for the average listener to detect the difference between a recorded and a "live" show.

Let us here differentiate between an instantaneous electrical transcription and a phonograph or "commercial" record. Sound is impressed or cut electrically on an instantaneous record, which may be reproduced immediately by a direct cutting method. A phonograph record is one which was stamped out or "pressed" from an original instantaneous which

has gone through a complicated series of processes including silver or gold pre-plating, copperplating, stripping to make a matrix from which is made a mother and thus a sufficient number of stampers. After this series of complex, exacting functions, the finished "master" record is placed in a hydraulic press which may facetiously be compared to a waffle iron, where the record or pressing is stamped from a hot viscous material. The phonograph record is more durable than an instantaneous as the shellac or vinylite from which it is made is much harder than the lacquer in which the grooves are cut directly.

Most schools today have equipment for lacquer and/or tape recording. The school budget will determine the type of equipment that shall be used and there is a machine to meet every budget. Before purchasing any equipment, however, the advice of an expert should be sought and heeded. Get the best possible machines for the available funds.

In disc recording, there are two methods of cutting grooves directly into the chosen medium: laterally and vertically. In lateral recording, the cutting stylus moves horizontally in the moving medium. In vertical recording, the cutting stylus moves vertically or up and down as it impresses the sound into the moving medium. The latter has been referred to as "hill and dale" recording.

The majority of studios and stations record laterally. Formerly, vertical recordings were considered superior to lateral as the frequency response was considered greater and a higher program level could be recorded without overcutting or undue distortion. However, with the improvements in the present lateral recording heads and systems, the alleged vertical superiority need no longer give cause for concern.

Always buy discs from a reputable manufacturer. Trying to save money by purchasing inexpensive blanks is false economy. The word "acetate" as applied to recording discs is a misnomer. Discs coated with acetate compounds have resulted in inferior products; even the term as applied to instantaneous recordings is fast falling from repute.

There are two accepted speeds in the industry, with a third speed having been recently introduced to the commercial field. These are $33\frac{1}{3}$ and 78.26 r.p.m. The third speed which thus far has entered on the commercial phonograph field is 45 r.p.m. The 45 r.p.m. records are microgroove and are 7 inches in diameter. All broadcast records are cut at $33\frac{1}{3}$ r.p.m., usually on the convenient 16-inch lacquer disc. All commercial phonograph records cut on 10- or 12-inch blanks were cut at 78 r.p.m. until recently when the long-playing microgroove records were introduced. The LP microgroove records are cut at $33\frac{1}{3}$ r.p.m. on 12-inch discs, but require specialized equipment.

The 16-inch disc, capable of holding 15 minutes of recorded program is

recorded at $33\frac{1}{3}$ r.p.m. except in rare instances. The 12-inch disc is used for recording at both $33\frac{1}{3}$ and 78 r.p.m.; at the former speed the 12-inch disc will hold a maximum of 8 minutes; at the latter speed, the disc will hold a maximum of 5 minutes of program.

The main elements in the disc recording system are a power supply, a microphone, a recording amplifier, a motor, a turntable, a cutting head,



FIG. 54. Double turntable transcription equipment. (*University of Michigan.*)

a feed mechanism, a reproducer, a reproducing amplifier, and a loud-speaker. If funds permit, it is advisable to have a double recording system (Fig. 54) so that continuous recordings of long programs can be done without interruption. Before buying machines, consider the advantages and disadvantages of all types, then purchase the very best on the market for the available funds.

Inside-out vs. Outside-in

All commercial records and nearly all transcriptions cut for broadcast are cut outside-in; that is, starting from near the outer edge of the record proceeding radially toward the center. Some machines (most home recorders fall in this category) are made to cut in only one direction.

Cutting inside-out involves starting near the center of the record and proceeding toward the outer edge. Records to be played on home machines with an automatic stop must be made outside-in. Regardless of the direction of feed, there is no difference in the resulting quality except in one instance which will be discussed later. The main advantage in cutting inside-out is in the chip throw and disposal. Present-day cutting styli are designed to throw the chip away from the cutter toward the center of the record. In cutting outside-in, the chip must be cleared in some manner. A small camel's-hair brush may be used to brush the chip to the center or a commercial chip chaser may be used. Professional recordists usually install a suction system similar to a vacuum cleaner on each machine. In most studios, a small metal tube is affixed to the overhead directly in front of the cutter with the nozzle of the tube 2 or 3 inches from the stylus and $\frac{1}{2}$ to $\frac{1}{4}$ inch above the surface of the record. This metal tube empties into a flexible rubber hose which in turn empties into a container. This method of chip disposal is the best regardless of the direction of feed and can be installed inexpensively. Great care must be exercised in the final discard of the chip as it is highly inflammable.

Cutting Styli

Grooves are cut in the lacquer, wax, or metal disc with a stylus. There are steel, steel alloy, stellite, and sapphire styli. Steel styli are the least expensive, costing around 30 cents, and cannot be resharpened. They do an adequate job when quality is not the primary requisite, but their life is short. Steel alloy and stellite styli are harder, last longer, and give better results. They cut quieter grooves than do the steel and can be resharpened many times. Their initial cost is about \$1.75. The best cutting stylus is made from sapphire, and while its initial cost is greater, its cost per record is about the same or even less than that of the other types. The initial cost for sapphire styli is about \$5.25 up. They can be resharpened many times for \$2.50 up, depending upon the angle and burnishing required. The steel stylus will record for about 15 minutes, the steel alloy and stellite for around 2 hours. The sapphire stylus will record quiet, shiny grooves for upward of 7 hours providing that it is handled carefully and that a correct cutting angle is constantly maintained. Occasionally a sapphire stylus appears to have become dulled, but actually chip or other foreign matter has accumulated around the point. This may be cleaned with a little carbon tetrachloride applied with a clean cloth, or it may be cleaned with a bit of pith.

Many claim that the beginner should start with the less expensive type styli, but the professional never uses any other type than the sapphire. There is no reason why the beginner should not start with the best, if

he has been properly instructed and is well supervised until he becomes proficient. Proficiency does not take long in the alert student. No operator should ever be hasty in his work. The careful, cautious operator, beginner or professional, will be repaid many times over by producing superior, high-quality records.

Some amateurs attempt to determine the depth of the groove by feeling the chip as it is thrown aside from the groove. If there is no microscope to do the job properly, this means will suffice, but it is by no means an adequate check. The texture of the chip should approximate that of a human hair; it should not curl or kink excessively but feel smooth, having a slight wavy appearance.

As the sapphire is repeatedly resharpened, the stone or jewel will naturally become shorter, thus requiring an adjustment on the machine to maintain the correct cutting angle when the stylus is reinserted into the cutting head, where it is held by a small screw.

The correct cutting angle may be determined by viewing the cutter from the side. Shining a light on the stylus will cause its reflection to appear on the lacquer disc. Viewed from this angle, the cutting face (the hindmost part) must appear perpendicular to its reflection. Any deflection from the perpendicular may cause imperfections in the recorded grooves. Excessive groove noise, groove chatter, improper chip throw, brittle, dry chip which will invariably result in a noise groove, record pattern, squeaking, or whistling may occur if the wrong cutting angle is tolerated. The angle should be checked before each recording session to avoid these natural enemies of high-quality recording. The manufacturer's specifications will indicate how this change can be accomplished.

The records should be inspected for shiny appearance from both sides. Observe the reflection cast from a light ray shining on the record at an oblique angle. The reflection from both walls of the groove should appear bright and shiny. If dull, the grooves will in all probability have considerable surface noise when reproduced. If the stylus, after cleaning, continues to cut a dull groove, it should be returned to the manufacturer for resharpening or be discarded. Remember it is possible for a record to appear shiny when viewed from one side but dull when viewed from the opposite angle, as a stylus may be damaged on one cutting facet causing only one groove wall to be roughened and noisy. In either case the end result is undesirable and the stylus should be changed.

The Microscope

Most professional studios and many schools' recording channels are equipped with microscopes so that the condition and depth of the grooves may be inspected before the actual record is made and at frequent inter-

vals during the recording. While microscopic inspection of the groove is necessary in high-quality recording, the final test for a quiet groove is in listening to it. Set the gain on the turntable for slightly above normal listening level and "play" the unmodulated grooves. Even the untrained ear will quickly detect undesirable surface noise and give cause for rejecting the stylus of the disc. The disc itself may contribute to a bad cut and a new disc should be tried before a stylus is rejected unless it is clear that the fault is with the stylus alone. In high-quality recording, the unmodulated grooves are virtually noiseless at high level.

Reproducer

Nearly all home playback machines being sold today are equipped with light-weight pickups with permanently installed styli on which instantaneous records can be played. The life of the record will not be so long played on home machines as it will be in a station or studio. The abrasive material in commercial records will cause changes in the shape and condition of the stylus which in time will ruin the instantaneous records when they are played with the same stylus. A badly chipped or worn needle will ruin a record with the first playing.

Once a reproducing stylus has been removed from the head, it should never be replaced as the worn edges, now in a different position, will act as a chisel and score the recorded grooves.

There are steel, sapphire, and diamond playback styli on the market today. The first of these if well made, if shadow-graphed, and if of a guaranteed angle and shape, will play an instantaneous record ten to twelve times; the stylus should be replaced after each playing of a commercial record. A sapphire or diamond playback will play close to 500 commercial records before marked deterioration is noticed, but if reserved for instantaneous records, its serviceable life is indefinite, providing it is handled carefully. Sapphire and diamonds are brittle and will chip if dropped on turntable rims, etc. While the initial cost of a sapphire or diamond stylus is greater, the cost per record is about the same or less than the steel needles and they can be reground for a nominal fee. Any school should invest in a good high-fidelity reproducer at the outset.

Recording Techniques

The recordist, student or otherwise, must be completely familiar with his equipment. He must know what makes it start and stop; he must know how to adjust the machine properly for the chosen speed. If a manual adjustment is necessary to engage the drive mechanism, he must know the proper tension required and how to position the overhead feed mechanism.

The cutting and reproducing tables must be perfectly balanced; the machines must be kept clean and properly oiled. It is good engineering practice to "warm up" the equipment before recording by causing the tables to rotate at the chosen speed for 5 to 15 minutes. Audio signal should be applied to the cutting head without lowering it to the recording medium to warm the cutter. The speed of the tables should be checked with a stroboscope disc which can be purchased with complete instructions for its use.

The lacquer disc should always be handled by the edges to avoid fingerprints. If fingerprints are accidentally left on the disc, remove them by making a clean linen handkerchief humid with the breath and rubbing lightly. The disc must be inspected for imperfections such as warpage, high and low spots in the coating, bubbles, pitting, or imbedded bits of foreign substances that will chip the stylus. Warpage and high or low spots can be detected by placing the disc on the turntable with an overhead light shining directly on it. The light reflection on the disc should be steady as the disc revolves. Never use a disc about which there is any doubt.

The disc will have a center hole and at least one eccentric hole. The eccentric drive pin is always placed at a standard distance from the center pin on the turntable and the disc will fit perfectly over these pins. The drive pin must be engaged through the eccentric hole to insure no slippage of the records as it rotates under load.

After the feed mechanism has been properly positioned and secured, the cutting head should be carefully lowered to inspect the cutting angle of the stylus, adjusting it where necessary.

The cutting head may not be lowered on many machines before they are started as the starting surge is so great that the stylus would dig too far into the lacquer, possibly chipping the stylus, but certainly causing the first groove to cut into the second. Other machines can be started with the head down; manufacturers will specify whether their machines can be started thus and will give proper instruction for doing so. Extreme care should be exercised in lowering the cutting head; do it easily and slowly.

After the cutting angle has been inspected, take a test cut, thoroughly inspecting it, making sure the stylus is perfect. After the test cut has been taken and passed upon, move the cutter in manually, using the hand wheel for turning the feed screw, and resume recording. At least two dead turns should be allowed before the audio signal is applied to the cutter through the volume control fader or the relay circuit.

A standard volume indicator should be used. These are calibrated in decibels ranging from 0 to 100, with the scale printed in black. Beyond

the black scale, there is a calibrated scale on the indicator painted in red. The needle should "peak" on high passages between 80 to 100; the average program level should read 60 to 80. The needle swinging over into the red "danger" zone is an indication of overloading which will possibly result in distortion or in overcutting. Avoid the red area on the indicator.

If a suction system is used, be sure it is not too strong or noisy as excessive noise from the suction nozzle may be transmitted to the cutter. After the recording has been started, check the chip pickup. If it is not picking up properly, brush the chip toward the suction tube, if there is one, or toward the center of the record with a small camel's-hair brush, being careful not to touch the cutting head. Never pull the chip as it will cause the cutter to bounce off the record. Tangled thread can sometimes be cleared by cutting it with a pair of scissors, providing it is done with extreme care.

At the conclusion of the program, turn the relay to the "off" position or close the fader, and allow at least three dead turns after the final modulated groove. Failure to raise the cutter will result in a chipped stylus as it will cut through to the base.

Heavy walking or banging of doors will frequently cause the cutter to bounce off the record, also resulting in a chipped stylus.

It is always good engineering practice to record and play back a small portion of program before the final "take" is recorded in order to determine the quality and response of the entire system.

In dubbing or playback, handle the reproducer carefully, as a playback stylus, if dropped on a record or allowed to slide across the face of the record, can cut and scratch the lacquer, break down the grooves, or score the face so that permanent audible damage is done. Always observe the color of the disc while reproducing it. If the color and brightness change as the stylus plays each groove, the weight of the reproducer is excessive or the stylus is worn or damaged. Many expensive records have been ruined by careless playback practice.

In rerecording, be sure the dubbing turntable spinning under the record is up to full speed before releasing the record or a wow will result, spoiling the dubb.

Recording can be fun and provide one with a well-paid job. Take pride in your work and learn all you can about it. Competition is keen, but many schools are making transcriptions of professional quality.

Tape Recording

The introduction of tape recording to the broadcast industry has been welcomed, for here is a recording system ideally suited to many broadcast needs. Tape recordings have no scratch or noise, are capable of much

higher fidelity, and do not wear out. Furthermore, the electric impulses imposed upon the tapes can be erased when the recording has served its purpose and the tape itself reused many times. Tapes can be edited even to the point of eliminating particular words or syllables and spliced together with Scotch tape or by special rolls of tape purchased for the purpose and ironed to the recording with a device made for that purpose.

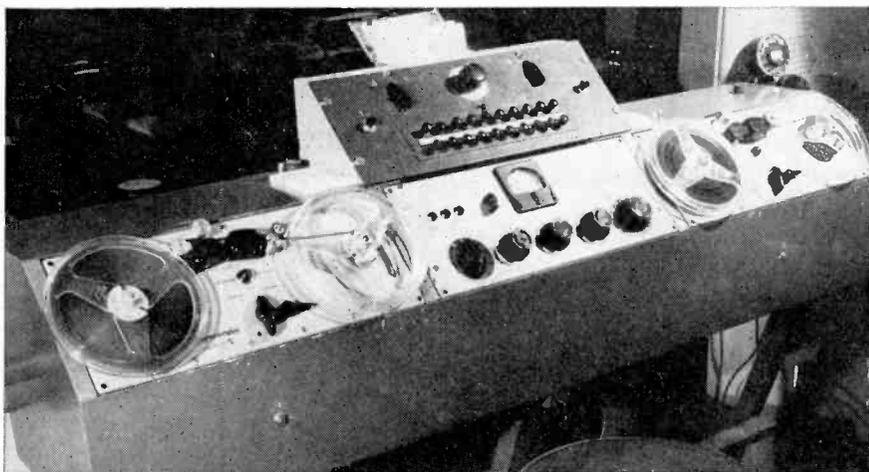


FIG. 55. Tape recording setup. At each end are the pullers; in the center, the amplifier controls; and above, the switching panel. (*University of Michigan.*)

This is of great importance to the broadcaster who wishes to join recordings of interviews, music, or diversified program material into a whole program. Tape programs can be made up to run continuously for 15 minutes, half an hour, or, with the larger machines, a full hour. Tape machines are reasonably simple to operate, and the layman can soon learn to turn out top-quality recordings (Fig. 55).

While disc recording is a mechanical process, cutting a groove on a blank tape recording is an electromagnetic process, in which a varying magnetic field is imposed on a magnetic coating on a plastic or paper base. Tape recorders can be divided into two basic units: the electronic components and the mechanical components. The mechanical parts pull the tape past the recording, erase, and playback units at a constant speed. In the better machines, separate motors drive the supply reel, the take-up reel, and the capstan drive. The electronic section consists of the audio amplifier, erase oscillator, erase head, and recording and playback heads, which in some machines are two separate heads, in others the same

head. The tape is pulled by a capstan drive from the supply reel through the erase head, the recording head, playback head, and wind or take-up reel.

The erase head, placed ahead of the recording head, is driven by a high-frequency oscillator which removes the previous recording from the tape and leaves it clean for the next recording. In the playback of tape, this erase head is removed from the circuit, so that the program may be saved.

The recording head is basically an electromagnet into which the varying audio current is introduced. The tape, coated with a metallic oxide, moves past the pole pieces of this magnet, and the varying field, or flux, around the magnet places a permanent, varying magnetic field on the oxide coating which can be removed only by the erase oscillator. This recording can be played back many times with no appreciable loss of quality.

Tape speeds have been standardized at $7\frac{1}{2}$ and 15 inches per second, and equalization standards for these speeds will make it possible to interchange tapes and machines, so that a tape recorded on one make of machine can be played back on another make. As a general rule, the higher tape speeds have higher fidelity, but they use more tape in a given time. The most satisfactory speed from a standpoint of economy and fidelity is 15 inches per second. Standard tapes will record a 15-minute program at this speed. For longer programs, two pullers can be used with a common amplifier and a change-over switch, much the same as a continuous disc recording is made.

Generally speaking, there are two basic types of recording tapes—those which use a paper base and those having a plastic base. Quality machines will give best results only when plastic-base tapes are used. This is for several reasons. The plastic tape is more quiet and requires less power to record properly. On cheaper machines, particularly for speech work, the paper-base type, which is less expensive, may be used.

There are numerous manufacturers making tape recorders. These vary in price from \$50 to \$4,000. In general you pay for what you get. Most of the inexpensive machines costing under \$400 have lower fidelity and are in the home-recorder class, but a few lend themselves admirably to classroom work. Of the higher priced units, the price variations are due to mechanical refinement rather than appreciable differences in frequency response. A few of these refinements are as follows:

1. A separate monitor head for instantaneous playback while recording, a valuable check for quality as well as continuity.
2. A fast forward speed for cueing and editing.

3. An automatic stop in case of tape breakage.
4. Push-button actuation in case the recorder is to be operated from a remote switching point.

One other refinement particularly important to those doing any quantity of editing or dubbing to film is a time scale accurate to the second. All of the professional recorders have one or more of these refinements, generally depending upon price.

With the multitude of tape machines available today perhaps the greatest importance to the broadcaster is what to look for when buying a recorder. It is rather difficult to establish definite rules for this, but perhaps the following outline will be of assistance.

Speed: 15 inches per second or 7.5 inches per second N.A.B. Standards; preferably both.

Frequency Response: At least 2 decibels from 50 to 15,000 cycles per second.

Signal to Noise Ratio: At least 50 decibels below maximum modulation.

Speed Regulation: At least 0.2 per cent (this amounts to 8 seconds in 1 hour).

Wow and Flutter: No greater than 0.2 per cent.

Dynamic Range: At least 50 decibels.

Bias Frequency: 50 kilocycles or higher (preferably higher).

Erasure: This varies with the machine, but a good test is to erase a fully modulated black oxide *paper* tape on the machine. If it erases the paper tape properly, you should encounter no trouble with erasing the plastic tape generally used.

Distortion: Less than 2 per cent at maximum modulation.

Fast Forward Speed: By all means and at least 5 times normal forward speed.

Rewind Time: At least 20 times forward speed.

Monitor Head: If consistent with operation and pocketbook. Should have proper equalization and be placed for minimum time lag.

Tape Capacity: Preferably 1 hour at 15 inches per second.

There are many different makes of tape recorders, each valuable for certain uses. The large console models have the highest fidelity, and are used for studio recording and delayed broadcast by network stations. Smaller portable models are now being made with excellent fidelity and rugged construction, and are useful for remote pickup work as well as studio broadcasting. The portable machines, however, are generally lacking the large tape capacity recommended to reduce weight and size. Most of these machines, however, do have an additional advantage. Their associated amplifiers may be used separately as remote preamps. Thus they serve two purposes and limit the amount of portable equipment needed around the station.

Probably the greatest obstacle that present-day tape recording must overcome is the problem of large-quantity low-cost reproduction. This is

a problem on which many companies are working. To date there are two fairly practical systems for mass duplication. One system uses a multihead recorder and makes 10 direct re-recordings at once from a single master tape. The copies have excellent quality but obviously only 10 copies is much too small a reproduction for any commercial application.

The other system brings the master tape in continuous contact with a blank tape in the presence of a 2500-cycle magnetic field. This system is very fast but lacks quality. The quality of the copy is about equivalent to ordinary shellac phonograph records. Research in this field is still being conducted, and it is felt that the problem will be solved in the near future.

Tape recorders, like high-quality instruments, require good maintenance. The heads should be cleaned regularly with carbon tetrachloride. *Warning:* do not run tape through the machine until all the "carbontet" has evaporated, otherwise damage to the tape will result. The heads should also be checked for alignment and output occasionally with the special tape made for this purpose. The heads should be replaced when worn. A good sign of wear is the gradual dropping off of the high frequencies. Most heads have a useful life of about 1000 hours. The clutches should be checked regularly for proper tension. The amplifier should, of course, be included in the regular maintenance procedure.

We have only scratched the surface in finding uses for this new medium. This past year the various networks have avoided much confusion and effected great savings by using tape recordings for their programs rebroadcast to the different time zones. Motion-picture companies are using tape recorders in the field, because it is possible to detect errors more quickly inasmuch as the tape can be played back immediately, saving valuable time. There have been reports that frequencies as high as 4 megacycles have been recorded on tape. This gives rise to the thought that in the future, television programs, both sound and picture, may be recorded directly on tape, thus eliminating the need for television cameras and their associated equipment by many smaller television stations. Transcribed video would be to television what disc recordings or transcribed programs have been for broadcasting.

The high fidelity makes tape recording a necessity for FM stations which demand the best in fine recordings, and the economy of using tapes over and over will result in considerable savings for stations which do much delayed broadcasting. Although the medium is new, stations, particularly independent stations, are finding it difficult to do a complete job of programming without good tape facilities.

A professional microphone and other excellent equipment are more

important in making a tape recording than a trained technician. The studio or room in which the recording is to be made should be acoustically treated, and the microphone placement in relation to the speaker or musical group should be tested as carefully as it would be for a broadcast.

There are a few suggestions that the person making the recording should observe. Occasionally the tape will stall. If this happens, examine the capstan to see if it is dirty; or if the tape has been spliced, see that the splice is smooth at the edges. If the splicing tape extends beyond the edges of the recording tape, that will cause stalling. Make the splice just a bit smaller than the regular tape. Do not overlap the edges of the tape that is being spliced, and trim the splice smoothly down like an hourglass. Never use adhesive tape for splicing; Scotch tape may be used, but it is best to use regular splicing tape made for this purpose.

Another possible cause for stalling may be excessive pressure on the head brakes. These are the two felt fingers which press the tape against the recording and the erase heads. Reduce the pressure by gently pulling the head brakes slightly away from the head. The final cause for such stalling might be the scraping of the reels against the panel.

When rewinding the tape, it is advisable to keep the thumb of the right hand very lightly against the rim of the right-hand reel. However, you can get a severe burn doing this and many professionals use a soft eraser instead of the thumb. The thumb or eraser acts as a brake when the tape is nearly rewound. Be sure that the thumb, eraser, or rubber sponge is at the edge or rim of the reel and don't press too hard, just lightly. There are instances when the tape will spill during the rewind, particularly if you are using uneven reels, a plastic one on one side and a metal one on the other.

Store the tapes where they will be neither too dry nor too moist—30 to 70 per cent humidity. Excessive heat is bad. The tapes may stretch or warp. It is wise to rewind the tape once before using if it has been stored for a long time. If many tapes are used, it is very much cheaper to buy them by the gross. The Minnesota Mining & Manufacturing Company of St. Paul issues a very helpful little brochure, and those interested in making home tape recordings should join the Magnetic Recording Club, 30 Broad Street, New York 4, and receive the monthly *Sound Tips*.

Transcribed Programs

Every station relies to a great extent for its music from records or transcriptions. Records are generally those which are made for use upon home equipment and include the regular phonograph record which re-

volves at 78 revolutions per minute and will play about $4\frac{1}{2}$ minutes to a 12-inch record; those introduced by RCA which revolve at 45 revolutions per minute and will play about the same length as a regular phonograph record; and the Columbia long plays which revolve at $33\frac{1}{3}$ revolutions per minute and will play from 15 to 20 minutes on each side.

A radio station builds up a huge library of such records. In many instances, manufacturers of records will send "special purpose" records free of charge to be used upon disc jockey programs. This is a form of advertising for the manufacturers and does much to build up the popular-music record library.

Every radio subscribes to a transcription library. There are many companies which offer this service. Some among them are World, Langworth, N.B.C. Thesaurus, SESAC, Associated, and Standard. Most radio stations subscribe to two library services. Such a subscription is generally for the period of three years and special rates are given to noncommercial stations. When the station subscribes for this service, it receives, in many instances, large filing cases to hold the 16-inch transcription discs. These discs have recorded upon them some 2500 to 3000 selections. The contract usually stipulates that the transcription company will replace a certain number of worn records each month and provide from 15 to 20 new transcriptions each month accompanied by continuity and publicity material to be used in connection with such transcribed programs. The company also makes out schedules listing selections for music programs which may be used by the station if it does not wish to make up its own musical program. Each disc will have five or six selections recorded upon each side. There is a blank space between these recordings so that the musical librarian or engineer can pick out the selection desired.

Regulations of the Federal Communications Commission require that transcribed programs be announced as such. The wording of the regulation is as follows:

3.407 *Mechanical records.* Each broadcast program consisting of a mechanical record or a series of mechanical records shall be announced in the manner and to the extent set out below.

- (a) A mechanical record or a series thereof, of longer duration than 30 minutes, shall be identified by appropriate announcement at the beginning of the program, at each 30-minute interval, and at the conclusion of the program: *Provided, however,* That the identifying announcement at each 30-minute interval is not required in case of a mechanical record consisting of a single, continuous, uninterrupted speech, play, religious service, symphony concert, or operatic production of longer duration than 30 minutes.

- (b) A mechanical record, or a series thereof, of a longer duration than 5 minutes, and not in excess of 30 minutes shall be identified by an appropriate announcement at the beginning and end of the program.
- (c) A single mechanical record of a duration not in excess of 5 minutes shall be identified by appropriate announcement immediately preceding the use thereof.
- (d) In case a mechanical record is used for background music, sound effects, station identification, program identification (theme music of short duration), or identification of the sponsorship of the program proper, no announcement of the mechanical record is required.
- (e) The identifying announcement shall accurately describe the type of mechanical record used, i.e., where an electrical transcription is used it shall be announced as a "transcription" or an "electrical transcription," or as "transcribed" or "electrically transcribed," and where a phonograph record is used it shall be announced as a "record."

SELECTED READINGS

BEGUN, S. J.: *Magnetic Recording*, Magnetic Recording Club, 30 Broad Street, New York.

Committee on Standards for School Audio Equipment: *School Sound Recording and Playback Equipment*, U.S. Office of Education, Washington, D.C., 1947.

One of a series prepared by the Joint U.S. Office of Education-Radio Manufacturers Association Committee. Intended to serve as guide by providing standards for equipment for school use.

FRAYNE, JOHN G., and HALLEY WOLFE: *Elements of Sound Recording*, John Wiley & Sons, Inc., New York.

Detailed coverage of those subjects which belong to the restricted field of sound recording and reproducing.

PARK, BEN K.: *How to Edit and Program Tape Recordings*, Brush Development Company, Cleveland, Ohio, 1949.

READ, OLIVER: *The Recording and Reproduction of Sound*, Howard W. Sams & Co., Inc., Indianapolis, Ind., 1949.

A full discussion of basic recording methods (film, disc, wire, tape, etc.), including descriptions and analyses of the equipment involved. Complete chapters are devoted to analysis of microphones (types and applications); pickups (section and use); styli, etc. Microgroove and LP records are fully discussed.

How to Make Good Recordings, Audio-Devices, Inc., New York, 1948.

Up-to-date revision of earlier edition.

STATION PAPER WORK

Program and Production Forms, Records, Logs

A duty that perplexes the student of radio who enters the radio profession after graduation is the keeping of station forms. Students should practice filling in these forms in all their experimental broadcasts, whether these are over public-address systems, in a studio, or actual radio presentations. A log is a record of every minute of broadcasting, including all errors—an accurate journal required by law of all broadcasting stations.

When the announcer has checked in at the studio, he studies the log for the day (Form A). The program log is prescribed by the rules and regulations of the Federal Communications Commission in the following words:

3.404 *Logs.* The licensee of each broadcast station shall maintain program and operating logs and shall require entries to be made as follows:

(a) In the program log:

- (1) An entry of the time each station identification announcement (call letters and location) is made,
- (2) An entry briefly describing each program broadcast, such as "music," "drama," "speech," etc., together with the name and title thereof, and the sponsor's name, with the time of the beginning and ending of the complete program. If a mechanical record is used, the entry shall show the exact nature thereof, such as "record," "transcription," etc., and the time it is announced as a mechanical record. If a speech is made by a political candidate, the name and political affiliations of such speaker shall be entered.
- (3) An entry showing that each sponsored program broadcast has been announced as sponsored, paid for, or furnished by the sponsor.

The station program department will make out the program log (Form A) for each day. At the top are various abbreviations used in designating the origin or type of program—whether it is a live or a transcribed program, sponsored or sustaining, studio or remote, network

or local, and the station's call letters. The first four columns are filled in when the announcer looks at it. In the fifth column is the time when the program is to begin. The announcer will insert in the fifth column

Actual Program Log - WHRV - Ann Arbor

KEY: RC Recorded Commercial NS Network Sustaining R Remote
 RS Recorded Sustaining WC Wire Commercial X Announcement of Sponsorship
 TC Transcribed—Commercial WS Wire Sustaining A Recording Announcement
 TS Transcribed—Sustaining LC Live Commercial B Transcription Announcement
 NC Network Commercial LS Live Sustaining D Station WHRV Announcement
 Par R Participating—Recorded

PAGE _____ DATE _____ 19__

SCHEDULED TIME	Program Origin	SCHEDULED		ACTUAL		Time Program Begins Concludes	SPONSOR GIVEN	ANN. SIG.	Station Record Trans. App.	TIME GIVEN	ANN'R'S SIG.
		PROGRAM	AND SPONSOR	PROGRAM	AND SPONSOR						

FORM A

the exact second when the program is concluded, and also the remaining columns, putting his initials in the seventh column. This log will be called for by examiners from the F.C.C. They will check the information particularly when the station's call letters (D) are given, and in the

WJR
 COPY FOR ANNOUNCER

TIME REQUESTED _____

FIRM _____ PRODUCT _____

AGENCY _____ SCHEDULE _____

DATE	TIME	INITIALS	DATE	TIME	INITIALS	DATE	TIME	INITIALS

FORM B

same column (8) that recorded or transcribed programs are announced as such.

After ascertaining the programs he is to announce, the announcer next refers to the daybook, which contains the commercial copy that

he is to deliver upon each one of his programs. Adequate space is left in the center of this form for the "spot," "1-minute," "100-words," "station-break," or "tag-line" announcement. At the bottom of the form he is to put down the date on which such copy is read, the time, and his initials (Form B). A separate sheet, or series of sheets, in case there are to be a number of spot announcements, will be made out for each sponsor.

In the daybook the announcer will find a "Transcription Cue Sheet" (Form C) all made out for him after the transcription has been played

TRANSCRIPTION CUE SHEET

Program: _____ No. _____
 Date: _____ Time _____
 E.T. announced at start _____ End _____ Not announced _____
 Opening theme _____ min. _____ secs.
 Spot for local ann't. over record _____ min. _____ secs.
 Theme before closing ann't. _____ min. _____ secs.
 Closing theme _____ min. _____ secs.
 Total time of record _____ mins. _____ secs.
 Cue before closing theme: _____

Records end: _____

FORM C

on playback equipment by the commercial department librarian. This cue sheet is provided in case the announcer is in one studio and the transcriptions are to be played in the control room. They inform the announcer just the second when the transcription will start and finish and other necessary information so that he can time himself and know what is coming. Generally the transcribed announcement is fed to him so he can continue his live end. However, the cue sheet gives him the closing words of the transcribed message.

A report is made by the accounting department of the station, by the program or production director, or by the announcer in charge of the program. It is essential that this production report (Form D) be kept accurate. In many broadcasting stations the actors, artists, musicians, and other participants are paid in accordance with the record of performance. Failure to give an exact list of all participants causes great confusion in the accounting department. This log is kept for both the rehearsal and the air performance, and a copy of the script or continuity is usually attached to the form. It is upon a basis of this form that bills are made out to the sponsors and checks for the actors and musicians.

The "Music Record of Programs" (Form E) is used to check up on the copyrights of musical selections. Stations belonging to ASCAP,

BMI, SESAC, and other copyright-holding organizations must report the number of times copyrighted selections are played and whether they are performed on sustaining or sponsored programs. It is also from this type of report that the most popular selections for the week ("The Hit Parade") are determined.

In relation to keeping these logs the "General Rules and Regulations" of the F.C.C. further states:

2.54 *Retention of radio station logs.* Logs of a radio station, when required elsewhere in these rules and regulations to be made or kept, shall be retained by the licensee for a period of 1 year unless otherwise provided by the rules governing the particular service or class of station concerned: *Provided, however,* That logs involving communications incident to a disaster or which include communications incident to or involved in an investigation by the Commission and concerning which the licensee has been notified, shall be retained by the licensee until specifically authorized in writing by the Commission to destroy them: *Provided, further,* That logs incident to or involved in any claim or complaint of which the licensee has notice shall be retained by the licensee until such claim or complaint has been fully satisfied or until the same has been barred by statute limiting the time for the filing of suits upon such claims.

2.55 *Logs, by whom kept.* Each log shall be kept by the person, or persons competent to do so, having actual knowledge of the facts required, who shall sign the log when starting duty and again when going off duty. The logs shall be made available upon request by an authorized representative of the Commission.

2.56 *Log form.* The log shall be kept in an orderly manner, in suitable form, and in such detail that the data required for the particular class of station concerned, are readily available. Key letters or abbreviations may be used if proper meaning or explanation is contained elsewhere in the log.

2.57 *Correction of logs.* No log or portion thereof shall be erased, obliterated, or willfully destroyed within the period of retention provided by the rules. Any necessary correction may be made only by the person originating the entry who shall strike out the erroneous portion, initial the correction made, and indicate the date of correction.

2.58 *Rough logs.* Rough logs may be transcribed into condensed form, but in such case the original log or memoranda and all portions thereof shall be preserved and made a part of the complete log.

Engineering Forms, Records, Logs

In addition to the program log the F.C.C. requires the transmitter engineers to maintain an operating log in compliance with the following regulations:

3.404 (A) In the operating log:

- (1) An entry of the time the station begins to supply power to the antenna, and the time it stops.

- (2) An entry of the time the program begins and ends.
- (3) An entry of each interruption to the carrier wave, its cause, and duration.
- (4) An entry of the following each 30 minutes:
 - (i) Operating constants of last radio stage (total plate current and plate voltage).
 - (ii) Antenna current.
 - (iii) Frequency monitor reading.
 - (iv) Temperature of crystal control chamber if thermometer is used.
- (5) Log of experimental operation during experimental period. (If regular operation is maintained during this period, the above logs shall be kept.)
 - (i) A log must be kept of all operation during the experimental period. If the entries required above are not applicable thereto, then the entries shall be made so as to fully describe the operation.

Logs of standard broadcast stations shall be retained by the licensee for a period of 2 years, except when required to be retained for a longer period in accordance with the provisions of section 2.54.

There is no uniform log prescribed by the F.C.C. Each station may compose its own as long as it gives the information required. Stations with directional antennas have to supply much more engineering data. Most stations which are on the air for 18 or 24 hours have much larger sheets. The WUOM operating log (Form *F*) is compact because we are on the air only 10 hours a day, but the information given is typical of all operating logs.

The F.C.C. sends an inspector to broadcasting stations to make sure that the station is complying with the Commission's requirements. Upon entering the station he will ask for the transmitter log and pay particular attention to the required entries. An inspector can determine from the log sheet whether the station is operating within the required power and frequency. The inspector may also ask for electrical measurements and mechanical operations other than those required for the log to insure that the station is satisfying safety requirements of the F.C.C. He will examine the log first to see whether all entries are made properly, and second to be certain that the power of the station's transmitter is not exceeding that which is specified in the license (which must be posted at the transmitter).

A new log is filled in for each day the station operates. Following the word "date" on the form must be given not only the month, date, and year, but also the day of the week. The transmitter engineers must make out a report every half hour starting when the carrier is turned on and

continuing until the carrier is turned off. These time entries are made in the first column of Form F. At each half-hour period the engineer fills in the reading of the plate voltage to the final amplifier which is immediately adjacent to the antenna (column 2), records the plate current to the same unit, adjacent to the antenna (column 3). These two

WUOM—FORM 4—45

WUOM—OPERATING LOG

-TRANSMITTER-

DATE _____

TIME EST	V _p FINAL-KV	I _p FINAL-A	R.F. OUTPUT	DEV C.P.S.	ENG INITIALS	TIME EST	V _p FINAL-KV	I _p FINAL-A	R.F. OUTPUT	DEV C.P.S.	ENG INITIALS

SCHEDULED OPERATION	TRANSMITTER	PROGRAM	UNSCHEDULED OPERATION	TRANSMITTER	PROGRAM	TRANSMITTER	PROGRAM	IDENTIFICATION
ON-AIR			ON-AIR					
OFF-AIR			OFF-AIR					
ON-AIR			ON-AIR					
OFF-AIR			OFF-AIR					

TIME EST	FREQUENCY CHECK - DEV C.P.S.				TIME EST	TOWER LIGHT OBSERVATION			TRANSMITTER HOURS-TOTAL
	BY WUOM	ENG INIT	OTHER	SOURCE		DATE (IF OTHER)	ENG INIT	COMMENTS	

ENGINEER'S SIGNATURES

--	--	--

FORM F

columns give the inspector information for computing the actual power output and to check with the licensed power. The fourth column (measurement of standing wave ratio to the antenna feed line) is a direct indication of the transmitter's functioning. The fifth column gives the deviation from the assigned frequency as read from the frequency monitor. The engineer making the entries will put his initials in the sixth column and his name and initials in one of the spaces at the bottom of the page.

In the section "Scheduled Operations" the time within 5 minutes

when the carrier is turned on and off is entered in the transmitter column—this is sometimes entered as “Carrier on—Carrier off”—and the time when the program day starts and ends in the program column also listed upon logs as “Modulation on and Modulation off.” The information given in the “Unscheduled Operations” section is to report transmitter tests, on-the-air carrier time, and other unscheduled operations. When such tests are made, the call letters of the station must be broadcast even

Engineering Department				
Report of Broadcasting Performance				
Original				DAY
Program Interruptions and Schedule Departures				
PROGRAM	ORIGIN	DURATION	TIME	NATURE AND RESPONSIBILITY
Carrier Time				
Program Time			Signed	

FORM G

if only the station carrier wave is on, and the time such call letters are given must be entered in the log.

The entry, “tower light observation,” is required by legal obligation for the Civilian Aviation Authority. Space on the log is provided for tower light observation and includes the time when lights were checked, and any comments which would relate to beacon failure at various levels on the tower. The C.A.A. has established regulations for lighting radio towers which are based on height and location to airports and airways. To satisfy this requirement, space is provided on the log for the engineer on duty to record the approximate time the beacons were turned on and whether or not all lights were functioning. Under this column is space for comments. Any light on the tower which failed to light is to be entered here and the bulb replaced by the operator in charge before the next operation.

Under the heading, “Transmitter Hours Total,” will be the total number of hours of transmitter operation since it was first turned on. Each day, the day’s total is added to the total of the preceding day. If the transmitter has been on for 18 hours a day continuously for 10 years, the total in this column will be over 65,700 hours.

Like logs are required for all transmitters—AM, FM, TV. If the station is an FM station and operates an STL, the same type of log is kept for its STL transmitter. However, readings are required only when the STL is turned on and when it is turned off.

In a way it would seem that all this engineering data is out of place in this text which will be used primarily in nontechnical courses, but four out of seven of my technicians came from speech courses, not from the engineering colleges.

There are other forms used by the engineers and operators. Many station managers require their engineers to give them a report each day of the broadcasting performance (Form G) upon which will be listed program interruptions or departures from the regularly scheduled programs. This report is really a trouble shooter. The Equalization Record (Form H) is maintained so that the engineering staff will make a monthly

EQUALIZATION RECORD					WUOM—FORM 6
Remote:	Loop No.		Loop loss	Loop R.	
Freq.	Base Loop	Equalizer settings		Remarks	
50					
100					
100					
1000					
3000					
5000					
7000					
10000					
12000					
15000					
Date:	Equalization OK by:				

FORM H

check on the quality of remote lines, some of which may not be in daily use but may be required upon brief notice.

A card index used for a monthly check upon the life of various tubes (Form I) is kept to remind the engineers that tubes which have been in about their lifetime are to be checked to see whether they are still functioning efficiently. It is also used in case a tube burns out to ascertain whether the guarantee period has elapsed and whether the tube should be returned for credit under the manufacturer's guarantee. When you have tubes that cost over \$800 each you want to get your money's worth, or if you find certain brands burn out quickly, change the brand.

A final office engineering record is the remote log (Form J). It is prepared for the engineer who is in charge of the remote and describes

THE LAW AS IT AFFECTS BROADCASTING

In 1909, Enrico Caruso sang into a megaphone, with a vibrating diaphragm at its apex, located upon the stage of the Metropolitan Opera House in New York. A telephone line carried his voice to Lee B. De Forest, in his laboratory on the bank of the Harlem River, who took the telephoned music from the first remote-control wire in history and put it into the air. Wireless operators on ships reported that they had heard fragments of Caruso's voice through their earphones. For nearly ten years after this initial broadcast anyone who wanted to could set up broadcasting equipment upon any wave length desired. However, shortly after the Armistice the government was induced to take over the control of the air—to allot wave lengths and to control their use. The Department of Commerce had been commissioned to control radio under the Marine Act of 1912. This act broadly covered the regulations for the use of wireless in the United States and placed the licensing power for the transmission of broadcasts with the Secretary of Commerce. A controversy arose, however, as to whether the Secretary of Commerce had the right to regulate the time that the stations he licensed were to be on the air. This question was submitted to the Attorney General of the United States and his opinion concerning the Act of 1912 was that it was a "direct legislative regulation of the use of wave lengths," and that the Secretary of Commerce did not have the authority to regulate the amount of power a station might use, the time it might operate, or the frequencies it might occupy.

The government realized the need for a unified system of regulation of radio and therefore the Radio Act of 1927 was passed and the Federal Radio Commission established. The source of authority was found in the Constitution, which conferred upon Congress the right to make treaties with other nations and to carry them into effect by appropriate legislation, to establish post offices and post roads, to declare war, and to regulate commerce with foreign nations and among the several states.

It was decided by the courts that the transmission of intelligence is commerce. Early cases decided that the national government had exclusive jurisdiction over radio and that state or local governments could not tax receiving or transmitting equipment.

The Radio Act of 1927 functioned quite efficiently, but with the growth of the industry a new law was needed which would be more explicit in its regulation of broadcasting. The Radio Act of 1927 was designed primarily for the regulation

. . . of all forms of interstate and foreign radio transmissions and communications within 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 individuals, firms, or corporations, 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.

The Radio Act of 1927 also provided for the creation of a body of five members, to be known as the Federal Radio Commission.

Briefly, its duties were to (1) classify radio stations; (2) prescribe the nature of the service to be rendered by each class of licensed stations; (3) assign bands of frequencies or wave-lengths to the various classes of stations, and individual stations, and determine the power which each station shall use, and the time during which it may operate; (4) determine the locations of stations, or classes of stations; (5) regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions of each station and from the apparatus therein; (6) make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this act.

One of the first acts of the Federal Radio Commission was to assign the region in the radio spectrum from 500 to 1500 kilocycles to commercial broadcasting; later it made three high-fidelity channels available for a combined experimental-commercial use—1530, 1550, and 1570 kilocycles. It also divided the country into seven radio zones and decided what frequencies and powers should be available in those zones. The following classification of radio stations has now been established: (1) clear-channel, consisting of frequencies on which only one station may operate; (2) high-power regional, which is usually not less than 5000 watts and shares frequency with some other station in a distant part of the country; (3) regional, not less than 250 watts and usually 1000 watts at night and 2500 in the daytime; and (4) local, having 50 to 250 watts. The commission may also give the following time designation to stations: (1) unlimited, (2) limited, (3) daytime only, and (4) sharing time with another station.

On June 19, 1934, the Congress of the United States approved the Communications Act of 1934, which broadened the scope of Federal control over communications so as to include telephone and telegraph as well as radio communication. This act also provided for certain changes in the commission itself, but left the radio laws essentially as they were defined by the Radio Act of 1927. The Communications Act of 1934 was based upon three fundamentals: first, the air should be public property; second, the radio industry should be privately owned and operated; and third, free speech on the air should be preserved. These principles were incorporated in Title Three of the Communications Act of 1934.

Although the Radio Act specifically says that the Federal Radio Commission is to exercise no censorship over broadcasting, the commission has been able to exercise a large degree of censorship. This is because of the requirement that a station must be operating in the public interest, convenience, and necessity before its license can be renewed. Thus, if a station has not lived up to the requirements placed upon it by the commission, when the station wishes to renew its license the commission can decide that the station is not operating in the public interest, convenience, and necessity, and so deny the application for renewal. The commission has been upheld in cases involving this very point.¹

There was a provision in the new law, as there was in the old one, that in the case of national emergency, all the wire and radio services could be taken over by the government. (This was done after the United States had entered the First World War.) The President was given the power to take over these services but was required to give the employees just compensation for their services.

The 1934 act provided for the Federal Communications Commission to be composed of seven men appointed by the President with the advice and consent of the Senate, each serving for a term of seven years. The stipulation was made that no more than four of the men on the commission should be members of the same political party. At the inception of the act the members of the first commission were appointed for staggered terms so that only one member of the commission would retire each year. One of the changes that the later law made was that of authorizing the commission to issue radio licenses for a period of three years instead of six months, as had been allowed under the act of 1927. The act also forbids the conducting of lotteries over the radio.

The first duty of the F.C.C. is to supervise the granting of licenses to applicants for radio stations, in order to assure good, strong radio signals,

¹ See *KFAB Broadcasting Association v. Federal Radio Commission*, 47 F. (2d) 670; and *Trinity Methodist Church, South, v. Federal Radio Commission*, 62 F. (2d) 850; 60 App. D.C. 311.

tolerably free from interference, to all sections of the United States. This involves the assignment of the number of electromagnetic waves sent out per second over the air by a transmitter, commonly known as frequencies. This is an engineering problem and requires the applicant to prove to the commission that its requested frequency will not interfere with any other station using the same wave length. Surveys are made by engineers employed by the applicant and the results are considered by the technical staff of the commission. This power to regulate the granting of licenses is probably the most important duty of the commission.

The Communications Act of 1934 applies to all interstate and foreign communication by wire or radio which originates in the United States or which is received within the United States, and to the licensing and regulation of all radio stations. Not only does the Federal Communications Commission regulate the standard-broadcast stations, but it also has control of those that are designated as relay, international, television, facsimile, high-frequency, development, and noncommercial and educational stations.

In connection with this supervision of the technical details, the commission has the power to approve or disapprove proposed mechanical equipment to be used by a station and the location of the antenna, and it may require the use of directional antennas in the case of interference. Application forms for the different types of broadcasting are obtained from the commission and they are very penetrative in their technical requirements. Various prerequisites are set down for good standards which must be complied with by the station.

In receiving application for a radio station, the F.C.C. requires a vast amount of data. Not only does it insist that the applicant set forth all the equipment that will be used by the proposed station, but it desires to know about the location of the transmitter and the property rights of the applicant in the ground upon which the antenna and transmitter are to be located. The applicant's profession or occupation must be thoroughly outlined, particularly because no alien is permitted to be the owner of a broadcasting station. If the applicant is a corporation, all the facts concerning the incorporation, stock, sales, etc., must be set forth. It must be shown that the station will be self-supporting; consequently, even before the license is granted, tentative contracts must be entered into between the applicant and local concerns which agree to broadcast commercial programs. A complete statement of the anticipated income and the cost of operation must be submitted. Typical program schedules for a week are required. Before the application will be accepted the necessary funds for the building and equipping of the station and for its maintenance must be placed in escrow. The applicant must submit its

proposed wave length or frequency and request a power assignment. Letters are generally obtained from all civic bodies pointing out that the proposed station will serve public interest, necessity, and convenience. The population of the city in which the station is to be located must be given, together with its annual sales and bank clearances. Surveys must be made of ground conditions in the location where the transmitter is to be built, because these affect the signal. Other stations which are on the same frequency are permitted to file exceptions to the granting of the application. At present it is extremely difficult to obtain a license for a radio station in the standard band. Approximately the same procedure must be followed in applying for a frequency-modulation station or television station either in the commercial or in the educational band.

The broadcast field for AM is not open to everyone in any practical sense. At the beginning of 1950 there were 2075 AM stations on the air, which was close to capacity of the broadcast channels. It is very difficult to find an available channel in most areas. There are nearly 5000 communities with populations of 1000 or larger which have no local radio station. Over 100 of these communities have populations ranging from 20,000 to 300,000. In January, 1950, the total number of FM commercial stations broadcasting was 744 while some 300 more had construction permits and conditional grants. In addition to these commercial FM stations there were 68 in the noncommercial classification. Ninety-two television stations were on the air.

There are two ambiguous phrases which really are the basis of radio law: first, "power to determine whether or not a radio station is acting for public interest, necessity, and convenience," and, second, "no person within the jurisdiction of the United States shall utter any obscene, indecent, profane language by means of radio communications." If it is found by the commission that the area which should be served by the proposed station is already well served by other stations, public necessity and interest would not demand the establishment of a new station. It must be shown by the applicant not only that commercial programs are to be broadcast, but that there will also be public-service programs of interest to the particular locality. Just what types of programs satisfy public interest and necessity is not known. The terms "profane" and "indecent" have been far from positively defined by the courts, legislature, or commission, much to the dismay of broadcasters. Whether words such as "damn" and "hell" and expressions such as "My God!" are considered to be profane depends much upon the way they are uttered and used.

The power of the F.C.C. to prohibit the use of obscene, indecent and profane language over the radio comes from the police power Congress

has over interstate commerce such as the similar prohibitions in the use of the mail. That the Federal Radio Commission had the right to prohibit the use of obscene language over the radio was established in the case of *Duncan v. U.S.*¹ Matters of indecency in many instances depend upon the presentation. Stations are inclined to lean over backward in order to avoid censorship in these respects. The commission is a quasi-judicial body and all complaints against any radio station in the United States are referred to it. These complaints most often come in letters from the listening public or from the field staff which the commission maintains for this particular purpose. When a complaint is received, if it does not demand immediate attention, it waits until the six months' period for which the station is licensed has expired and the station in question has come up for relicensing. When such a hearing is held, the legal staff of the commission sits as judges to decide whether or not the license should be refused, or what action should be taken. The decisions of the commission may be appealed to the Court of Appeals of the District of Columbia and then to the Supreme Court of the United States. This, however, is very seldom done for the simple reason that the industry has adopted the attitude of peace at any price.

The commission considers applications for licenses, for the renewal of licenses, for the modification of such licenses, and for the transfer of a license. It has laid down regulations for the use of facilities by candidates for public office. It requires a radio station to make clear that broadcast matter of a commercial nature is paid for by the advertiser. It grants separate licenses for mobile service. The commission determines whether material may be originated on a foreign soil and carried by remote control to an American station to be broadcast, as well as whether such material may be taken across the border from the United States and broadcast by a foreign station. It does not permit a station to pick up a program being broadcast by any other station and rebroadcast it without the written consent of the originating station and of the commission. It has the power to determine whether programs in other than the standard band may be of a commercial nature. All operators obtain their licenses from the Federal Communications Commission.

In connection with the condemnation of the content of the commercial radio program, the advertising matter is considered by the Federal Trade Commission, which is not a part of the Federal Communications Commission, but is a separate governmental agency supervising the truthfulness of advertising material. If the radio station is found to be giving commercial programs which do not conform with the standards of advertising set down by the Federal Trade Commission, its license may be revoked.

¹ 48 F. (2d) 128 (1931).

This happened in the case of a doctor who used a radio station to give medical advice of doubtful value over the air.

The history of government control may be divided into five periods:

1. The laissez faire period from 1912 to 1927 during which the regulations were rudimentary and finally were dropped, resulting in chaos.)
2. The traffic-control period from 1927 to 1932 in which the Federal Radio Commission laid the groundwork for a system of orderly sharing of frequencies designed to secure the maximum benefits for the broadcasters, if not always for the public.
3. The cleanup period from 1932 to 1937 when the F.R.C. and its successor, the Federal Communications Commission, turned their attention to quacks, cranks, and swindlers to drive most of them from the airways.
4. The trust-busting period from 1937 to 1944 when the F.C.C. enlarged the scope of federal regulation and sought to arrest certain monopoly trends related to network broadcasting by the Chain Broadcasting Regulations.
5. The public service era from 1944 on in which the F.C.C. endeavored to make the broadcasters accountable for specific standards of social usefulness, as well as for more truth regarding ownership and financial responsibility, and abiding by the specific F.C.C. rulings and the Chain Broadcasting Regulations.¹

In order to eliminate international interference on standard-broadcast channels, the North American Regional Broadcasting Agreement called for the reallocation of frequencies in the United States, Canada, Cuba, and Mexico. This agreement was drawn up in the form of a treaty dated December 13, 1937. Although it was ratified by the first three countries, it was not until 1940 that Mexico ratified it. The terms of the agreement governed the distribution of the 106 channels in the broadcast band, ranging from 550 to 1600 kilocycles. This agreement requires the shifting of frequencies of 777 of the 862 American stations.

In September, 1945, the F.C.C. issued a set of rules and regulations for television stations that were substantially the same as those for FM.

Since the reception area of FM and television stations is limited, generally, to the "line of sight" from the transmitting antenna, there is a limited radius of efficient transmission. This raises the question of whether the broadcast area was entirely within the state. If it is, the station theoretically becomes subject to state law through being in intra-state commerce. The courts, however, probably would accept the idea that all radio broadcasting was amenable to congressional control and immune from state control except for its police powers. They could seize upon the fact that it cannot be said that reception outside the state is impossible.

¹ *The American Radio*, a report from the Commission on Freedom of the Press, by Llewellyn White (1947). See pp. 126 and 127.

Another facet of the problem of controlling television is the "censorship" of television broadcasts. There the difficulties are similar to those of the movie industry with regard to the scantiness of costume, length of embraces, types of characters portrayed, etc. The F.C.C. uses its power to refuse a license renewal, to exert a moral persuasion on the station, to examine the script, and thus to insure against the broadcasting of objectionable material. A somewhat different problem arises in television broadcasts made from a public area. There is the danger of involvement with the rights of privacy of those who are portrayed accidentally on the screen. If an individual is singled out for special treatment or commercial exploitation, without his permission, then his right of privacy has been infringed upon, with the broadcaster's resulting liability for damage.

Radio Libel

There have been two types of laws concerning defamatory remarks. These may be classified as libel and slander. The main distinction between the two is that libel is written and slander is oral defamation. Libel is considered the more serious of the two. For libelous utterances a man can, in most states, be held criminally liable, while for committing slander he is accountable only for civil damages. These laws have their basis in the old common law, and at the present time every state in the Union has legislative statutes concerning slanderous and libelous remarks.

With the advent of the radio, a whole new field was made available to which the laws of defamation could apply. The first case for defamation by radio did not arise until twelve years after the introduction of broadcasting on a commercial scale in the United States. In 1932, Station KFAB, located in the state of Nebraska, allowed a political candidate to speak over the radio. The station had been compelled to allow him to speak by a provision in the Federal Radio Act of 1927 which made it mandatory for a station to give to each of rival candidates an equal opportunity to speak over its facilities. KFAB had allowed Mr. Sorenson, who became the plaintiff in the subsequent suit, to speak, and it therefore had to permit Mr. Wood, who became a codefendant with the radio station in the suit, to speak also. This same provision in the Federal law prevented the radio station from exercising any censorship over Mr. Wood's speech. Mr. Wood spoke and uttered defamatory remarks about Sorenson, who thereupon sued both Wood and the broadcasting station.

In the case of *Sorenson v. Wood and KFAB Broadcasting Co.*,¹ the Supreme Court of Nebraska applied the same defamation doctrine to the

¹ 123 Neb. 348, 243 N.W. 82 (1932).

radio station that applies to the newspapers. It held that the station was jointly liable with the actual defamer. In this connection the court said:

The publication of a libel by a radio to listeners over the air requires the participation of both the speaker and the owner of the station. The publication is not completed until the material is broadcast.

This is exactly the same doctrine that applies to defamation by publication in newspapers. The court also declared at the same time that, as in the case of newspapers, defamatory remarks over the radio constituted libel and not slander.

The fundamental principles of law involved in publication by a newspaper and by a radio station seem to be alike. There is no legal reason why one should be favored over another or why a broadcasting station should be granted special favors as against one who may be the victim of a libelous publication.¹

In the answer to the defense of KFAB that the Federal statute prevented the station from censoring the speech of Wood, the Nebraska court held that this statute merely prevented the station from censoring words as to their "partisan or political trend," but did not give the radio station the right to "join and assist in the publication of a libel." The significance of this decision is that *Sorenson v. Wood* declared that defamatory language broadcast by a radio station is libel rather than slander, and that, as is true with newspapers, due care and honest mistakes do not relieve a broadcasting station from liability for libel. While radio defamation is oral in its inception, it is more akin to the common-law libel action, for in the preparation of a program a great deal of deliberation is required and a broadcast results in a very wide dissemination of the defamatory material. The fact also must be taken into account that many programs are now transcribed before going on the air and many are cut directly from the air, thus making it possible to retain the defamatory matter in permanent form to be disseminated at will.

The next important case along the same line was that of *Miles v. Louis Wasmer, Inc. et al.*² In this case, Louis Wasmer, Inc., the owner of Station KHQ, had sold time on the air to an organization crusading in the interest of prohibition. In the defamatory remarks, read by an announcer of KHQ, it was strongly implied that the local sheriff had been confiscating stills and then reselling them at a very low price, thus allowing other "moonshiners" to start up cheaply. Miles, the sheriff, brought suit against the radio station, the announcer, and the author of

¹ 123 Neb. 348, 243 N.W. 82 (1932).

² 172 Wash. 466, 20 Pac. (2d) 849 (1933).

the defamatory passage. The Washington court, in awarding the decision to the plaintiff, quoted approvingly the principles declared in *Sorenson v. Wood* and added:

It seems to us that there is a close analogy between the words spoken over the radio station and libelous words contained in a paid advertisement in a newspaper. The owner of the station furnished the means by which the defamatory words could be spoken to thousands of people.¹

The third suit of importance on the question of defamation is that of *Coffey v. Midland Broadcasting Co.*² In this case the Midland Broadcasting Co., owning Station KMBC, had broadcast defamatory remarks against Coffey. KMBC was an outlet for the Columbia Broadcasting System and had broadcast these remarks as part of a chain program sponsored by Remington Rand, Inc. The defamatory remarks had been spoken into the microphone in New York by an employee of Remington Rand, Inc., and carried over telephone circuit to KMBC, from where they had been sent out over the air. All three participants in the program were sued. This suit was also decided in favor of the plaintiff. This decision carried the case one step further than *Sorenson v. Wood* and *Miles v. Wasmer* and placed the liability on the outlet chain station—or re-broadcaster—as well as on the station where the defamatory remark originated.

The law has recognized a distinction between remarks written into the script, and thus submitted to the radio station ahead of broadcast time, and the uttering of extemporaneous remarks which depart from the prepared script. The latter is what was done by the defendants in *Summit Hotel Company v. National Broadcasting Company*³ and *Josephson v. Knickerbocker Broadcasting Company*,⁴ and the courts involved held that public policy could best be served by relieving the radio station from liability in instances of unpreventable defamation. In these forward-looking decisions, the courts held that where a station takes the necessary precaution of examining, prior to broadcasting, the prepared script, it should not be held liable for defamatory material interpolated without warning into the broadcast. However, a radio station cannot arbitrarily prohibit a broadcast, under the ordinary contract for the leasing of broadcast time, on the ground that some of the material in the script "might" be defamatory. In *Rose v. Brown*⁵ the court held that the

¹ 172 Wash. 466, 20 Pac. (2d) 849 (1933).

² 8 F. Supp. 889 (1934).

³ 336 Pa. 182, 8 Atl. (2d) 302 (1939).

⁴ 38 NYS (2d) 985 (1942).

⁵ 58 NYS (2d) 654 (1945).

station was bound by the existing contract to allow the material to be broadcast unless the script actually contained slanderous matter.

There is a legal tendency to establish a distinction between broadcasts which are extemporaneous and those in which the speaker reads from a script (reading aloud has been considered libel since 1610). The most apparently unjust cases of liability are those that result when a speaker to whom air time has been rented departs from the previously submitted and approved script and utters defamatory remarks. It would seem that a radio station should be protected if due care is used, but this doctrine can be invoked only when the courts depart from the application of libel and slander to broadcast defamation and this they have not seen fit to do.

As to remarks uttered by a party who is speaking extemporaneously or ad-libbing if defamatory remarks are made, whether they are true or not, the station's liability seems definite, for, say the courts, the station is negligent in not having demanded a script to be examined before the broadcast. Absolute liability, based upon the same reasoning, also follows when defamation overlooked by the station is included in a previously submitted script. In those programs which are essentially impromptu, such as current events, sporting contests, parades, etc., the station's liability also exists.

The sponsor of a commercial broadcast is liable, as are each and every other person and station which participated in the defamatory broadcast.¹ One of the difficulties in prosecuting a defamation action, as shown in the Boake Carter case, is to effect service on the proper parties. In this case the broadcast was heard in New Jersey and the plaintiff attempted to sue jointly a nonresident news commentator, a nonresident sponsor, and a nonresident network system, all of whom were domiciled in different states. The plaintiff would have to sue only certain defendants or start a suit against each separately.

The so-called rules of privilege and fair comment are important in political campaigns. A statement must be recognized as comment and not a statement of fact.² Criticisms may, under these rules, be made of authors and their works, composers, public officials, candidates for public office, and other persons in the public eye. Such broadcasts, however, must not go beyond the limits of criticism and opinion by attacking the motives or character of such persons.³

An interesting question involving the conflict of laws arises in virtually

¹ *Hoffman v. Boake Carter*, 187 Atl. 576 (1936); *Locke v. Benton & Bowles*, 165 Misc. N.Y. 631; 1 N.Y. Supp. 2d 240 (1937).

² *Foley v. Press Publishing Co.*, 226 App. Div. N.Y. 535 (1929).

³ *Irwin v. Ashurst*, 74 P. 2d 1127 (1938) (Ore.).

every case of a defamation by radio broadcast since it may be heard in several states simultaneously. There is sufficient "publication" wherever the broadcast is heard, as well as where it originates, to support a lawsuit, but the problem arises as to which state's law is applicable. The apparent solution that it is permissible to bring an action in several states for one defamation offends the principles and practice of the courts, so the only answer appears to be that there is needed a new rule of conflict of laws applicable to radio broadcasting.

The F.C.C. has control over defamation by radio through the refusal to renew the license of the culprit station when it has a record of many defamatory utterances, on the basis that such actions are contrary to public interest. It also has refused to permit construction of a new station when many of the residents of the area affected had complained of the applicant's present predisposition toward defamation as indicated by his newspaper utterances.

In addition to the court decisions declaring defamatory remarks over the radio to be libel, several states have statutory provisions that do this.

Music

A number of years ago, in a case having nothing to do with radio, that of *Herbert v. Shanley Co.*¹ the Supreme Court decided that a performance of a musical composition or any other copyrighted article was a performance within the meaning of the law so long as it was performed with the purpose of gaining some profit, whether that profit was gained directly or indirectly.

The first case concerning the violation of the copyright laws by a radio station was that of *Witmark v. Bamberger*² in 1923. In that case the court decided that the broadcast of a copyrighted song by a radio station constituted a public performance for profit. In 1924, Jerome H. Remick & Co. brought suit against the American Automobile Accessories Co.³ for using its copyrighted songs, unauthorized, over the air. In this case the musician was an employee of the station, which was owned by the defendant. The court held that broadcasting a copyrighted musical composition by an artist employed by the broadcaster was an infringement of the copyright laws "where the purpose was to stimulate the sale of radio products."

¹ 242 U.S. 591; 61 L. ed. 511.

² 291 Fed. 776 (D.C.N.J. 1923).

³ *Jerome H. Remick & Co. v. American Automobile Accessories Co.*, 5 F. (2d) 411:40 A.L.R. 1511.

In 1926, in the case of *Remick & Co. v. General Electric Co.*,¹ the application of the copyright laws to radio was carried still further. In this case the court decided that the station was liable even if the performer was not an employee of the station, that is, the station was liable on the ground of contributory infringement, it having contributed to the performance by transmitting the composition over the air.

The most important and significant decision, however, in the realm of copyright laws and the radio was that of *Buck et al. v. Jewell-LaSalle Realty Co.*,² decided in 1931. The defendant in this case was the owner of a hotel that had installed radio loud-speakers in all its guest rooms. These loud-speakers were connected with a master receiving set in the hotel. This master set picked up the broadcast of a radio program on which were broadcast compositions whose copyrights were owned by the American Society of Composers, Authors, and Publishers. The radio station had not been authorized to broadcast these compositions; and Buck, acting for the ASCAP, had repeatedly warned the radio station against doing this and had also warned the hotel against distributing the programs over its loud-speaker system. When the broadcasts continued, Buck brought the action. In a historic decision, the Supreme Court of the United States held that:

The acts of a hotel proprietor, in making available to his guests, through the instrumentality of a radio receiving set, and loudspeakers installed in his hotel and under his control, and for the entertainment of his guests, the hearing of a copyrighted musical composition which had been broadcast from the radio transmitting station constituted a performance of such composition within the meaning of the copyright laws.

It is on this case of *Buck v. Jewell-LaSalle Realty Co.* that the ASCAP bases its present policy of control over the copyrights that it holds on musical compositions.

The American Society of Composers, Authors, and Publishers is an unincorporated organization made up of music composers and a certain number of music-publishing houses. The individual members and publishers in this voluntary society own the copyrights and merely assign the performing rights to the society. The society negotiates for the sale of licenses to use the music and takes care of the collection of fees and other details of making available to orchestras and other performers, including radio stations, the music held by the society's members. The

¹ 16 F. (2d) 829 (S.B.N.Y. 1926).

² 283 U.S. 191; 51 Sup. Ct. 410; 75 L. ed. 971; 76, A.L.R. 1266. *Buck v. Jewell-LaSalle Realty Co.*, *supra*.

American Society of Composers, Authors, and Publishers has worked out a price scale that has proved, in the main, satisfactory to all concerned.

The amount of the royalties, or license fees paid, is based upon such factors as the wattage of the radio station, the surrounding population of the city where the station is located, and the extent to which the broadcasting station commercializes its facilities in selling commercial advertising programs, and subject to restrictions as to certain song numbers.

The fee is usually for a blanket license. All noncommercial educational, municipal, and religious stations enjoy complimentary licenses (\$1.00 a year) from ASCAP and SESAC and have used this music royalty free for years; even those educational institutions not owning their own stations but broadcasting over commercial stations are licensed for the nominal fee by ASCAP. BMI also grants privileges to educational institutions. The purpose behind such centralized authority as ASCAP, BMI, MPPA (Music Publishers Protective Association), and SESAC is excellent, for its existence obviates the necessity of dealing with individual copyright holders.

To constitute an infringement of a copyright of a musical selection, three elements must exist: (1) there must be a performance, (2) it must be public, and (3) it must be for profit, either direct or indirect.¹ Any substantial portion of a selection constitutes a violation of the copyright. This is generally accepted as being over four bars of a musical number. The common-law copyright applies to music.

The remedies for infringement of copyright are: injunction, recapture of profits, and damages for the infringement.²

The question has arisen as to whether music played over a station operating on a nonprofit basis is a performance for profit. The defendant in *Associated Music Publishers v. Debs Memorial Radio Fund*³ was a nonprofit corporation organized for educational and civic activities. Its radio station was operated primarily as an open forum, but some revenue was derived from advertising. The court held that even though there was no intent that the defendant company, or its station, should show a profit there had been no contention raised that it was a public or charitable corporation. One-third of the station's time was devoted to commercial programs, the court found, and extended the rule affecting commercial stations to apply to this type of station. The court recognized as well settled the rule that the playing of a musical composition on a

¹ *Air Law Review*, 1933, p. 316.

² *Ibid.*

³ 141 F. (2d) 852; cert. denied, 323 U.S. 766; 65 Sup. Ct. 120 (1944).

sustaining program of a commercial station is an infringement of the copyright.¹

Radio from its earliest days has had the misfortune of being obliged to rely on many well-entrenched groups. The first such organization to take its toll was the American Society of Composers, Authors, and Publishers. ASCAP controlled the bulk of copyrighted sheet and recorded music when in 1922 it first presented its formal demands to the stations for royalties to be paid every time a piece of music was played either by "live" musicians or on phonograph records. Over the years the royalties paid grew to such staggering proportions that finally the National Association of Broadcasters began actively to combat this threat to the industry, and in 1939 set up Broadcast Music, Inc., to develop its own music. ASCAP had its hands full in defending its position of supremacy against the Department of Justice as well as BMI. In 1941 the situation was settled to the satisfaction of all concerned and the broadcasters signed new and considerably more moderate royalty agreements. Today ASCAP royalties are based on the large gross volume of music being played over the air, and all concerned are benefiting from the arrangement.

The advent of talking motion pictures threw more than 8000 musicians for the silent movies onto the scrap pile. The use of records and transcriptions threatened to reduce the greater part of the remaining musicians to three or four days' work a month. The fact that "canned" music cannot be made without "live" talent for the initial playing was the mighty lever with which the American Federation of Musicians pried considerable benefits for the musicians out of the broadcasters. The amendment to the Communications Act of 1934, which Congress enacted in 1946, was specifically aimed at practically every type of "coercion" that the Union had practiced against the broadcasters. The Supreme Court in *United States v. James C. Petrillo*² held the Act to be constitutional but did not pass on the question of whether or not the statute forced employees to work against their will, contrary to the Thirteenth Amendment. Meanwhile the transcript manufacturers had agreed in October, 1946, to meet the demand of the Union for a 50 per cent "across-the-board" wage increase.

Copyrights

The broadcaster desires to know what written material of the present day or of the past may be adapted for radio or be used in its original form. The writer for radio desires to know what novels, short stories, and

¹ *Radio and the Law* by J. G. Moser and R. A. Lavine (1947).

² 332 U.S. 1: 67 Sup. Ct. 1538; 91 L. ed. 1877 (1947).

plays may be adapted for radio. The broadcaster and the writer are equally interested in the protection of their original material—the broadcaster in protecting scripts prepared by his employees, the author in protecting his original manuscripts. There are two types of copyrights, the common-law and the statutory copyright.

Common-law Copyright. N.B.C. places the following notice upon the flyleaf of all its sustaining scripts:

This dramatic work is the property of the National Broadcasting Company, Inc. It is fully protected under what is known as a common law copyright and damages may be assessed for unauthorized performance thereof or for the making of copies thereof.

An author of a literary or other artistic work is granted exclusive ownership thereof.¹ His common-law rights are protected until he has permitted the content of his work to be communicated generally to the public. The present copyright law expressly provides that the statutory law does not in any way annul or limit the enforcement of common-law rights, either in law or inequity. However, when the owner of a common-law copyright avails himself of a statutory copyright, he thereby abandons common-law rights. Until publication, therefore, intellectual creations are protected perpetually at common law in the form in which the author has expressed his originality. The duration of such common-law rights is perpetual so long as the work is unpublished, but publication terminates all rights.² This, of course, vests exclusively the right of first publication in the author. There is no legal procedure, no registering of the manuscript, no filing of the copy on the part of the author to obtain a common-law copyright. It is his by virtue of his writing the original manuscript.

The physical transfer of an unpublished manuscript does not divest the author of his common-law rights. An author may transfer a manuscript with reservations limiting the extent of common-law rights granted. For instance, he may give his ownership of a manuscript for motion-picture production and retain his common-law copyright for radio production. If such a work is published without the authority of the author, this does not divest him of his common-law rights. The distribution of copies need not be for profit. Mere printing without circulation, however, is not publication. The courts have usually held that the typewriting or even the mimeographing of a limited number of broadcast scripts for the purpose of making the work available for several potential program pro-

¹ *Morrill v. Smith et al.*, 271 Fed. 211.

² *Caliga v. Inter-Ocean Newspaper Co.*, 215 U.S. 182; 30 Sup. Ct. 38.

ducers should not alone divest the author of his right at common law and dedicate the work to society at large.¹

To have a publication at common law you must always have a concrete tangible form by means of which the work can be communicated intelligently to the public. The actual presentation of the work to the public by an unrestricted performance, reading, or expression thereof has been held not to constitute a publication. The performance of a play,² the rendition of a musical composition by an orchestra, and the public delivery of a lecture or other address³ have been held as not constituting an abandonment of the work by an author so as to constitute a dedication thereof to the public. As was held in the now famous case of *Uproar Company v. The National Broadcasting Company*,⁴ this theory was extended to radio broadcasting by holding that the rendition and performance of a work publicly by means of the facilities of a network of broadcasting stations or by one broadcasting station is not an abandonment of ownership of the work or a dedication thereof to the public at large. However, if the manuscript is sold, absolutely and unconditionally, the common-law rights are lost. Such common-law rights are terminated by publication, which means the act of making a book, writing, or other work offered or communicated to the public generally available in the sale or distribution of copies. Such distribution need not take place in the United States. When one or more copies of a work have been prepared and made available to the general public there is publication at common law, and as a result the author loses his common-law rights. If the work be leased or loaned, the author's rights at common law will be barred because the work has thereby been made generally available to the public.

The author of a creative work may secure damages at law for any unauthorized use of his property; and a court of equity will issue an injunction to restrain any unauthorized use and will decree an accounting of profits derived from such use. Suits of this sort are properly lodged in the state courts. A common-law work may not be copied, mechanically reproduced by any device whatsoever, arranged, translated, adapted, or performed by any means or through any media, without the consent of the owner of the work so protected.

The time element is of importance in establishing a common-law copyright. It is always possible for someone to claim that his manuscript was written previously. Consequently, authors have adopted the practice of sending to themselves by registered mail, a copy of their manuscripts;

¹ *Macmillan v. King*, 223 Fed. 862.

² *Ferris v. Froman*, 223 U.S. 424; 32 Sup. Ct. 263.

³ *Nutt. v. Instit. for Improvement of Memory*, 31 F. (2d) 236.

⁴ 81 F. (2d) 273 (1936).

when the manuscript is received, they do not open it but keep it sealed so that, by placing a sealed envelope with its postmarked date in evidence, they can establish the date upon which their manuscript was completed.

The writer of a letter has a common-law copyright in his missive.¹ The writer has the right to make copies of the letter, although it has been sent to its recipient. The person who receives such a letter, be it testimonial or comment, owns no literary property whatsoever in the letter, and its use without the consent of the writer is a violation of the common-law copyright, unless from the terms of the letter or from its implications the author extends such permission. The sender of a telegram has the same literary property in his telegram. In many ways it seems that the common-law copyright is adequate protection for the author, but the proof of his common-law right is probably more difficult, inasmuch as the original manuscripts or artistic creations have not been filed for reference.

Statutory Protection. Article One, Section Eight, of the United States Constitution provides that Congress shall have the power: "To promote the progress of science and useful arts by securing for a limited time to authors and inventors the exclusive right to their respective writings and discoveries." This grant of power to Congress did not divest the several states of jurisdiction to grant authors judicial protection at common law of literary and intellectual property, but copyright was thereby placed in the domain of Congress exclusively, so that the states now have no power to pass substantive legislation in this field.

The first United States copyright act in 1790 provided for a period of protection for fourteen years and a renewal period of the same duration. By the Act of February 3, 1831, the original period of protection was extended to twenty-eight years, but the renewal period of fourteen years was not changed. Under the Act of 1909 a period of twenty-eight years of original protection was granted and a renewal period of the same length was permitted, provided that the application for such renewal should be made to the Copyright Office and duly registered therein one year prior to the expiration of the original term of copyright. The periods for such protection run from the earliest date when the first copy of the best edition is placed on sale. In the case of default of renewal or failure to renew from any other cause, the work falls into public domain. If such renewal is made according to the legal requirements, the work falls into the public domain at the end of the renewal period. A work which was copyrighted previous to the 1909 act, it would seem, should have a renewal period of only fourteen years because that period was allowed at the time the original copyright was taken out. However, according to *Silverman v. Sunrise*

¹ *Folsam v. Marsh*, Fed. Case No. 4901; 2 Story 100.

*Picture Corporation*¹ and *Southern Music Publishing Co. v. Bibo-Lang, Inc.*,² a renewal of copyright is a new grant of copyright, and the rights which accrue to the owner of such a renewed copyright are the rights granted under the provisions of the law which is in effect at the date of the commencement of the renewal term. The renewal of a copyright depends upon the validity of the original copyright, although it is considered as a new grant of copyright.³

A renewal may be obtained by the author, by anyone to whom he has sold his copyright privilege, by an employer for whom the work was made for hire and who secured the original copyright, or by the author's heirs or administrators. Under this act an employer of an author who is hired not as an independent contractor, but on a stated salary basis, is considered the author thereof and is himself entitled to a copyright of the work in question. For instance, those employed by a radio station to write scripts ordinarily have no copyright privilege in what they write, but the copyright lies in their employer. However, the mere fact that the author is an employee does not necessitate the conclusion that the copyright privilege to all said author shall produce shall be in his employer, the determinate being the intent of the parties with the presumption in favor of the employer, unless the author-employee is a so-called independent contractor, in which case the presumption rests upon the side of the employee.⁴

An author employed to write a series of scripts or a serial for a sponsor, an author employed by an advertising agency, broadcasting station, or network to produce scripts, a gag writer who originates jokes for a comedian—in each of these cases the author has no copyright privileges in what he produces unless his contract with his employer so specifies. The copyright lies in the employer. If, on the other hand, the author is considered to be an independent contractor not directly in the employ for the purpose of writing, the copyright exists in him. It is very hard to differentiate at times as to whether the author is an employee or an independent contractor. The most logical rule was laid by the New York Court of Appeals in *Beach v. Velsey*,⁵ where it was ruled, "The test as to whether an author is an employee or an independent contractor lies in the extent of the control and the amount of direction of detail and etc., that the so-called or alleged employer exercises over the progress of the work." It is usually said that if the producer contracts for the script itself and

¹ 273 Fed. 909.

² 10 F. Supp.

³ *Wheaton v. Peters*, 33 U.S. (8 Pet.) 591, 8L. Ed.; 1055 (1834).

⁴ *Uproar Co. v. National Broadcasting Co.*, 81 Fed. (2d) 373.

⁵ 238 N.Y. 100-103; 143 N.E. 805.

says nothing more about it, the script writer is an independent contractor, but if the author is dominated throughout the process of completing the work, the author is usually said to be an employee.

Section 11 of the Act of 1909 expressly extends copyright protection to designated works of which copies are not produced for sale. Among the specified classes of work are various types of material for broadcast purposes, including lectures and addresses, dramatic and musical compositions.

Under treaty regulations, benefits of copyrights on substantially the same basis as those granted to citizens of this country are extended to approximately fifty nations, the first agreement having been made with Belgium, France, Great Britain, the British Possessions, and Switzerland in 1891.

The broadcast program script is a comparatively new form of literary expression and it is still a controversial matter as to whether the entire program script may be copyrighted as such, or whether it needs to be copyrighted in parts. In the vernacular of the radio industry the two terms "script" and "continuity" are often used interchangeably. However, the law seems to make the following distinction between the two. A script is material prepared for performers, announcers, speakers, and others whose voices are broadcast and who must have before them in written form the words they intend to use in the broadcast. Continuity, on the other hand, is more like a timetable or a chronological development of the contents of the program. A continuity is necessary in order to plan and control the use of the time within the broadcast period. The continuity is the shell of the program and the script the substance thereof. A single program, therefore, may be composed of many scripts, those of the announcers, the actors, and so on.

In determining whether a broadcast script may be copyrighted, it is necessary to make a detailed analysis of it; although the Copyright Act was passed before the radio industry came into being, Section Five of the act specifies with some generality what works may secure copyright protection, and although, of course, the broadcast script is not specifically mentioned, such script may secure protection under the general classification therein. Of course those scripts which are not published are protected at common law. Authors of scripts embodying lectures, addresses, and so forth, may obtain statutory protection under Section Five-C, which provides parenthetically for registration of works prepared for oral delivery.

Continuity is the sum total of all materials and scripts in a specified program. If such continuity is coextensive with a complete dramatic program, it may be separately registered and receive copyright protection.

However, to be eligible for protection, continuity and scripts must have unity. This is a question of fact to be decided by a jury.¹

If a script is copyrighted as a dramatic composition, the copyright owner has the exclusive right to make other forms or dramatizations thereof² or to convert his work into a novel or other known dramatic compositions. If the script or continuity is sold outright, this includes all the rights which the author had. It is advisable, however, in the sale or the purchase of such material, to specify definitely what rights are transferred.

If a script is registered for copyright as a dramatic work, it may not be broadcast without the consent of the copyright owner. Broadcasting is a public performance despite the fact that broadcasts are not publications under common law. It makes no difference whether such a broadcast is for profit or merely is a sustaining program, such a broadcast would violate the copyright privileges and both civil and criminal proceedings may be instituted in such a case.³ If the author has transferred all his rights in the script to the producer, it may be changed or altered in any way, except that it may not be distorted to the extent that it will injure the reputation of the original author. The grant of the right by an author to use a script in one particular broadcast program does not give the producer the right to use it in any other broadcast program.

If a statutory copyright is to be obtained, the author, his assignee, or employer should write to the Library of Congress, Copyright Office, Washington, D.C., and request form 12. This application form lists the various types of creative effort for which copyright may be obtained and enumerates the forms that must be filled out to obtain final copyright. When the application has been forwarded to the Library of Congress, another form is obtained to be filled out for the type of material on which a copyright is desired. This is returned with a specified number of copies of the first and best publication, together with the specified amount. The act provides that the registrar of a copyright shall receive, and the author or owner of the copyright shall pay, the following fees. If a play is to be copyrighted and to be published, it is necessary to send two copies of the play, together with \$2, to the Copyright Office. The case of *Marx v. United States*⁴ was one in which Groucho and Chico Marx were convicted of infringing and aiding and abetting infringement of a copyrighted radio script. All that had been done by the author was

¹ *Seltzer et al. v. Sunbrock et al.*, 22 Fed. Supp. 621.

² *Fitch v. Young*, 230 Fed. 743.

³ *Associated Music Publishers v. Nebs Memorial*, Radio Fund, 141 F. (2d) 852: cert. denied 323 U.S. 766 (1944).

⁴ *Marx v. United States*, 96 Fed. 2d 204.

to register the script under Section U of the Copyright Act of 1909 which grants protection where no copies of the works are reproduced for sale, the only requirement being the depositing with the Register of Copyrights of a copy of such works together with a claim of copyright. (Section U only protects lectures and similar works or a dramatic, musical, or dramatico-musical composition.) The authors of the script in question had placed the script with an agent who mailed the script to Groucho. A conference of authors, Marx brothers, and gag writers was held but no action taken. Years later, the defendants broadcast a script in which was included altered but recognizable material from the copyrighted script. The Marx brothers claimed to have forgotten completely about the original and claimed that the gagmen had been paid for the script used. The court held the defendants guilty of "piracy." The copyright ran for twenty-eight years from the date of depositing the script with the Register. If statutory protection is desired for a speech which is not to be published, the registration requires only one copy and costs only \$1. No attempt is made on the part of the Copyright Office to scrutinize the work, except to ascertain that it complies with the laws prohibiting the publication of obscene matter, etc.

Infringement of a copyright exists where the defendant has appropriated copyrightable material. Once such appropriation is thoroughly established, a question of fact exists for the jury in determining whether a substantial and material portion of the plaintiff's work has been appropriated. The whole work need not be appropriated; it is sufficient that the labors of the author be substantially appropriated by another.¹

Before using published material, such as books, novels, short stories, poetry, and other narrative material, the broadcaster should examine the copyright notice. It is generally accepted that unless the material was originally written for oral delivery it is not protected against public delivery for profit, which means broadcasting. Such material is protected, however, against the making of physical copies, dramatization, or alteration. Most copyright notices today add restrictions concerning the use of the material in the movies or on radio. If it is not so stated they may be broadcast in their original form. The assigning of voices to parts of a dialogue might be considered dramatization. A license is required for all types of plays, monologues, and other material designed for the stage or other public presentation.

The idea of the work, or, as it is customarily termed, plot, is not copyrightable, but where the expression of the fundamental theme is appropriated infringement takes place.² An idea is protected under the law

¹ *West Publishing Co. v. Edward Thompson Co.*, 169 Fed. 833.

² *Simonton v. Gordon*, 2 Fed. (2d) 116.

of unfair competition. In *Fisher v. Star Co.*, 231 N.Y. 414 j 132 N.E. 133 (1921), the creator of "Mutt and Jeff" was protected against the defendant "passing off" as his own the idea embodied in a continuing series of cartoons.

The courts are not always quick to protect ideas, however. In *Grombach Production's v. Woring*, 293 N.Y. 609, 59 N.E. (ad) 425 (1945), the court refused to protect an idea submitted to an agent of Fred Woring on the grounds that the disclosure was "gratuitous" and therefore no implied contract in relationship of trust was created. This decision is difficult to accept in the light of the actual situation, since an author who submits an idea rarely does so merely seeking advice or praise.

The courts will protect ideas under the theory of an implied contract. In *American Mint Corporation v. Ex-Lax, Inc.*, 31 N.Y.S. (2d) 708 (1941), the plaintiff had, at the request of the defendant, given its advice, suggestions, and ideas on the manufacture and packaging of a new product. Recovery was allowed though there was no mention that the ideas had been communicated in written form. Some courts, however, will require that an idea be reduced to concrete form. The court in *Stone v. Liggett & Myers Tobacco Co.*, 23 N.Y.S. (2d) 210 (1940), refused recovery even though the plaintiff had submitted, at the request of the defendant, a rough script adapting her radio continuities to motion pictures and the defendant thereafter used the plaintiff's suggestions in producing some advertising motion pictures.

In *Yadkoe v. Fields*, 66 Cal. Opp. (2d) 150, 151 P. (2d) 906 (1944), the plaintiff submitted to W. C. Fields, by means of letters, certain ideas of humorous incidents and stated in his first letter "Whatever you think the enclosed radio script is worth is O.K. with me, Bill." Fields thereafter made use of portions of this material. The court rendered judgment for the plaintiff, saying that the circumstances raised an obligation to pay for the material used, and that ideas embodied in the material cannot be taken and used with impunity just because the concrete expressions of the author were not employed.

In 1949 a California State Supreme Court affirmed a judgment against a network for the misappropriation of a radio program idea. The network was found to have committed plagiarism.

The result of the action and not the intention of the actor is the thing that determines the question of infringement. Where the infringement of a copyright is established, intent is immaterial.¹ If the infringement is proved, the intent to infringe will be presumed; nor does the infringing act need to be for profit.²

¹ *Altman v. Newhaven Union Co.*, 254 Fed. 113.

² *Pathe Exchange, Incorporated v. International Alliance*, 3 Fed. Supp. 63.

In a few limited instances a copyrighted work may be used without constituting an infringement. It was held in *Chapel & Co. v. Fields*¹ that the imitation, mimicry, or parodying of a copyrighted work is a fair use thereof. However, it is essential that good faith serve as a basis for the imitation and that due acknowledgment be made to the author or to the copyright proprietor. While damage awards under the statute are controlled under detailed regulations, it will suffice to say that in addition to injunction relief from infringement, the author is also entitled to damages and all profits derived from said infringement. According to Section 35 of the Act of 1909, damages for such infringements must be assessed by the court of not less than \$250 nor more than \$5000.

Under existing copyright laws, the scope of copyright protection to both dramatic and musical compositions and the exclusive right to produce such work mechanically is vested in the copyright holder. The right of recording or transcribing a copyright program script for broadcast purposes exists in the name of the copyright holder only. However, works in the public domain may be freely transcribed, modified, or transformed with impunity. Care should be observed, however, that a copyright arrangement of a public-domain tune is not used. In checking the availability of a selection, one must know the author, composer, publisher, and arrangement.

According to this ruling, it is a violation of the copyright to record a broadcast program, picking it up from the receiving set, or to rebroadcast such a program, to send such a program over telephone or electric-light wires, or to present it over public-address equipment or upon a television screen in a theater.

Copyright runs from the time when the first publication is made of a work to the end of the original copyright period, plus the renewal period, if such renewal is obtained. If a compiler at the present time gathers into a single book a large number of short stories or plays and obtains a copyright for the compilation, he does not extend the copyright period of any one of the plays or stories contained in the book. His copyright is upon the compilation, the collection, rather than upon the individual contents of the book. It is safe to assume that anything written fifty-six years ago is in the public domain and may be used or adapted with impunity. Otherwise the consent of the copyright holder should be obtained before adapting or using such material.

Well-known authors retain legal agents to check up on radio violations of their copyrights. There has been some difference in judicial opinion as to whether the copyright law, which specifically lists "a lecture, sermon, address or similar productions, a drama or musical composition,"

¹ 210 Fed. 864.

applies also to poems and dramatizations of short stories and novels. One court has held that the recitation of a poem did not constitute a violation; however, the tendency is toward a liberal construction of the copyright law to entitle the creator "to any lawful use of his property whereby he may get a profit from it."

Musical compositions, lectures, sermons, and the like are protected. So are dramas and the dramatization of a novel or poem. There is no statutory ban on the mere reading of a novel or poem over the air as long as only one voice is used. Lectures, sermons, and the like have one feature in common in that they are all intended primarily for oral delivery to an audience. A poem intended for use at a public gathering or first spoken at one might be considered in the above category.

Most radio-station and educational broadcasters possess recording equipment and in some instances desire to make recordings for public sale. The law provides that the copyright holder of a musical selection such as a college song or march may license a manufacturer of recordings to record his selection and file notice of this license in the Copyright Office. Thereafter any other person can make recordings of the selection upon serving notice upon the copyright holder and upon paying him 2 cents for each record manufactured. Until the copyright holder has granted such an initial license no recording can be made without his consent. However, the copyright on a musical selection does not prevent the recording of adaptations and arrangements of that selection. The right to public performance of such recordings requires the consent of the copyright holder. It is dangerous to cut records of a broadcast from the air unless permission is first obtained from the holder of copyrighted selections being performed.

SELECTED READINGS

ASHLEY, PAUL P.: *Essentials of Libel*, University of Washington Press, Seattle, 1948.

Broadcasting and the Bill of Rights, The National Association of Broadcasters, Washington, D.C., 1947.

Statements presented by representatives of the broadcasting industry during hearings on the "White Bill" (S. 1333) to amend the Communications Act of 1934. Before a subcommittee of the Senate Committee on Interstate and Foreign Commerce.

Broadcasting—1950 Yearbook, Broadcasting Publications Inc., Washington, D.C., 1950.

The Communications Act of 1934, Government Printing Office, Washington, D.C., 1946.

As title suggests, with amendments and index thereto.

DIGGES, I. W.: *The Modern Law of Advertising and Marketing*, Funk & Wagnalls Company, New York, 1948.

A concise, comprehensive, and authoritative handbook of the legal aspects of advertising, including 16 pages devoted to radio broadcasting and television.

DILL, CLARENCE C.: *Radio Law: Practice and Procedure*, National Law Book Co., Washington, D.C., 1938.

Gives the background of radio law, including the Radio Act of 1927 and the Communications Act of 1934.

FISCHER, HENRY G.: *Radio Regulation*, Pike and Fischer, Washington, D.C., 1948.

Mr. Fischer is executive editor of these three volumes: Vol. I. Relevant statutes, Congressional committee reports and court rules; treaties, rules, and regulations of the Federal Communications Commission. Vol. II. Digest of all F.C.C. decisions. Vol. III. F.C.C. decisions since July 1, 1945, and of the courts since January 1, 1948.

JONES, ROBERT W.: *Copyrights and Trade-marks*, E. W. Stephens Co., Columbia, Missouri.

While the author devotes little attention to the specific problems of broadcasters, much of what he says concerning the statutory, judicial, and common-law provisions on copyright applies to radio stations and personnel.

MOSER, J. G., and RICHARD A. LAVINE: *Radio and the Law*, Parker and Co., Los Angeles, 1947.

Examines every available decision in this country and the British Empire.

SHURICK, E. P. J.: *The First Quarter-century of American Broadcasting*, Midland Publishing Co., Kansas City, Mo., 1946.

A chronological history of radio by subjects.

WARNER, HARRY P.: *Radio and Television Law*, Matthew Bender & Co., Albany, N.Y., 1948.

A comprehensive reference book on the legal and regulatory structure of the radio and television law.

WITTENBERG, PHILIP: *Dangerous Words, A Guide to the Law of Libel*, Columbia University Press, New York, 1947.

RADIO AS A VOCATION

At the end of 1949 there were 2075 AM stations on the air; and over 600 more applications for construction permits were either in hearing or were pending. The F.C.C. tabulation of employment and pay rolls made in late 1947 reported the number of employees and total pay roll of only 1260 stations. These stations reported 34,720 full-time employees with an aggregate weekly compensation of \$2,508,000. The average weekly pay for staff employees was \$72.40. Seventy per cent of the stations reporting employed over 15 persons. The opportunities for employment have increased greatly since the above statistics were made public. As of November 1, 1949, the total number of stations on the air was 2911 (2075 AM, 744 FM, 92 TV).

Radio, as a vocation, has become in a very short space of time one of the more desirable fields in which many types of people may find employment. The fact that there is considerable glamour attached to radio increases the interest people have in it as a possible vocation. Furthermore, broadcasting offers a career that is not seasonal, for the station operates upon a full schedule, summer and winter.

Incomes in broadcasting vary with the ability of the person doing the job; those in the higher brackets are as numerous in radio as they are in other fields of endeavor. The rate of income is more stabilized than it was ten years ago, and even the lesser jobs in radio have advanced to where they compare in income with a commensurate position in other professions and businesses. The field of radio is becoming more and more expanded and specialized, with the result that the demand for a variety of talent continues to grow.

A great proportion of the FM stations are owned and operated in conjunction with an AM station. In these cases, the same staff is used for the dual operation; however, many AM stations have a daytime license and turn to FM in the evening, with a resulting staff increase. The duties and salaries of employees in these two aural radio systems are about the same.

The rapidly growing field of television will offer many new opportunities for employment. Those who entered the field early and have developed a thorough background in the technicalities of the medium will have the best opportunity for rapid advancement. Television will increase the employee classification of radio by the addition of artists whose abilities will appeal to the eyes as well as the ears—dancers, magicians, puppeteers, etc. A. B. Dumont forecast that in the early 1950's at least 950,000 will be employed in television. The salary budget of a TV station is estimated to be about twice that of a radio station.

In estimating personnel costs and staff requirements, the station owner's first chore is to break down the hours-on-the-air programming into the number of work assignments, budgeting for: technicians, projectionists, audio controls, video controls, film directors, cameramen, dollymen, floor men, boom-mike men, news editors, film and music librarians, remote crewmen, announcers, switchers, technical directors, porters, drivers—and most notably, relief men. For television is a seven-day operation, and more and more a day-and-night operation, gradually spreading beyond the eight-hour day, and thus either into overtime or into two shifts. In estimating staggered shifts most TV stations figure the cost of such work schedules as 40 to 50 per cent greater than straight shifts.¹

In addition to this personnel there will be writers, actors, designers, scene painters, property men, etc. There is no survey today to determine salary rates for employment standards. In early 1950 most of the TV stations are operating in the red; as the industry develops standards will be set. If the student is interested in this field he should get into it early, serve an apprenticeship, and secure a thorough background in all phases of the medium.

The following material deals with the established positions in AM and FM stations.

The Studio Staff

A number of factors affect the composition of a radio station staff. In some cases, the staff personnel may be so versatile that a minimum number is necessary to operate the station. In other cases, a greater emphasis upon live programming and announcing will result in a larger staff. Among network stations of the same size there may be considerable variations in staff size depending upon the extent to which they do originating. Essentially, the size and composition of the radio station staff are products of the individual station. Each station adjusts the size and composition of its staff to its market, its income, and its program and operational policies.

¹ *Fortune*, July, 1949.

The Announcer

In launching into a discussion of radio as a vocation, the logical place to start is in the studio, with the employees who come into more direct contact with the listening public. Of these persons probably the best known is the announcer. As is still the case in practically all branches of radio today, the supply of announcing talent far exceeds the demand.

The mistake that is made by most persons who desire to enter the radio profession is that they attempt to start in the more important stations. The networks require an announcer to have had experience with an outlet station. The larger outlets suggest that the radio speaker gain training in the small local station. The ideal way to break into broadcasting is to start with a local station, where the work of all departments of the station may be studied. Here there is also opportunity to try out types of programs, writing dramatic skits and continuity, and selling advertising time. If the neophyte is successful, he may be called to an outlet station; at least he will have a background of experience when he applies for a position.

A few of the more fortunate beginners may find employment in the network outlets, but such cases are rare. The place to start is at the bottom and learn the task thoroughly, so that you may be able to do not only the job for which you have been employed but someone else's too—for that is the way advancement is obtained. Too many beginners take a job with a small station feeling that in such a job they will hear of other jobs that they can try out for. This is the wrong attitude. Make a business of getting a job, and after securing one make a business of keeping it. Do not make a business of employment seeking. Appreciate your affiliation with the small station; it has all the ramifications of a large network, only on a smaller scale and with fewer people to engage in them.

Auditions

Applications for an audition may be made in person, by telephone, or by mail (Form K). The applicant must be persistent and not easily discouraged. Although he may take an audition and although his name may be placed upon record, the applicant who happens to be in the studio when a position is open usually gets the job. Some stations, in order to discourage the applicant, will give him a pronunciation test to read such as is sent out free by the G. and C. Merriam Company, publishers of *Webster's New International Dictionary*. In every instance the applicant will be given sight reading and may read copy he has himself prepared. In the outlet and local station an applicant who can double as a singer or an actor as well as an announcer has an advantage. Some stations, over-

whelmed by applicants, refuse personal interviews or auditions and merely listen to the voice over a telephone. If the voice is pleasant, the applicant is invited to the studio for an audition. Many applications are received by mail, and the writer is judged by his letter; however, he is not employed until he has passed a studio audition.

The following is an outline of the Announcer's Test used by N.B.C.:

1. Knowledge of foreign languages. Frequently used names of foreign operas, arias, and composers. Italian, French, German titles of songs and arias. Some Spanish.
2. *a.* Verbal ad lib. To test presence of mind. Descriptions as in special event. Patrick Kelly, chief announcer, assigns subject at time of test.
b. Mr. Kelly at time of test frequently gives list of musical numbers to aspirant and asks him to ad lib as though program were on the air.
3. Candidate is given sample of commercial announcement to read in order to demonstrate both sales ability and diction as announcer.

Those who are intent upon becoming radio announcers should not neglect backdoor methods. Any job in a radio station is a steppingstone to the microphone. Many announcers who began in technical work have become radio personages. Important sponsors are frequently able to place capable friends in a station, and, if these friends prove their worth, they are on the job when a permanent position is open. The ability to get along with other people is first among the qualifications sought in an announcer. When one realizes how, in a radio studio, everyone is thrust into close and informal contact with others on the staff, this becomes immediately apparent. An announcer must also have that quality commonly known as "horse sense." He must be able to think quickly and clearly upon occasions, for, while things usually flow pretty smoothly, one can never tell when some split-second decision will have to be made, and he must be prepared to make it. The announcer must be able to work the switches that control the microphone. He must be calm in a pinch and able to vary the tempo of his speech in order to end a program on time.

An applicant with a university degree is given preference, and a degree is nearly a prerequisite when you consider how many college graduates are applying for radio positions. The university training gives to them the broad background required, for the radio announcer should "know a little about a lot of things and a lot about many things." He has to be versatile enough to shift from poetry to pugilism. He must know sport and musical terminology. He must have a personality that makes him a master of ceremonies one hour and enables him to introduce a religious program the next. He must be able to pronounce the names in the news, music, and art. To prepare himself for this he should have covered as much ground as is possible during his four years upon the campus. He

should not have overlooked physical development, because he needs a healthy body for the fatiguing grind of a life composed of split seconds and his body must be healthy to make his voice sound that way. The N.B.C. expects its announcers to have a speaking knowledge of several languages as well as a good background in music.

With the development of the radio receiver to its present status, where it can reproduce the sounds almost exactly as they leave the studio, the importance of a particular type of voice is not so great as it once was. Sponsors, however, demand announcers with "commercial voices," that is, voices that command attention in a friendly and unassuming manner. It should be said, however, that a pleasing voice, a "voice with a smile," is a decided asset to any radio announcer, and the lack of it is a decided handicap. In addition, the announcer must be capable of reading fluently at sight. He must speak clearly and without affectation. He must have a pleasing personality and be able to project it through his voice, as well as conform to all the requirements set forth in previous chapters for the radio speaker.

Additional qualifications for the announcer include the command of a good English vocabulary; confidence, initiative, and quick thinking to describe a program; the ability to give an impromptu talk if the emergency occurs; a good sense of news values and the ability to describe news, sports, and other special events. The ability to use a typewriter is a decided asset.

The announcer may be called upon to perform his announcing duties at any time of the day or night, and he must be willing to subordinate other interests to his job. The quality of punctuality is essential. Radio is not looking for men who make excuses. There is a certain amount of routine in the announcer's work, but, on the whole, with its irregular hours and variety of programs and artists, it is far from a routine job. Among his many qualifications are the ability to write continuity and take complete charge of a program, acting as producer or dramatic director when necessary.

Announcers at the small local station start at \$52.43 a week, with salary changes depending on their value to the studio, amount of overtime, and length of service. Announcers' salaries reach a maximum at from \$75 a week in this type of station to \$90 a week in a large affiliated station. Announcers who have advanced to positions of greater responsibility—such as program director or production manager—earn approximately \$10 a week more than the regular announcers. The average pay for network announcers is \$68.48 a week and for those in independent stations \$49. The greatest advantage is that an announcer is on the permanent staff of the station. Of course, some announcers get much larger pay

for their work, but in these cases the checks come from certain advertisers who have happened to take a fancy to a particular voice or manner of speaking and specify the individual announcer, who thereupon becomes

APPLICATION FOR POSITION

IN ORDER TO ACT UPON YOUR APPLICATION INTELLIGENTLY, THIS BLANK SHOULD BE FILLED OUT IN DETAIL. EACH QUESTION MUST BE ANSWERED IN FULL.

Please Use Ink

Name in Full _____ Date _____

Present Mail Address _____ Telephone No. _____

Permanent Mail Address _____

Married or Single? _____ Amer. Citizen? _____ Nationality? _____

Where Were You Born? _____

Date of Birth? _____ Height? _____ Weight? _____

Any Physical Defects? _____

Are You in Good Health? _____ Tuberculosis? _____

Do You Own Your Own Home? _____ Where is it Located? _____

Habits _____
Smoking-Drinking, Etc.

If Now Employed, Where? _____ Salary \$ _____

If Not Now Employed State Salary Received in Last Position? _____

Nature of Position Sought? _____

When Can You Begin? _____

Salary Expected _____

Character Reference, at least Three (Do Not Name Relatives)

Name	Address	City and State	Telephone

(OVER)

FORM K

an artist. Even on the national chains, salaries seldom run much higher than on the larger local stations. Stations operating under union rules tend to pay 5 to 10 per cent higher wages to all employees.

Of course, if a man is good, there are opportunities offered to him for making money on the side. He will be employed to make announcements

for electrical transcriptions and also for commercial talking pictures. During athletic contests and public events a man is often needed to announce the events and the results over a public-address system, a

EDUCATION

What Public School? _____ When Graduated? _____

What High School? _____ When Graduated? _____

What College or University? _____ When Graduated? _____

What College Course? _____

What Foreign Languages do You Speak? _____

Where, When and for What Reason Have You Traveled Abroad? _____

EXPERIENCE

Write Below at Length and in Detail Entire Experience, Beginning with Your Most Recent Position, Giving Stress to the Following:

1. Date Beginning and Leaving Each Position (Indicate in Narrow Margin).
2. Name of Concern or Person and Their Business.
3. Your Exact Position, Duties and Responsibilities.
4. Your Salary.
5. Your Reason for Making Change.
6. Reference as to This Position.

If Space Allotted Below is Inadequate, Attach Supplementary Sheet.

DATE	Name of Concern	Address	Salary Received

NOT TO BE FILLED IN BY APPLICANT

Date _____ Interviewed by _____ Remarks: _____ _____ _____	Date _____ Interviewed by _____ Remarks: _____ _____ _____
---	---

FORM L

“pickup” that will usually net him a little extra cash. Sometimes a sponsor will ask an announcer to step into a dramatic part, for which he receives extra pay.

The present and wise tendency is to do away with titles in the broadcasting staff. Individuals will be given specific duties to perform, but

they are not encouraged to assume the attitude of importance that a title seems to create. While various individuals will have definite tasks, every member of the staff is responsible not only for his own performance but also for the smooth operation of the station.

Among the various tasks that may bring additional income to the announcer is that of preparing the daily schedule for the announcers, showing what programs and what standbys they are to take. In some stations the announcer who takes upon himself this task is given the title of "chief announcer." It is his duty to see that the requests of sponsors for particular announcers are satisfied, that the voices are varied upon successive programs, and that the announcers are on the job at the required times. In a small local station, it may also be his job to direct and produce the dramatic and special musical shows put on by the station, casting from members of the staff when necessary, rehearsing the sound man, cast, and music.

Next comes the announcer who is in charge of traffic, sometimes called "program director," whose duty it is to oversee the work of everyone in the studio and to see that everything runs smoothly. In many radio stations he also assumes the function of planning what will be broadcast during the intervals between commercial programs. In this capacity he receives daily-program announcements in advance from the network with which his station is affiliated, and, combining these offerings with the facilities at his immediate command, he must so arrange and organize each day's broadcast that a variety of entertainment will be provided, taking into account the types of programs that are to be presented by the network through his outlet as well as commercial programs and those sponsored by his local advertising clientele. He will be the connecting link between the artistic side of broadcasting and the business department. He will keep his finger on the public pulse and induce artists and those who are in the day's news to give personal appearances over his station. His greatest task is to keep putting originality into his day's entertainment.

The announcer may obtain his position with a local station as the result of an audition for the dramatic, vocal, or announcing field; or as the result of some connection with a sponsor or advertising agency. His first advancement in the local station is either to become assistant production manager or into sports; if he is good he steps into the chain gang. If he goes into production he advances to become local production manager, where he hesitates long and uncertainly, hoping to become manager of the station. His chances are slim. If he goes into local sports he can advance to network sports, where he finds himself stymied unless he pays the forfeit of going back into announcing for the network. The

network announcer may work up to be program manager. Seldom does the announcer rise higher than production manager for the local stations or program manager for the network.

Radio Writers

The copy that the announcer reads on the air is prepared by another member of the staff, the continuity writer. For the local station usually one or two continuity writers are sufficient to handle all the work to be done, especially if that station is affiliated with a network from which it can draw programs. The continuity writer must be able to express messages in clear, concise English, and type his own copy. Since research is often required in locating and organizing material, college training or its equivalent is desirable. It will be of value if, while in school, the writer has covered a broad range of subject matter and acquired an extensive vocabulary.

The continuity writer must be able to imagine just how the announcer assigned to a particular program will read the copy, so that he or she can prepare copy best adapted to that person's manner of speaking. This author prepares commercial copy as well as announcements for sustaining programs. The continuity writer has frequently worked into radio writing from a newspaper or an advertising agency and has a knowledge of writing principles.

There is a decided shortage of good dramatic scripts written for the radio. Many try their hands at it, but in most cases they lack the natural ability to write good plays. When once a playwright's reputation is established through his products for the legitimate stage, he will not risk it on radio plays. As was pointed out by Eugene O'Neill when he was asked to prepare a play for radio presentation, most authors spend many months in developing a good product for the stage and cannot hope to produce as good work at the rate of one play a week or more.

Writers for radio are placed in three classes, those on the staff, those under contract, and free-lance writers. Staff writers do not make so much as contract writers but they have a definite salary and work during definite hours. Staff writers prepare continuity, talks, announcements, interviews, special-occasion scripts, original plays, adaptations, and often station publicity. In the local station they are paid from \$42.80 to \$43.50 a week; if connected with a network they get from \$42.80 to \$74.90. The national average for staff writers is \$54.05 for the networks and \$46.01 for independent stations. These salaries are for the writer of average ability; a man whose ability and value to the station place him above this category may expect to earn up to \$85 a week in a small station and from \$150 to \$200 a week in a large affiliate. News writers average

\$73.83 a week working for the networks, and \$57.78 for independent stations. Program agencies and syndicates also have staff writers preparing serials, news releases, and drama series; for these the prices vary.

Writers under contract earn up to \$100 in preparing serials for local stations and up to \$1250 for the networks, depending upon the number of serial scripts and their popularity. You have to be funny for \$10 when dealing with a local program but a name comedian upon a network show pays as high as \$1500 a week to his gag writers and continuity staff. A single play will bring from \$5 to \$100 from a station and from \$75 to \$750 from the network.

The free-lance writer gets what the sponsor will pay, if he satisfies the sponsor's demands and the agencies and the program has pull. The free-lance writer is a gambler with his wits and time, usually being paid about \$25 for a program, in exceptional cases as high as \$100. The free-lance writer who has material accepted, for even a sustaining program, has established an "in."

Dramatic writers also sell their plays to electrical-transcription houses. A single script can be sold to a number of different local stations in widely separated parts of the country. There does not seem to be any line of advancement for the continuity writer except that he may become a better continuity writer. He is in a blind alley.

The best paid continuity writer is represented by those who write for the radio comedians. Frequently they are employed by the comic for whom their gags or situations are created, while in some cases their scripts are syndicated by concerns which furnish continuity to widely separated local stations. Humorous writing is divided into situation writing and gag writing. The former consists of connected comedy, the latter of jokes. The situation writer builds skits that run for months, even years; the gag writer lives from program to program or supplies only a small portion of a single program.

The gag writer has a difficult task, for constant broadcasting has nearly exhausted the joke book, despite the fact that the gag writer usually has a huge file of jokes that have been used for centuries. Celebrated comics require as many as 50 gags for a single program. Consequently there is a demand for good writers who can be relied upon to supply both quality and quantity. Few can maintain the pace. The neophyte must establish a name for himself, submit to the comedian gags styled especially for him, and continue to write regardless of discouragements. Gags may be sold to the comedians, to advertising agencies, to syndicates, or to broadcasting stations. They must be original. If they are not merely adopted without the writer's consent, they will bring from 50 cents a gag to \$1000 a program. The gag writer must have

boundless energy, talent, persistence, and material in addition to experience and contacts before he can anticipate steady employment or a living wage. Those who can write fresh material which creates laughter and which is acceptable in both Pine Center and Boston have "names" in radio that result in excellent incomes but in little publicity.

Musical Staff

There is, of course, always the possibility of working into radio as a vocalist or musician. The musician must be versatile and capable of playing everything from symphony to jazz music. Studio orchestras are usually very carefully chosen and contain excellent musicians. They frequently make special arrangements of selections and write musical bridges and theme music, as well as background music. At one large station, the pay of the studio orchestra is \$5 an hour for 12 hours of work, rehearsals included, and \$7 an hour for any time over 12 hours. The musicians are paid on a weekly basis and are highly unionized. The musical director in a regional station gets from \$75 to \$200 a week.

The Producer

The production director is sometimes called the "dramatic" director; however, production is a more inclusive term, for the producer puts together the musical program, the variety show, the dramatic performance, and in fact all productions. He generally has had dramatic training as well as experience in all the radio departments. His qualifications have been enlarged upon in a previous chapter. In local stations he may be an announcer as well as director and frequently does a bit of dramatic writing. Job advancement for the production director consists of moving into a network position. The national average weekly pay is \$80 for the network station and \$68.48 for the independent station. With additional features, such as commercial dramatic announcements, he has opportunities for outside income and frequently serves both a station and a transcription service. Program manager of a chain is about tops in advancement. He may be employed by an advertising agency with a production department or by one of the many agencies that specializes in production to put on a show.

The Actor

The station may have a nucleus of a dramatic staff on its regular pay roll but the majority are on call. The radio actors' training and requirements have been discussed in a chapter devoted to them. They come from dramatic schools, from stock companies and vaudeville, from motion pictures, and even from the opera. Unknowns do leap to fame after audi-

tions. Recently a network production chief noticed a lack of available talent and developed a training department; candidates were selected from six colleges and were instructed in radio techniques and twice each week required to attend the theater, opera, concerts, motion pictures. Most radio actors belong to AFRA (American Federation of Radio Artists). Many advertising agencies employ their own actors, and name characters are under contract. In a local station actors receive from \$3 to \$5 for a program, which includes rehearsals. The announcer who is "a voice" in a play becomes an artist and is entitled to additional pay. In the larger network stations the actor receives from \$10 to \$25. Pay always includes a stipulated rehearsal period.

1950 SUSTAINING RATES—AMERICAN FEDERATION OF RADIO ARTISTS

NEW YORK AND NATIONAL NETWORK RATES

Service	15 minutes or less	16 to 30 minutes	31 to 60 minutes
ACTORS			
Basic minimum guarantee °	\$27.70	\$33.00	\$39.60
Program fee	18.50	19.80	21.80
Rehearsal rate, 1st hour	4.00	4.00	4.00
Hourly rehearsal rate after 1st hour	2.60	2.60	2.60
Repeat broadcast fee	12.50	15.20	18.50
SINGERS: Soloists			
Basic minimum guarantee °	27.70	33.00	39.60
Program fee	23.80	29.00	33.70
Rehearsal rate, 1st hour	4.00	4.00	4.00
Hourly rehearsal rate after 1st hour	2.60	2.60	2.60
Repeat broadcast fee	12.50	15.20	18.50

*The basic minimum guarantee includes the program fee plus the rehearsal rate, bringing the program up to the basic minimum guarantee; any additional rehearsal time must be paid for at the applicable rate.

The sound-effects operator has been discussed in the chapter on sound effects. Frequently he is drafted from the technical staff. There is no logical advancement from his position.

Many stations operate Artists' Service Bureaus to secure employment for artists upon sustaining programs and for personal appearances. The management of such a bureau collects a commission upon the remuneration received by the artist.

The music library is a very important part of the broadcasting station's equipment and must be in charge of a capable librarian. He must have various types of indexes; the selections must be timed and classified for

different kinds of programs. He will also be in charge of transcriptions and sound-effect recordings.

Technical Staff

Each station has a staff of about six or seven licensed technicians working in shifts in the control room in connection with the studio; where the transmitting station is located away from the studio, as is becoming more and more the case, a staff of at least four men is required at the transmitter.

A licensed radio operator must be in charge of the transmitter and the S.T.L. at all times that it is in operation. Licenses for operators are granted by the F.C.C. upon the successful completion of a written examination, which must be taken at any one of several of the commission offices. This examination is highly technical and is designed to test the applicant's knowledge of the care and operation of the transmitter with broadcasting transmission laws. Such licenses are granted for a period of three years but under certain conditions may be revoked by the commission.

The qualifications for such positions have been set up by R.C.A. Communications as follows:

1. Foresight, judgment, resourcefulness, industry, and cooperation.
2. Knowledge of radio engineering and associated branches of electrical engineering and detailed knowledge of plant he supervises.
3. Knowledge of radio laws and regulations and possession of a radiotelegraph and/or a radiotelephone operator's license.

With the development of highly technical phases of radio, especially television, the demand for college and technical-school men is rapidly increasing. The F.C.C. restrictions are becoming more rigid, thereby further increasing the need for highly trained personnel.

A college education in engineering is not essential to the radio operator. A high-school background of mathematics and physics, coupled with a flair for radio and four to six months in a training school, is usually enough to enable him to get a license. The designing of radio apparatus is a different field entirely, and for it a college degree in electrical engineering is important.

Salaries range from \$82.40 to \$95.23 a week for operators, and chief engineers in key stations may receive upward of \$8,346 annually. Smaller stations pay considerably less for engineers with salaries ranging from \$48.15 to \$64.20 a week for operators and about \$69.55 to \$87.74 for chief engineers.

In the local station the technician usually comes from a trade school to become an apprentice. He works up to chief engineer and has a better chance of becoming the station manager than anyone outside of those on the business staff. In the network setup there are monitors, field engineers, control-room head, and operations chief. Here again the engineer can rise to an executive position in the chain.

Advertising or Sales Department

The business of the advertising sales department of the broadcasting station is to sell the radio medium to buyers of advertising media in coordination with other media. All forms of advertising are worked into a unified campaign to sell a product. Broadcasting stations are going back into the business of selling direct to advertisers, adapting the radio medium to the advertising program of the sponsor. Frequently the radio merely focuses attention upon the product while visual media are used actually to sell it. Television offers both audio and visual contact. The radio station cooperates with the advertising agency, and often it is unnecessary for the sales department of the station to make the original contact with the advertiser. Practically every large broadcasting station has its central sales representatives in New York, Chicago, San Francisco, and Detroit.

The ideal salesman for the station is one who has had a university education or at least a high-school training. He should also have had actual experience in selling advertising, and the training received in an advertising agency is of great value. The salesman's personality is important. The turnover in the sales department is very low. The salesman's salary generally starts at about \$60 a week. The national average weekly pay for the salesman connected with the network is \$86.55 while he gets approximately \$45.18 with an independent station. A promotion manager creates the trade for the salesman by advertising the station in trade periodicals. A few years' service upon the staff of a small newspaper is excellent preparation for radio sales work. Native ability and deftness in the turning of phrases are steppingstones.

The radio salesman must have business ability, selling ability, and showmanship. He must be familiar with all advertising media. He must have originality and imagination to create commercial programs that will attract purchasers. He should be honest with a prospective client and refuse business or programs that will be unproductive; this will result in fewer cancellations and more good friends. The salesman is generally paid on a commission basis, receiving 15 per cent on time charges.

In this department, also, commercial programs are planned. For example, when an advertiser has been contacted and has agreed that radio

advertising would be valuable to him, he informs the sales department that he has a specific amount of money to spend and asks what he can get for that amount. What seems to be a good program is outlined, and if the client likes it the details are completed and the deal is consummated.

If you want to get to the top either in local stations or in the networks join the sales staff. The salesman is very likely to advance to sales manager, business manager, and then to station manager. The accountant and the financial secretary are also in this line of march according to surveys made of different stations.

Publicity

The function of the publicity department is to call the public's attention through other advertising media, such as the newspaper and the billboard, to the value of the station and its contributions to the community. Its duty is to put the station "on the map" from the listeners' viewpoint, while the advertising and sales department deals with advertisers.

Staff Turnover

Since the studio routine in each station is somewhat different from that in any other, an effort is made to keep the staff, which has been trained in the routine, intact. However, as must be the case in a profession closely allied with the entertainment business, where an effort must be made to satisfy the ever-changing tastes of both the public and the advertiser, there is likely to be a moderately rapid turnover, especially among those persons directly connected with actual broadcasting. This is particularly true in the case of the smaller stations in the larger chains. The high turnover on the smaller stations arises from the fact that their talent is continually looking for something a little better, so that these stations become practical training schools.

If a person wishes to become connected with an industry which, without doubt, is still in its infancy and is rapidly growing, and one which will not soon be outdated, he can make no better choice, I think, than radio—that is, if he is willing to sacrifice the glory of the public eye and take a place behind the scenes for permanence and stability of employment. If, however, he is interested in the actual broadcasting of radio programs, he must risk the danger of a shorter period of employment and prepare himself for some other profession to keep him alive after he has outlived his period of usefulness to radio. Radio has not yet discovered what to do with the weathered old voice. The considerate station owner is perplexed by his loyal old employee.

Women in Radio

Women in radio, like women in every other profession where men predominate, have to be twice as keen and work twice as hard as a man, under the same circumstances. They may resent this fact, but those who have forged ahead in radio have accepted it and acted accordingly. Radio has opened its doors to many women and has found them to be particularly adept at public service and as continuity writers, publicity writers, musical directors, and script writers. Advertising copy writing offers scope to the woman who can qualify, but the field of announcing and conducting radio programs has been very limited, as far as women are concerned. This has been due to several influences, among them, the reaction of women themselves to women on the radio. Only in a very few instances have women announcers been successful. Not because they were not good, nor again because their voices were not satisfactory, but because they could not physically stand the strain of day-long and night-long announcing.

Some stations, like WLS of Chicago, hire many women and like them for many varied and interesting positions. They feel that women bring much to radio and stress the fact that women have great ability for detail and a wealth of imagination. The principle fault of women is their lack of perspective, as their ability to concentrate on details often makes them blind to the over-all picture. They do not always analyze an idea completely but, in cooperation with men who can do this well, women have proved very successful radio workers.

The training for women in radio is much the same as for men and the requirements vary but little. However, women have one handicap which men do not have, and that is, high notes or tones in the speaking voice. A high-pitched voice or shrill laugh will bar any woman from radio as far as working before the mike is concerned. A cultivated, low voice and pleasant, vibrant tones are a necessity for a woman in radio. Resonance is more necessary for women than it is for men. Women who plan radio careers should have frequent recordings made of their voices and should listen to them carefully and critically, to correct faults of shrillness, tone quality, and diction. Other than that, the field is open to women if they want to put the effort behind it. Television has opened many new fields to women and it is possible that this may be the opening which they have needed. Women in radio are there to stay, but they must work harder, longer, and without displaying their intelligence too much to their masculine counterparts. They must be alert, keen, and adaptable. The dictates of good taste and genuine business ability will be sufficient to assure them success in the field of radio.

Early in the life of radio, women entered into the fields of acting and singing and later into writing, but it is only recently that we find them directing, taking charge of advertising, and occupying other positions of responsibility. There is a very definite place for the ideas and suggestions of women, especially since the radio audience is largely made up of women. From early morning until dinner the majority of the listeners are women, and these women must be pleased.

Many positions in the radio field are not open to women; it might be better to say that it is difficult for women to enter certain branches of the work. Few women are engineers in radio stations, partly because most station managers prefer a man in a position of this kind. However, one woman, a former student of the author, occupies a high position with a network as a recording engineer. The small number of women announcers is to some extent due to the fact that they are not physically able to endure the long hours of work. However, many women would enter this type of work were it not for the prejudice the public has against women announcers. There are without doubt many programs that should be announced by women. Programs that advertise products for women are among these. By stressing voice culture and training, women may overcome the faults that often keep them from entering the field of announcing.

On the other hand, women are better able to do secretarial work in the broadcasting station than men. Many young college graduates who wish to go into radio as a career begin as secretaries and eventually work up to executive positions. Every station uses women as singers and actors. Many stations have hostesses who meet the visitors and conduct tours through the studios. The young woman who wishes to be a hostess must have a charming personality, must be attractive, must enjoy talking with and meeting people, and must know the fundamentals of radio so that she may answer questions intelligently.

Besides acting in these capacities, women act as telephone operators, publicity writers, directors of children's programs, studio librarians, and traffic managers. Those women who actually get before the microphone give talks on household hints, fashion revues, recipes, child training, etiquette, and other subjects that are closely associated with the home and the women. Movie chats and reviews of plays are often given by women, and programs presented for the entertainment of small children are usually written, directed, and given over the air by women.

The filing and recording of fan mail is another important task performed by women. All fan mail that comes to a station must be examined, since a program is to a certain extent judged according to the fan mail it brings to the station. It is through this public reaction to radio programs

that many decisions are made as to what programs and artists are to be kept before the microphone. The work of the studio librarian is also important. All scripts, music, and any other written material must be filed under every possible heading so that it can be found at a moment's notice. A file is kept of all the phonograph records and transcriptions. At Michigan we have a girl acting as assistant to the music director. Dictionaries of books on pronunciation, poetry, and biography make up an important part of the studio library, and it is up to the librarian to have these ready for use at all times.

It is much less difficult for a woman to become a radio writer than an actress or a singer; and a woman in a little town or even on a farm can learn to write and send her manuscripts to the city. The small-town writer has the advantage of coming into contact with many types and many dialects. All the small-town girl needs to do is to open her eyes and ears to what is going on about her, and she may not only create plays with real live characters in them, but she may write plays that will be unusual in plot, thus making her chances for success much greater.

Today, with the increase of radio advertising, many women who have been educated with the thought of going into advertising agencies are changing their minds in favor of radio advertising. Writing advertisements for the radio and for the magazine and newspaper requires the same psychological attack, that is, appealing to the people's likes and avoiding their dislikes; the difference lies in the use of words themselves. The woman who desires to write radio advertising copy should have a good vocabulary of picturesque words and should know how to use it.

How can I get into radio work? This is the question the young woman who is interested in this field asks. The best way is to ask for any kind of job in a radio station, even if it is far removed from what she wants. The main thing is to get into the station and to learn everything possible about the profession. Girls who are willing to work at a minimum salary for the experience often eventually get good positions in the studio and make themselves indispensable to the station. Breaking into radio work is difficult but it can be done by hard work, ability, and lots of enthusiasm.

With expansion in the radio industry there are more and more places being made every year for women who have the ability and the interest in broadcasting. As women make a definite study of broadcasting as a career, more successful members of the feminine sex will be found in radio work.

SELECTED READINGS

- AARNES, HALE and KENNETH CHRISTIANSEN, eds.: *Problems in College Radio*, Stephens College, Columbia, Mo., 1948.
 Proceedings of the 1946 Conference on College Radio, held at Stephens College. Contains speeches dealing with the radio curriculum, careers, etc.
- Broadcasting*, Littauer Center, Harvard University, Cambridge, Mass., 1948.
 A case study of the role of radio-station management in the complex pattern of influences that divide the control of broadcasting. Preface by Dr. Carl J. Friedrich.
- Bureau of Labor Statistics: *Employment and Earnings of Radio Artists*, Reports 1-2, U.S. Dept. of Labor, Washington, D.C., 1949.
 Report 1, "Employment and Unemployment," issued March 9, 1949; Report 2, "Earnings from Radio Performing," issued April, 1949.
- COTT, TED: *How to Audition for Radio*, Greenberg: Publishers, Inc., New York, 1946.
 A handbook for actors, as well as a workbook for students. Includes detailed explanations of audition procedures, language of radio, and actual scripts.
- CUTHBERT, MARGARET: *Your Career in Radio*, National Broadcasting Company, New York, 1947.
 Booklet containing descriptions of jobs in radio, with suggestions for high-school students on how to prepare for them.
- DENIS, PAUL: *Your Career in Show Business*, E. P. Dutton & Co., Inc., New York, 1948.
 An experienced theater, radio, and television editor discusses the entertainment field in all aspects.
- DUNLAP, ORRIN E., Jr., *The Future of Television*, Harper & Brothers, New York, 1947.
Employment Outlook in Radio and Television Broadcasting Occupations, U.S. Bureau of Labor Statistics in cooperation with the Veterans' Administration, Government Printing Office, Washington, D.C., 1949.
 The introduction presents the national scope of the industry, its occupations, outlook, and earnings, followed by statistics for each individual state.
- HARRINGTON, RUTH LEE: *Your Opportunities in Television*, Medill McBride Co., New York, 1949.
 Precise information on the expanding job opportunities in the total industry, requirements and duties, qualifications, education and experience necessary, and the salary range.
- JONES, CHARLES R., ed.: *Your Career in Motion Pictures, Television, Radio*, Sheridan House, New York, 1949.
 Practical information and advice by 27 experts from Hollywood and New York.

RANSON, JO, and RICHARD PACK: *Opportunities in Radio*, Vocational Guidance Manuals, Inc., New York, 1946.

A factual analysis of the job opportunities that exist in the field of radio from announcing to engineering.

SILL, JEROME: *The Radio Station*, George W. Stewart, Publisher, Inc., New York, 1946.

An analysis of radio station management, functions, and future.

SOUTWELL, JOHN: *Getting a Job in Television*, McGraw-Hill Book Company, Inc., New York, 1947.

Spotlights each type of job, giving pay, required experience, and qualifications.

GLOSSARY

THE SIGNALS, SLANG, AND ABBREVIATIONS OF RADIO AND TELEVISION

Signals

During the presentation of a radio program it is impossible to instruct the artists or speakers by spoken words. Consequently a system of signs has been developed for conveying instructions. Each director, control operator, and conductor has his own "handies." A great deal depends upon the ability of the individual to convey instructions by pantomime and facial expression. The following, however, are rather well established by broadcasting stations:

If the program is moving too slowly, the production director uses a circular motion of his index finger indicating that he desires the tempo speeded up.

If, on the other hand, he desires to slow down the program, he makes the "stretching out gesture," drawing his hands apart as if he were stretching a rubber band between them.

Signs are used to direct the artist to come closer or to move back from the mike; the director uses one hand as though pulling the artist closer to or pushing him away from the microphone.

Lifting the hand, palm upward, means that the voice, the music, or the sound effect should be louder. The opposite sign, palm downward, means that it should be softer. Some directors use both hands instead of one for these signs.

At the beginning of a program the man in charge will lift one hand, as if giving a benediction, which means to stand by.

Bringing the hands slowly down, palms downward, and then spreading them apart indicates that the director desires to have the music or sound effect faded out and then "cut" or ended.

An upraised fist means that the selection is to be played right to the finish.

Crossed wrists, hands extended, indicate that the rehearsal is to be stopped so that instructions may be given over the talk-back.

Lifting the left hand and forming a circle with the thumb and index finger indicates that the director considers the program to be perfect.

Placing the index finger on the tip of the nose means that the program has ended on time or "on the nose."

Another sign indicating that the program must be cut or the musical selection ended is made by drawing the hand across the throat as if the production director were cutting his throat.

To begin a scene, sound effect, or musical number, the production director frequently points his finger directly at the person involved.

The control operator or announcer will frequently show by the number of fingers the number of minutes left in the program. Crossed fingers or hooked fingers show that there is less than one minute.

Basic Studio Expressions

Radio phraseology is decidedly local. While there are certain expressions that are used by those who are in broadcasting, in general the broadcaster and technician speak approximately the same language that is spoken by the average layman. However, there are some words and phrases that are not in the layman's vocabulary.

across the board—a program presented five days a week at the same hour.

angle shot—a camera technique in which a subject or scene is shot from an unusual or extreme angle, such as an abnormal side view, or looking down from a high boom level, or looking up from a low boom level. The angle shot is usually used for dramatic effect. (TV.)

audio—equipment such as microphones, amplifiers, cables, and lines used in the transmission of a sound program up to but not including the transmitter. It also is used to designate the range of audible frequencies.

audition—the studio testing of talent for a presentation or of an applicant for a position. It generally consists of presenting material over a public-address system.

background—sound that forms an atmosphere behind the speech of an actor.

balance—the arrangement of musicians, sound, and speakers so that the correct impression of the location of such participants is clear to the listener, a blending of sounds to create a natural effect.

band—a range of radio frequencies within two definite limits and used for a definite purpose. Thus, the standard broadcast band extends from 550 to 1600 kilocycles.

beard—an error made by an announcer, such as that of the announcer who was introducing the "Early Bookworm" program: his fluff or beard resulted in his announcing "Burly Hookworm" program.

blasting—putting too much volume into the microphone. This formerly threw the equipment off the air, but now is taken care of by automatic methods.

bloom—the condition of bright illumination in a picture or a portion of a picture on the picture tube, obscuring picture details. This occurs when an area of white bounces light; for instance, the white bosom front worn by a man with his black tuxedo may cause the picture to bloom and obscure the details of his face. (TV.)

board—the control panels through which the program passes from the studio control board to the master control or the transmitter.

- boom down**—the lowered position of the camera dolly boom and consequently of the camera. The dolly boom is lowered, thereby lowering the camera, for a head-on shot or a tilted-up shot. (TV.)
- boom microphone**—a microphone suspended from a boom which can be lowered or raised, extended or retracted by an operator to keep the microphone over the performers as they move about the stage set.
- bug**—some intermittent trouble in the equipment which is not easily found.
- bug juice**—carbon tetrachloride, which is used for cleaning the equipment and which usually corrects these intermittent troubles.
- build it up**—the instruction given to the operator to increase the volume.
- call letters**—the initials assigned by the F.C.C. to identify a station. Many applicants try to get call letters that are appropriate. For instance, Battle Creek has WELL, a laundry company WASH, a lumber concern WOOD, Ohio State University, WOSU, etc.
- cans**—the headphones that are used by the control operator.
- carrier (or carrier wave)**—the radio wave produced by a transmitter, which may be modulated to carry signals, voice, music, or pictures.
- channel**—a band of frequencies assigned to a transmitter. In standard broadcasting the channel is 10 kilocycles wide—5 kilocycles on either side of the carrier frequency. In television the channel is 6 megacycles wide.
- cheat**—an acting technique in which the performer changes his normal body position in relation to other actors or objects within the scene, creating a more balanced picture for the television camera. (TV.)
- clear channel**—the frequency upon which no other station in the United States is operating.
- clearance, music**—the obtaining of releases from the copyright holders of music or ascertaining whether the station, as the result of contractual relations with organizations holding copyrights, is privileged to present a musical selection, or whether the station is restrained from presenting a selection because it is restricted by the copyright holder or his agent.
- clear a number** (*see* clearance)
- close-up (CU)**—a camera view of a subject consisting of a head or head-and-shoulder picture, or a close view of an object. (TV.)
- coaxial cable**—a specially designed cable which will carry picture or high-frequency signals. It consists of two concentric electrical conductors (a cylindrical conductor with a single wire centered along its length) which are separated by an insulating medium. (TV-FM.)
- cold**—the opening of a radio program which begins without a theme, announcement, or introduction of any kind.
- continuity writers**—those who prepare the entire program, which includes entertainment or dramatic features, commercials, musical introductions, and the listing of music.
- cross-fade**—the gradual dimming of the volume of one sound and the increasing in volume of another sound.
- cross talk**—extraneous conversation picked up by the microphones which leaks in through some transmission fault.

- crystal** (*abbr.*: xtal)—a material, usually natural quartz, which vibrates at a fixed frequency, depending on the size to which it has been ground. It is used in radio transmitters to maintain accurate frequency and stability, and in radio receivers to improve selectivity.
- cutting head**—the part of a recorder which cuts the sound grooves on a phonograph disc.
- dawn patrol**—those announcers and engineers who open up the studio and put on the early-morning programs.
- dead end**—the end of the studio in which there is very slight reverberation.
- dead mike**—one which is not connected or is out of order.
- dead spot**—an unintentional silence on the air.
- dissolve**—a control technique by which a picture on a second camera is merged with the picture being televised, so that the second picture comes clearly into view as the original fades. (TV.)
- dolly**—the movable stand or base on which a television camera or other apparatus is mounted. (TV.)
- dub, dubbing**—to transfer material from one record to another or from tape to disc or vice versa.
- echo chamber**—a room with a great deal of reverberation which is used to create hollow effects.
- fade**—a decreasing of volume.
- fading**—variation in the intensity of a received radio signal, caused by changes in transmission paths.
- fading in**—increasing the volume in such a way that the music, sound, or speech seems to come in gradually.
- feedback**—the return of a sound from a loud-speaker to the microphone in which it originated—a whistling sound.
- feeding**—the delivery of a program over a telephone line, either to a network or to some other station.
- filter**—an electrical device which, under ordinary circumstances, eliminates the low or high frequencies—generally used to create the effect of a telephone conversation being heard by a person in the studio.
- flat light**—lighting a scene for television with over-all brightness, as contrasting with the use of modeling lights or high-lighting which bring out the contours of actors and objects. (TV.)
- frame**—a single complete television or motion-picture scene. Thirty frames per second are shown on a television screen, whereas twenty-four frames per second are generally used in motion pictures. (TV.)
- frequency response**—the degree to which radio equipment responds equally well to various tones.
- gain**—the control of volume used in transmission.
- ghost**—a secondary image appearing in a television picture due to signal reflection by mountains or large buildings near the receiving antenna. (TV.)
- high fidelity**—the accurate reproduction of musical tones and equipment used to reproduce music.
- hot platter**—a record on which the music is very lively.

- iconoscope**—the tube used in the television camera to convert the light and shadow of a scene into electrical impulses. (TV.)
- ID**—station identification—Film ID—announcing that the program televised is or was reproduced from motion-picture film. (TV.)
- ike**—short for iconoscope, the tube in a television camera in which the light and dark of a scene are converted into electrical impulses. (TV.)
- in the beam**—that territory where speech is most effectively picked up by the microphone.
- jacks**—the sockets into which the plugs of a patch cord are pushed.
- jamming**—transmitting radio signals in such a manner as to interfere with the reception of signals from another station.
- jumping a cue**—an actor has come in earlier than he is supposed to.
- key station**—the point of origination or the first station in the network.
- kine**—short for kinescope, the picture tube which transposes electrical impulses into an image in the television receiver. (TV.)
- kinescope**—the cathode ray or picture tube which may be used in television receivers and at monitor positions in control rooms. (TV.)
- lead screw**—(1) the bar with a spiral thread which controls the cutting head on recording equipment; (2) the scanning head for Fax moves along this bar, parallel to the drum.
- level**—the amount of volume noted upon the meter of the control board.
- line**—(1) a telephone wire used for the transmission of the program or (2) a single trace of the electron beam from left to right across a television picture screen. At the present time there are 525 lines to a complete picture.
- live mike**—a microphone through which current is flowing, sometimes called a “hot mike.”
- live program**—one in which live performers take part, in contrast to the transcribed program, which consists in playing electrical transcriptions or recordings. In television an “on-the-spot” program rather than the transmission of film material.
- local program**—one that is put onto the air by the station’s own transmitter.
- loop**—a two-way circuit or line connecting the broadcasting location with the control board. A telephone line connecting a small group of stations, forming a part of a network.
- master control**—the control board to which all studios are connected and from which programs are sent on the transmitter.
- middle break**—a station announcement or identification in the middle of a program.
- mike hog**—an actor or speaker who stands in the beam, preventing other speakers from getting right positions before the microphone.
- mixer**—the panel for control and blending sound picked up by various microphones.
- mobile unit**—a truck with all the equipment of a television station which may be driven to the scene to be televised. It relays picture and sound back to the main transmitter.

- monitor**—(1) the control of the volume level by the technicians. (2) Control of picture shading as well, in the transmission of a television program.
- montage**—(1) the superimposing of three or more pictures by means of dissolves or (2) in radio a series of abbreviated scenes and musical bridges which give the effect of time passing.
- musical bridge**—a musical transition used in a radio play or production of any sort.
- nemo—remote broadcast**—the equipment and operator for a remote pickup.
- network**—a network program is one that is released over two or more stations connected by telephone lines. A network is a series of stations regularly joined by lines.
- off mike**—the instruction to an actor to turn his head away from the mike or speak his part at a distance from the mike to create an effect.
- on mike**—speaking directly into the microphone at the proper distance.
- on the air**—the period when a program is broadcast.
- panning**—taking in additional portions of a television scene by turning the camera to left or right in a horizontal plane. (TV.)
- patch cord**—an emergency hookup of electrical impulses, merely a short utility cord of insulated wires used in the control room.
- peak**—the maximum amplitude of sound in electrical energy formed while passing through a circuit. It is the highest point reached upon the volume indicator.
- picking up a cue**—beginning one's lines immediately after the last word of the preceding speaker.
- picture noise**—spots and other irregular patterns on the television receiver picture, caused by interference signals. (TV.)
- pipng** (*see* feeding)
- platter**—a record for the phonograph, an electrical transcription, a sound-effects record, or any other disc.
- plug**—a short commercial that is more or less jammed into the program and given in a hurried manner, sometimes called a "blurb."
- primary area**—that area in which the signal of the station is heard with assured regularity.
- production director**—the official who is responsible for the preparation of a program. He combines the work of the music director, dramatic director, and the announcers into a single program, building and shaping the program by bringing all these factors into harmony.
- radiator**—that part of an antenna from which radio waves are emitted.
- rake**—used in connection with stage scenery. To rake a set is to shift its position. To strike a set, on the other hand, is to dismantle it. (TV.)
- read-y**—an actor is reading his part rather than interpreting it.
- rebroadcast**—picking up a radio program from the air and rebroadcasting it over the station's transmitter. A delayed broadcast.
- relay station**—a station used to receive picture and sound signals from a master station and to transmit them to a second relay station or to a television station transmitter. (TV-FM.)

- remote**—a program that is picked up from some point outside the studio. Such programs originate in dance halls, hotels, churches, educational institutions, mobile trucks, athletic fields, etc.
- remote control**—a program which originates outside the studios of the station.
- riding gain**—the control of the volume of a program by the engineer previous to putting it on the lines to the transmitter.
- round robin**—the telephone line that connects stations on a network returning to the key station.
- satellite television station**—a station which is programmed in whole as far as live talent is concerned from a network. It may supplement its program schedule by local newsreel films or remote pickups. Such a station may serve a community outside the service area of the master station. (TV.)
- scanning**—the process of deflecting the electron beam in a camera or picture tube so that it moves at high speed from left to right in a sequence of rows or lines from top to bottom, thus changing light and shadows of a scene into electrical impulses to form the image on the receiver tube. (TV-Fax.)
- schematic diagram**—a diagram of the general scheme of an electrical circuit, with graphic symbols representing components.
- script writers**—those who write the commercial announcements advertising the products of the sponsor.
- selectivity**—the degree to which a radio receiver can accept the signals of one station while rejecting those of all other stations on adjacent channels.
- signal**—any sound that may be picked up from a station's transmitter.
- sound man**—one who creates by original methods or recordings the sounds that are required in a program. He is often called a **pancake turner** if his work consists in using recorded sound.
- split focus**—adjustment of a television camera midway between two objects when one is in the foreground and the other in the background. Usually done in two shots to give each subject dramatic value. (TV.)
- sponsored program**—a sponsored program is one that is an advertising program for which the station receives remuneration.
- station break**—the pause in a network program to permit outlying stations to identify themselves.
- stand-by**—a program that is relied upon in emergencies, that is available when a program for an allotted time has been cancelled or, because of technical difficulties, cannot be picked up. Such a stand-by is sometimes necessary when a speaker is taken off the air because of inappropriate remarks or speech. In a case of this sort, a stand-by pianist or other performer must be on hand to fill in. **Stand by** is also the instruction given by a production manager to a cast to be ready to go on the air in less than a minute.
- static**—noise heard in a radio receiver caused by electrical disturbances in the atmosphere such as lightning, northern lights, etc.
- stock shots**—short films of people or objects which have been filed for future use. Portions of newsreels and motion pictures may then be used in the televising of studio programs. (TV.)

- stylus** (Pl.: **styli**)—the needle used in recording sounds on recorders; usually made of sapphire.
- sustaining program**—a sustaining program is one that is presented by radio stations without profit or income of any sort.
- tag line**—a line in the copy that must be “hit” or given emphasis. It may either be the gag that ends a short scene or the climax spoken before a musical transition.
- tears**—a noise disturbance in a television picture which makes the picture appear to be tearing apart. (TV.)
- telecast**—a television program, or a television broadcast. (TV.)
- telecasting**—broadcasting a television program. (TV.)
- telev viewers**—the spectators or audience watching a television show on a receiver. (TV.)
- terminal**—a fitting to which electrical connections are made.
- tie-in**—a commercial announcement given by the local announcer immediately after a break in a network program or at the end of a network program. It generally takes the form of naming the local merchant who sells the product that has been advertised upon the main program.
- transition**—moving from one scene to another in a dramatic presentation. A transition may be effected by a musical bridge, by fading out the speaker, by the use of a sound effect, or by some other method devised by the director.
- trailer** (*see* tie-in)
- truck shot**—a technique of dollying the television camera along a line of subjects in a scene (a chorus or group of actors) while it is on the air. (TV.)
- ultra high frequency**—(*abbr.*: uhf)—standardized to refer to frequencies of 300 megacycles and above. Waves of this frequency are called “microwaves.”
- very high frequency** (*abbr.*: vhf)—standardized to refer to frequencies of 30 to 300 megacycles.
- video**—the electric currents and other equipment used in transmitting the television picture. A loose synonym for “television.” (TV.)
- volume indicator**—the dial on the control board on which the volume is shown.
- wrapping it around the pin**—means that if the speaker shouts, he will send the needle to the very top of the dial. This results in blasting.

There are many other expressions that are used in the studio, but the majority of them are strictly local.

Abbreviations

The call letters of a station are written in capital letters, but, as they are not abbreviations, no periods are placed between these letters. However, there are quite a number of abbreviations in radio.

A.B.C.—American Broadcasting Company.

AFRA—The American Federation of Radio Artists.

ASCAP—The American Society of Composers, Authors, and Publishers. This

abbreviation has been generally accepted in radio fields as a word, "Ascap."

AM—amplitude modulation.

AP—Associated Press, News Service.

B.B.C.—British Broadcasting Corporation.

B.M.I.—Broadcast Music Incorporated.

C.B.C.—Canadian Broadcasting Commission.

C.B.S.—Columbia Broadcasting System.

ERP—Effective radiated power—the resultant power determined by the rated gain of the antenna multiplied by the final amplifier power input. Used in determining the power of a FM station.

ET—electric transcription.

FAX—FACS—FX—Facsimile. Fax is a trade name.

F.C.C.—Federal Communications Commission.

FM—frequency modulation.

F.T.C.—Federal Trade Commission.

IBM—International Business Machines.

IBS—Intercollegiate Broadcasting System.

INS—International News Service.

I.P.S.—inches per second (tape recording).

Kc—kilocycles.

Kw—kilowatts.

LP—long play records.

M.B.S.—Mutual Broadcasting System.

M.C.—"master of ceremonies"; this is now being written quite generally as a word, "emcee."

Meg—megacycles.

M.P.P.A.—Music Publishers Protective Association.

N.A.B.—National Association of Broadcasters.

N.A.E.B.—National Association of Educational Broadcasters.

N.B.C.—National Broadcasting Company.

P.A.—public-address system.

R.C.A.—Radio Corporation of America.

R.p.m.—revolutions per minute (of a record upon a turntable).

STL—studio to transmitter link.

T.D.—technical director for television, sometimes called "video operator."

TV—television.

UHF—ultra high frequencies.

VHF—very high frequencies.

V.I.—volume indicator. This is a delicate instrument or meter on the control board which indicates the amount of volume or sound that is being fed from the microphone.

V.U.—volume units (in place of decibels upon the V.I. indicator).

W.B.S.—World Broadcasting System. Frequently, in a studio, this abbreviation (W.B.S.) is made into a word "Wabus," which means that electrical transcriptions furnished by the World Broadcasting System will be used upon a program.

SELECTED READINGS

Columbia Broadcasting System: *Radio Alphabet: A Glossary of Radio Terms*, Hastings House Publishers, Inc., New York, 1946.

A list of radio and television terms and a few pages of sign language.

Common Words in Radio, Television and Electronics, selected and defined for nontechnical people by the R.C.A. Victor Division, Radio Corporation of America, New York, 1947.

GORDER, L. O., ed.: *A Dictionary of Radio Terms*, Allied Radio Corporation, Chicago, 1946.

Miniature encyclopedia with more than 800 commonly used terms in radio and electronics. Easy-to-understand definitions.

SUGGESTED CLASS PROJECTS

PROJECT I

SCRAPBOOK—PERIODICALS

Radio is constantly developing through new ideas, new inventions. Color television is not yet on the air. The F.C.C. is considering regulations for wired wireless. There are ideas for transmitting television by telephone lines to only licensed receivers. Tests have been made in the use of airborne transmitters for TV to cover greater areas. The "give-away" program is on the way out. The condenser mike, discarded years ago, is returning.

The student of radio must keep abreast of new methods and program ideas. Every item of an instructive nature should be clipped out of newspapers and magazines. An editorial board will judge the worth of the items; classify them; and either build a scrapbook or a "morgue." Watch for offers of free pamphlets and copies of talks dealing with radio. Explore every source for material. If a scrapbook is planned by the class, divide it into chapters following the plan of this textbook and observe the changes that occur during the years.

There are many radio critics. John Crosby, whose articles are syndicated all over the nation, Bill Ladd of the *Louisville Courier Journal*, and Jack Gould of the Sunday *New York Times* are my favorites. Following is a list of magazines in advertising, entertainment, and radio fields which will provide many items.

PERIODICALS

Advertising Age. Weekly. Advertising Publications, Inc., 100 East Ohio Street, Chicago.

Advertising and Selling. Monthly. Robbins Publications, Inc., 9 East 38th Street, New York.

AER Journal. Monthly. Association for Education by Radio, 228 North LaSalle Street, Chicago.

Audio Record. 444 Madison Avenue, New York.

Audio-visual Guide. Monthly, September to May. Educational and Recreational Guides, Inc., 172 Renner Avenue, Newark, N.J.

Billboard. Weekly. 2160 Patterson Street, Cincinnati, Ohio.

Broadcast News. Monthly. Radio Corporation of America, Camden, N.J.

- Broadcasting and Telecasting*. Weekly. Broadcasting Publications, Inc., 870 National Press Building, Washington, D.C.
- Comedy World*. Monthly. 62 West 42d Street, New York.
- CBS Listener's Guide*. Monthly. Columbia Broadcasting System, 485 Madison Avenue, New York.
- FM and Television*. Monthly. FM Company, 511 Fifth Avenue, New York.
- FREC Service Bulletin*. Monthly. Federal Radio Education Committee, U.S. Office of Education, Washington, D.C.
- In the Dial*. Monthly. National Broadcasting Company, RCA Building, New York.
- Listenables*. Weekly during school year. Committee on Radio of the National Council of Teachers of English, 61 Lafayette Avenue, East Orange, N.J.
- Movie and Radio Guide*. Weekly. The Cecelia Co., 731 Plymouth Court, Chicago.
- The News Letter*. Monthly. Bureau of Educational Research, Ohio State University, Columbus.
- NAEB Newsletter*. Monthly. National Association of Educational Broadcasters, Burton Paulu, editor, University of Minnesota, Minneapolis.
- Proceedings of the Institute of Radio Engineers*. Monthly. Institute of Radio Engineers, Inc., 330 West 42d Street, New York.
- Program Information Bulletin*. Program Information Exchange, 41 Maiden Lane, New York.
- *Q.S.T. Amateur Radio*. Monthly. American Radio Relay League, Inc., 38 La Salle Street, Hartford, Conn.
- Radio Age*. Quarterly. Department of Information, Radio Corporation of America, 30 Rockefeller Plaza, New York.
- Radio Amateur's Handbook*. Yearly. American Radio Relay League, Inc., 38 La Salle Street, Hartford, Conn.
- *Radio and Television Retailing*. Monthly. Caldwell-Clement, Inc., 480 Lexington Avenue, New York.
- Radio Best*. Monthly. Radio Best, Inc., 452 Fifth Avenue, New York.
- Radio Daily*. Daily. Radio Daily Corp., 1501 Broadway, New York.
- Radio Mirror*. Monthly. Macfadden Publications, Inc., 205 East 42d Street, New York.
- *Radio and Television News*. Monthly. Ziff-Davis Publishing Company, 185 North Wabash Avenue, Chicago.
- RPM*. 192 Lexington Avenue, New York.
- Sales Management*. Semimonthly. Sales Management, Inc., 386 Fourth Avenue, New York.
- Scholastic Teacher*. 7 East 12th Street, New York.
- School Life*. Monthly. U.S. Office of Education, Federal Security Agency, Washington, D.C.
- See and Hear*. Monthly. Audio-Visual Publications, Inc., 812 North Dearborn Street, Chicago.
- Service Bulletin of the FREC*. U.S. Office of Education, Federal Security Agency, Washington, D.C.

Sound Tips. Monthly. Magnetic Recording Club, 30 Broad Street, New York.
Sponsor. Monthly. Sponsor Publications Inc., 5800 North Mervine Street, Philadelphia.

— *Television*. Monthly. Frederick Kugel Co., 600 Madison Avenue, New York.
Television Digest and FM Reports. 1519 Connecticut Avenue, NW., Washington, D.C.

Tide. Semimonthly. Tide Publishing Co., Inc., 232 Madison Avenue, New York.
Variety. Weekly. Variety, Inc., 154 West 46th Street, New York.

PROJECT II

WIRED WIRELESS OR GAS-PIPE STATION

Students in radio classes in many universities and colleges do not have adequate opportunity for radio experience. In some instances, the institutions do not have their own radio stations and present a limited number of programs over commercial stations. In others, the radio station is a separate unit and students are only acceptable when they have reached the graduate level.

Therefore, it seems to me that wired wireless offers a grand opportunity to students in speech departments to have the same experience that they would have upon a regular broadcasting station. This, of course, would only be possible where there were dormitories to which wired programs might be fed.

In Chap. I, I have given an outline of the cost of a wired wireless station; however, it is possible for students with an interest in radio, electricity, and equipment to build their own transmitters at very low cost. Such a project, I think, is most valuable for preparing for a future career. The best studio control operators that I have have come through such training in the maintenance and building of equipment for radio classes rather than from the electrical engineering or the electronics courses. Of course, some equipment such as a microphone, turntable for playing records, and an amplifier would, of necessity, have to be purchased. I am presenting a schematic drawing of the wired wireless transmitter together with a list of materials and parts to be used in the construction of the transmitter, and also technical data for building such a transmitter. I advise a group interested in this project to get in touch with the Intercollegiate Broadcasting System, WKCR, Hamilton Annex, Columbia University, New York, and also to write to the Federal Communications Commission for all regulations concerning wired wireless. Go through the list of radio stations in your area and pick a frequency for a local station not being used near by; be sure to pick a frequency that will not interfere with any station that might be heard in your locality.

Here is the approximate minimum cost involved in the construction of a wired-wireless setup. Because of the variations from campus to campus of buildings and dormitories, this estimate is incomplete.

A 5-watt transmitter (Figs. 56, 57) including monitor can be built for between \$30 and \$35. The parts required for this transmitter, together with schematic (Fig. 58) and technical data, are as follows:

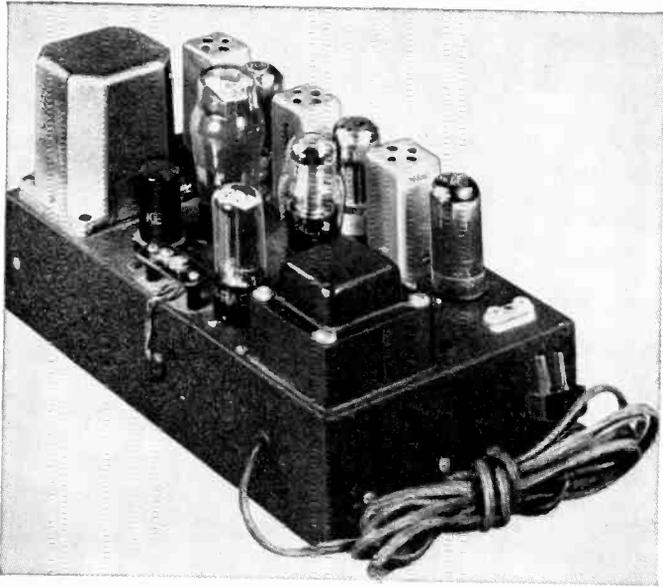


FIG. 56. Wired radio transmitter, 5 watt. (*University of Michigan.*)

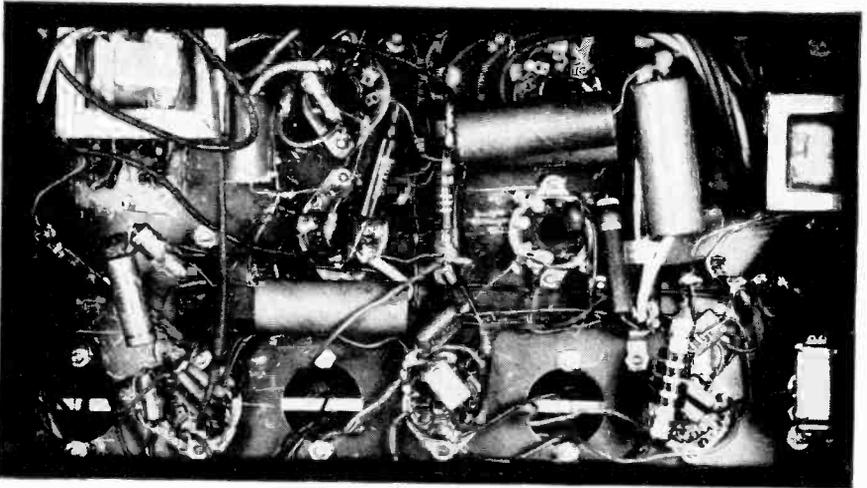


FIG. 57. Wired radio transmitter, 5 watt—bottom view. (*University of Michigan.*)

WIRED RADIO TRANSMITTER (Technical Data)

This transmitter is basically a crystal-controlled, high-level modulated radio-frequency amplifier which is coupled to the 110-volt alternating-current power line.

Tube complement:

- (1) 705 crystal-controlled oscillator
- (1) 705 buffer amplifier
- (1) 705 radio-frequency amplifier
- (1) 6J5 speech-amplifier driver (class A)
- (1) 6F6 modulator (class A)

The speech and modulator unit is resistance-coupled and fed through a 500-ohm line transformer. Maximum input for 100 per cent modulation is 4 decibels. Input level is controlled by any conventional mixer amplifier unit preceding the transmitter. The radio-frequency portion is comprised of a crystal-controlled oscillator with a 200-kilocycle crystal tuned to the third harmonic or 600 kilocycles. This is fed to a buffer with tuned circuits at 600 kilocycles. The buffer output is fed to the radio-frequency amplifier with plate and screen modulated simultaneously. Any desired frequency may be achieved by selection of the proper crystal. One stage is provided between the oscillator and amplifier to provide isolation and to prevent interaction which might produce carrier shift with high percentages of modulation. The oscillator is stabilized with a VR-105 tube regulating the screen voltage.

All parts used to construct the unit can be purchased from any radio parts distributor. The crystal can also be purchased from war surplus at a much lower price. Tetrode tubes are used throughout the radio-frequency section to eliminate neutralization problems. Tuned grid and plate transformer coupling is used throughout. Transformers are not available for this frequency but can be easily made by removing about 40 turns from each winding of standard 456-kilocycle IF transformers. This revision is made simpler by the use of an L-C checker to find the correct ratio of inductance and capacity. If a higher frequency is desired, some of the capacity will have to be removed to maintain a high enough "Q" in the circuit. The cost of all parts is approximately \$30.

Components are mounted on a 12-by-7-by-3-inch chassis. Care must be taken to keep the power transformer away from the 500-ohm line input transformer. Mount it below chassis or at right angles to prevent hum pickup. If the second and other even-order harmonics prove troublesome, the output circuit should be series-wave-trapped to eliminate them.

No ground is necessary. After the transmitter is installed, and all transformers peaked, it is ready for operation. If it is moved to a new location, the coils must be re-peaked to match the new line antenna.

Radio-frequency output is between 3 and 5 watts with a radiation pattern of 262-foot radius at 600 kilocycles, ample to cover a large building, but within legal limits. Field-strength measurements should be made to confirm this.

In addition to the transmitter, the station should have:

2 microphones, one with desk stand and cable	each, \$35 to \$50
2 phonograph turntables	each, \$15 to \$35
2 phonograph pickups	each, \$15 to \$30
2 preamplifiers, mixer, VU meter	each, \$50 to \$75
2 monitor amplifiers, one for program, the other for audi- tion	each, \$15 to \$25
2 monitor speakers in brass reflex enclosure	each, \$15 to \$25

The probabilities are that some member of the group will have an AM receiver, AM-FM, or FM receiver so that you can pick up programs and rebroadcast them. One great advantage is that you can pick up an FM program and broadcast it by wire on an AM frequency so that students in the dorm with only an AM portable can receive the FM programs.

This cost estimate does not include studio sound treatment. No provision is made for recordings. Borrow them from fraternities, students, and the record shops and give the shop a commercial plug. When you start putting on dramatic shows you will need sound effects. If you plan to pick up man-on-the-street programs or athletic events, you will need a remote amplifier. These bits of equipment can come later. Some student groups sell time to local merchants and earn money to buy additional equipment.

PROJECT III

VISUAL AIDS

Here is a pleasant project. Have some parties. No broadcaster is really good unless he enjoys people and is a pleasant conversationalist. He must enjoy life in order to make his listeners enjoy themselves. The playboy makes a good emcee just as long as he doesn't mix pleasure with business. However, this project is more than a social activity, for it is planned to introduce visual aids. All members of the class will be interested in the project, but a small group should be assigned to carry it out—arrange for a sound projector, borrow films, find a meeting place, etc. Here are the available 16-millimeter sound films.

Radio Broadcasting Today. March of Time Forum Films, 369 Lexington Avenue, New York. Runs 19 minutes. Sound. 1948.

Excellent entertainment. Many of the radio favorites are shown. Some instruction on programming. Critical of program types. I recommend it.

Sightseeing at Home. General Electric Company, Distribution Section, Advertising and Sales Promotion, 1 River Road, Schenectady, N.Y. Runs 15 minutes. Sound. 1943. Will loan.

A little bit old but explains basic principles of television from the camera to the screen. Still the best TV film.

Radio and Television. Carl F. Mahnke Productions, 215 East 3rd Street, Des Moines, Iowa. Runs 11 minutes. Sound. 1940.

A vocational-guidance film giving job qualifications and future advancement. A little history.

Rehearsal. American Telephone and Telegraph Co., Information Dept., Film & Display Division, 195 Broadway, New York. Runs 24 minutes. Sound. 1948. Will loan.

Portrays rehearsal for Telephone Hour radio program. Orchestra and artists. Explains revisions before actual broadcast. Good explanation of microwave radio system. An enjoyable and instructive film.

Telephone Hour. American Telephone and Telegraph Co., 195 Broadway, New York. Runs 23 minutes. Sound. 1945. Will loan.

Another behind-the-scenes rehearsal. More about technician's activities.

Stepping Along with Television. American Telephone and Telegraph Co., 195 Broadway, New York. Runs 11 minutes. Sound. 1949. Will loan.

Explains transmission of TV program from a New York studio to a receiver in Wisconsin. (Coaxial cable and radio relay.) Ballet program.

Naturally It's FM. General Electric Company, Schenectady, N.Y. Runs 17 minutes. Sound and color. 1947. Will loan.

Demonstrates superiority of FM over AM. Talk and animated diagrams.

Behind Your Radio Dial. National Broadcasting Company, 30 Rockefeller Plaza, New York. Two reels. Runs 26 minutes. Sound. 1948. Borrower pays transportation. Will loan.

A film tour of N.B.C. studios and script rooms; both radio and TV operations.

On the Air. Westinghouse Electric Corp., School Service, 306 Fourth Avenue, Pittsburgh, Pa. Runs 22 minutes. Sound. Will loan.

History of radio, networks, operations during a typical day. Discusses writing, rehearsals, production, timing. Technical side shown by animated drawings.

Magic on the Air. General Motors Corp., Dept. of Public Relations, Film Distributions Section, 3044 West Grand Boulevard, Detroit. Runs 10 minutes. Sound. Revised 1949. Will loan.

Animated pictures explain television. Also motion pictures of TV studios. Explains tubes.

Television. Library Films, Inc., 23 West 45th Street, New York. Runs 10 minutes. Sound. 1939.

Rather old. Shows equipment and production. Explanation of sound waves.

Lessons from the Air. British Information Service, 30 Rockefeller Plaza, New York. Runs 14 minutes. Sound. 1948. Rental \$2.50.

BBC school broadcasts planned, broadcast, and received in school classrooms.

On the Air. Jam Handy Organization, 2821 East Grand Boulevard, Detroit. Runs 20 minutes. Sound. 1937.

Fundamental explanation of radio. Transmission from transmitter to receiver.

Behind the Mike. Jam Handy Organization, 2821 East Grand Boulevard, Detroit.

An entertaining and instructive demonstration of manual sound effects. A good story.

Quiet Please. Jam Handy Organization, 2821 East Grand Boulevard, Detroit. Deals with acoustics of studios.

Methods of Communication Series. Society for Visual Education, 100 East Ohio Street, Chicago. Eleven silent film strips. 45 to 60 frames each. Will loan.

Elementary and nontechnical information concerning various methods of communication. Each film strip presents a number of photographs showing various operations, equipment, and uses of communication method, indicated by individual titles. Information concerning history and development included. Titles of interest to broadcasters included. Broadcasting-Outside, Broadcasting-Studio, Radio-Historical, Television.

PROJECT IV
AUDITIONS

If a radio station is seriously considering employing an announcer, it will give the applicant a practical audition. This audition will consist of different types of copy that the announcer will be required to read. The announcer must be flexible in his style so the audition will consist of disc jockey and obituaries, of announcements addressed to children and news programs.

This project consists of students judging the auditions of their classmates, using the talk-back equipment when it is available. The students should build a file of audition evaluations for all in the class so that the producer can select from the cards his announcers. Figure 59 is the audition analysis used by C.B.S.

Name: _____		Columbia Broadcasting System, Inc.		F199-R-16-44			
Address: _____		ANNOUNCER AUDITION ANALYSIS		Telephone: _____			
Sample:	Rating:				Comments:	Make-Up:	Classification:
	2	3	4	5			
Ad Lib						Voice	
News						Pronunciation	
Music Serious						Enunciation	
Music Dance						Style	
Music Misc.						Tempo	
Sol. Annc't						Personality	
Speaker						Imagination	
Com'l. Gen.						Variety	
Drama 1:						Color	
Drama 2:						Pace	
Com'l. Inst.						Delivery	
General: _____							
Date: _____		Heard By: _____		Original Classification: _____			

FIG. 59. Announcer's audition analysis.

Types of copy to be used in these auditions follow. Read the whole thing, not only the parts that are obviously announcer's copy.

This is _____ speaking.

Announcers on the _____ station _____ are called upon to exercise their talents in a variety of ways. An announcer may be required to narrate a children's story, deliver an ad-lib commentary on convocation or graduation, read news, and assume the responsibilities of a master of ceremonies on a classical music program. For instance, here is a sample of the news he may be asked to read:

Good morning. This is John MacVane in the N.B.C. newsroom in New York with your World News Roundup. The Communist espionage hunt continues in Washington and New York—concentrating on secret papers taken from government files. Secretary of State Marshall is recovering from a major operation—and may give up his post soon.

The United Nations postpones debate on the Italian Colonies—regarded as a favorable move for Italy. This morning we expect to hear from Washington, from Berlin, Rome, and Buenos Aires. Now your announcer.

First spot 8.0115–8.0315

In both New York and Washington, investigations of alleged Communist espionage in the Government are being pressed forward rapidly this morning.

The New York inquiry is being conducted by a Federal Grand Jury and the United States Attorney behind closed doors. For two days the Grand Jury has been listening to testimony by the two chief figures in the case, Whittaker Chambers and Alger Hiss. But little has been made public. United States Attorney McGoey will only say that the grand jury is turning up some real evidence and the investigation is closer than ever before, to a real conclusion.

It is being said at the New York Federal Courthouse that every effort is being made to obtain quick indictments. When the indictments are returned and the matter comes to open court, there will probably be no lack of news.

In the meantime, the Un-American Activities Committee of the House of Representatives is conducting its own investigation in Washington. The Committee suffers from no inhibitions about publicity and conducts its proceedings accordingly.

Today, for instance, the Committee says it is hunting for two unnamed men accused of taking secret papers from Government files and hopes to have them testify this morning. The Committee is also after a third for later questioning. All three—it is said—were mentioned in New York on Monday by Whittaker Chambers, the ex-Communist journalist who produced the microfilms of documents abstracted from the State and Navy Departments.

Yesterday's most spectacular development was the fact that Assistant Secretary of State Peurifoy identified the documents as most secret and said the fact they were taken out of the State Department ten years ago meant American Government codes were being read by foreign nations during that period.

Mr. Sumner Welles, who was Undersecretary of State during 1937 and 1938,

also testified that possession of the documents—along with the originals in code—would have permitted the code to be deciphered. Both Peurifoy and Welles cautioned the Un-American Activities Committee against making the papers public on the ground that national security might be endangered and this country be embarrassed in its relations with another. The Committee—with such a warning before it—apparently agreed not to publicize the documents.

There is other important news in the Capital today—and to give it—Lief Eid in Washington.

(off at 0315)

Second spot 8.0445–8.0630

Washington has had its doubts about the future of the Congressional Un-American Activities Committee. It has been accused of making spectacular charges that it never backed up—accusing people without giving them a chance of reply. The chairman of the Committee at the moment, Representative J. Parnell Thomas, is under indictment on charges of defrauding the Government.

The Committee and its staff may believe that the Committee's future existence may depend on its present investigation.

Today a Bishop declared that the Un-American Activities group is itself un-American for trying to pin a Communist label on some church men and church grounds.

Bishop G. Bromley Oxnam of the Methodist Church said the business of naming and calling men Communist or any other label without first giving the person a chance to answer the accusations is in itself un-American. He spoke of recent statements by the Committee that Communists have infiltrated the nation's churches. The Bishop said the Methodist Council of Bishops rejects Communism—but will not remain silent when confronted by practices at once un-American and a threat to a free church and a free society.

And for our news from abroad today—in Paris, the United Nations General Assembly today voted to postpone debate on the question of the former Italian Colonies until the Assembly reconvenes in New York on April first. The Assembly defeated by 31 to 11 a proposal to discuss the question before the UN adjourns this week end. The big five countries split on the vote. Russia and Britain wanted to take up the matter now—the United States, France, and China wanted the delay.

The United Nations Security Council won't delay its activities until April. It remains in permanent session and will be back in New York in January, still trying to do something about the Russian-American dispute on Berlin.

For a direct report from that city now—we'll hear Ed Haaker in Berlin.

(to Haaker at 8.0630)

Third spot 8.1130–1230

From China today comes a report that some units of a Chinese Nationalist Army group trapped and surrounded by Communists between Suchow and Nanking have been able to break out southward.

The report was not confirmed by the Government's military news agency

but it was said the units that broke through the ring had made contact with other Nationalist Units advancing northward.

The Army group concerned in the reported breakout was the Twelfth Army group which has been encircled for two weeks in a small pocket and has been running short of food and ammunition.

But three more Chinese Nationalist Army groups—the bulk of the divisions that garrisoned Suchow—are still encircled by Communist forces. The Communists are reported to be strengthening their hold on these three Army groups of Chiang Kai Shek. If the Communists destroy them, the major defense of Nanking will be gone.

There were hysterical rumors in Shanghai that American Marines would be landed to protect the city. American officials immediately denied the rumor.

More news in a moment. In the meantime, your announcer.

End spot 8.1330-.1425

The Yugoslav Communists of Marshal Tito are admitting today that much of the aid their country receives comes from the United States. Until Tito's disagreement with Moscow, the tendency in Belgrade was to conceal and minimize what the West had done for Yugoslavia.

The Yugoslav Communist paper, *Borba*, today asserts that the huge bulk of money and supplies reaching Yugoslavia from outside comes from American residents and organizations—a total of fifteen and a half million dollars' worth in the last three years.

In Australia today—the UN Economic Commission for Asia today admitted the Indonesian Republic as an associate member. Holland does not admit the Republic has the right to act as an independent unit in international affairs and the Dutch delegation walked out of the UN Commission in protest. The Dutch said the UN group's action affects delicate negotiations between Holland and the Indonesian Republic.

And that's your World News Roundup. This is John MacVane saying good-bye from the N.B.C. newsroom in New York.

A short time later, the same announcer will conduct a program of popular music with a format as follows:

Yes, it's Campus Varieties, a full half hour of your favorite transcribed music, both old and new. Featuring the Campus Varieties orchestra, the Golden Gate Quartet, Johnny Guarnieri at the piano, the beautiful voices of Louise Carlyle and Willard Young and the barbershop harmony of the Knickerbacker Four Quartet, all under the direction of Norman Cloutier. (*Pause.*)

And so the curtain rings down on our Campus Varieties Stage for this afternoon. All the gang (Norman Cloutier and the Campus Varieties Orchestra, the Golden Gate Quartet, Johnny Guarnieri, Willard Young, Louise Carlyle, and the Knickerbacker Four Quartet) is going to be back with us tomorrow at 3 o'clock with more of your favorite transcribed music both old and new. Until tomorrow then, this is _____ reminding you to stay tuned now for Concert Highlights which follows immediately.

Within half an hour or so, our typical announcer will work with a classical mu-

sic script. He should be familiar with the pronunciation of composers' names: Wagner, Shostakovich, Debussy, César Franck, Albeniz, Ibert, Mascagni, Buxtehude, and many others. He should be familiar with a variety of musical terms, such as: *un poco moderato*, allegro, coloratura, viola, pianist, and recitative. He may be called upon to announce *Die Götterdämmerung*, *Une Vision Fugitive*, or an aria from *I Pagliacci*, or discuss the respective merits of singers like Ezio Pinza, Tagliavinni, and Enrico Caruso.

From a classical music program our versatile _____ announcer will turn to a children's story. His introduction will probably go something like this:

Say there, boys and girls, do you like to hear music? You do—Oh, but what kind you say! Well, I'll bet we've got just the kind of music you'd like to hear. Yes, but what—well, say, you just want to know everything, don't you? Well, I'll tell you just what music we've got for you for the next fifteen minutes. You know Frank Luther, don't you? Why sure! Well, Frank has a few records that he's made, and we're going to play them for you. Sounds pretty swell, doesn't it? He's got some nursery rhymes, and some of those swell Winnie the Pooh songs. Might tell you the names of a few of them—remember the Buckingham Palace, or Hoppity, or maybe the King's Breakfast? Well, here they are just for you to listen to. So, Frank, suppose you just get up to the microphone and sing them.

From time to time all announcers find themselves obliged to ad-lib in order to fill time between programs, describe local color at a football game, or interview visiting celebrities. For instance, when asked to describe the studio in which he is sitting and all that is visible to his eye, he might say something like this:

AD-LIB FOR ONE MINUTE

If the applicant is seeking a position with a commercial station he will be tested with various types of commercial copy.

FIRST AID for cold discomfort—Alka-Seltzer! FIRST AID for acid indigestion—Alka-Seltzer! FIRST AID for headache—Alka-Seltzer! Yes, this is *one* product *so* good for *so* many common ailments that you'll never want to be without it. Alka-Seltzer can give you really fast, really effective relief from headache, acid indigestion and cold discomfort. That's why I want to suggest that you keep an ample supply of Alka-Seltzer on hand—at home always, and where you *work*, as well. Then if a headache should come along, if something you have to eat or drink brings on acid digestion, or if you're troubled with the discomfort of a cold, Alka-Seltzer can help you feel better *FAST!* Alka-Seltzer's alkalizing properties can settle the upset of acid indigestion, and its analgesic—sodium acetyl salicylate—offers pleasant, fast relief from headache and the ache-all-over feverish misery of a cold! Yes, keep prepared with Alka-Seltzer. Buy *TWO* packages instead of one—for an extra package on the side keeps a family well-supplied. An extra package of Alka-Seltzer!

The applicant should be prepared to be a lively emcee on a give-away program.

KING: Is there a student in the house?

AUD: YES!

KING: Well, let's all study about CINDERELLA WEEKEND.

Applause

KING: Hi, everybody, this is Johnny King. . . .

ZIM: and Dave Zimmerman . . . Your quizzing coachmen welcoming you to another CINDERELLA WEEKEND program. Someone here today enjoying PUMPKIN luck may be the very lady who will win a complete new outfit and a grand all-expenses paid weekend vacation in New York for two. Each day we find a new CINDERELLA and on Friday the four winners battle it out to decide which of them will get to town on that wonderful CINDERELLA WEEKEND.

SIGN OFF

WUOM, the University of Michigan, Ann Arbor, now leaves the air until _____ o'clock tomorrow (Sunday). WUOM, owned and operated by the Regents of the University of Michigan, operates on an assigned frequency of 91.7 megacycles, channel 219, with an effective power of 44,000 watts. KQA-61, the studio-transmitter link operates on 950 megacycles. WUOM and KQA-61, with studios in the Administration Building and transmitter at Peach Mountain are licensed by the Federal Communications Commission. On behalf of the entire staff, this is _____ bidding you a very pleasant good evening.

The more auditions you take before you take *the* audition the better you will do. Don't worry about the station audition. Those you have in the classroom are more tricky than the professional ones, but grades are easier to get than jobs. The station will not be impressed by what you were in college but only by what you can do. Leave your Phi Beta Kappa key at home. Study the station before the station studies you. You can't tell the station what you are; you have to prove it.

PROJECT V

AUDITIONS—ACTORS

Mr. James Schiavone, production director, Station WUOM, has built up a comprehensive audition for those being considered for dramatic parts. Each piece of copy was selected by him to bring out one distinct emotion or reaction, intensity, trait, interpretation, or age level from the auditionee. Most of the copy is flexible to the extent that the age range may be variable as necessary. Most of the scenes are long, so that if the director wants to hear a particular auditionee attempt to develop a characterization fully, he may hear it through; otherwise, he may stop the scene at any point short of the end. Mr. Schiavone feels that this rather inclusive dramatic audition includes everything which is usable in disclosing any specialized talent. In many cases, auditionees may do a satisfactory job with monologue type of material and yet

prove unsatisfactory in actual dramatic scenes working with others because of their lack of "contact," poor technique of picking up cues, motivating natural ad-libs not indicated in the script. Of course, the person taking the audition must be briefed about the character he is to create—age, physical condition, background, education, social environment, etc.

NARRATIVE (MALE) STRAIGHT

NARR: I am not mad—and I am not dreaming. Tomorrow I die, so today I must unburden my soul. My purpose is to place before the world—plainly and without comment—a series of events. Events which have terrified—tortured—destroyed me. I will not attempt to explain them. To me they have presented only horror—to others they may seem less terrible. Perhaps someone less excitable than I will find in them nothing but a succession of natural causes and effects.

From my infancy I have been known for my quiet, unexcitable disposition. I was especially fond of animals, and was allowed by my parents to keep a large variety of pets. I spent most of my boyhood with them, and was never so happy as when feeding and petting them. This peculiarity in my character grew with my body, and after I had grown to manhood, my animals were my principal source of pleasure. To those who have known the affection of a faithful dog, I need hardly explain this feeling. There is something in the unselfish—and self-sacrificing love of an animal that goes far beyond the thing that men call friendship. I married early, and was happy to find in my wife a disposition like my own. She shared my liking for domestic pets. We had birds, goldfish, a fine dog, rabbits, and a small monkey. One day my wife came into my study, and standing in the doorway (*Fades*), spoke to me as I turned.

NARRATIVE (MALE) INTENSE—FEAR

NARR: Someone was following me. Someone was following me as I walked through the woods to my friends' house. I was sure of it, though it was so dark I saw nothing when I looked around. But I could hear. And I'd been hearing new, strange sounds ever since I left the avenue and struck out over the short cut to Harrison Street. Why had I taken the short cut . . . when I knew . . . the papers were full of it . . . that the convict who'd escaped from State's prison—a few miles away—was still at large. I'd taken this short cut many times . . . but never before had I heard that odd crackling noise behind me.

There! I heard it again. And it stopped again. As though someone stepped on a branch in his path . . . and then waited for the sound to die away. I hurried. But I was afraid to run. The woods ahead were too black. If I should stumble and fall . . . or if whoever was following me should see me run and run after me . . . faster than I . . . reach me before I came to the stretch of treeless flat ground between the woods and Harrison Street . . . I hurried, silently. Behind me came the crackling noise again . . . and it sounded to me as though whoever was following had begun to hurry, too. I walked faster . . . knocking against a tree and scratching my arm . . . feeling the lash of a swinging branch against my face . . . stubbing my foot on a twisted root . . . and all the time hear-

ing that noise more clearly behind me. And then I began to run. I couldn't help it . . . it was foolish . . . but I couldn't be caught there . . . robbed . . . slugged . . . maybe killed. I ran. (*Panting*) And the thing happened that I knew would happen . . . I ran against a rock and fell over it and lay breathless on the damp earth . . . I lay there on the ground, listening. My ankle throbbled. I didn't know for a moment whether I had sprained it or only turned it, but it didn't matter. The noise behind me was gone.

NARRATIVE (FEMALE) PLAINITIVE TO BUILD

JANE: I believe I was already half in love with him then. In the weeks that followed, when evening after evening I sat with him by the fire in the library, I came to love him deeply and miserably. Miserably, because I knew I was to him only the paid governess to his ward. Each night, after I left him, I tossed sleeplessly on my bed, telling myself that I should go from Thornfield now, before I made myself foolish with my love. It was on one of those wakeful nights that I heard . . .

MRS. ROCHESTER: (*Wild laugh off mike*)

JANE: (*Continuing without pause*) . . . Grace Poole laughing close to my door, and more wildly than I had ever heard her. So wildly that I was frightened. I sat up in bed. The laughter faded away down the hall. The house was quiet then. I slipped on my robe and walked to my door to make sure it was locked. When I reached the door, I smelled smoke. I opened the door quickly. Smoke poured in from the hallway . . . smoke that came from Mr. Rochester's room. I ran down the hall, into his room, seized a pitcher of water, and drenched the bed and Mr. Rochester with it . . . (*Calling*) Wake, Mr. Rochester! Wake!

DIALOGUE (ONE MALE, TWO FEMALES) STRAIGHT

MRS. BENNET: I, for one, thought it was a lovely ball, Elizabeth, and I saw nothing out of the way in anything Mr. Collins said last night.

ELIZABETH: He was ridiculous.

MR. BENNET: It's his nose. It wriggles when he speaks.

ELIZABETH: If it were only that, father. But he took it upon himself to address the whole party and explain why he, a parson, finds no harm in balls.

MR. BENNET: Very kind of him.

MRS. BENNET: He's an excellent young man, and quite right, and I do think, Elizabeth, you might cease making fun of a guest in our house. It isn't polite, and besides he might come in here any minute, and furthermore, under the circumstances, it isn't proper in you.

ELIZABETH: What circumstances?

MR. BENNET: He invited himself here. And besides he's walking in the garden, and furthermore—furthermore, Mrs. Bennet, I thought you, yourself, disliked him heartily.

MRS. BENNET: I do—I did—but now—. Oh, Elizabeth, my dear daughter—

ELIZABETH: You're not being very clear, mother.

MRS. BENNET: Oh, please have pity on my nerves! Why shouldn't I dislike a man who's going to turn us all out of house and home?

MR. BENNET: Well, since it won't be before my death, I should think Elizabeth could make fun of him until then.

MRS. BENNET: Mr. Bennet! Have you no perception? Oh, to be married to a man who encourages his daughter to mock the very man who'll inherit his estate . . . who jokes about the time his wife and daughters will live in want . . .

MR. BENNET: It may be some years yet, my dear. I'm still in tolerably good health. Which I'll try to keep now, by spending a quiet morning in my study. (*Fading*) Excuse me, my dears.

Sound: Door open and close, slightly off mike

ELIZABETH: (*With sound*) I think I'll go to my room now, too, mother.

MRS. BENNET: Oh, no, you mustn't. You must stay here in the drawing room with me, Elizabeth. I don't want to sit alone.

ELIZABETH: You won't. Mr. Collins has just turned in from the garden and is coming this way.

MRS. BENNET: Precisely why . . . Elizabeth! Come back!

ELIZABETH: (*Fading slightly*) But I don't care to see Mr. Collins . . .

MRS. BENNET: Elizabeth! I command you.

ELIZABETH: (*Slightly off mike*) What difference . . .

(*Fading on*) Oh, dear, there's no escaping now. Here he comes.

MRS. BENNET: (*Raising voice*) Mr. Collins? Do come in the drawing room and sit with us. (*Low*) Look civil, Elizabeth.

DIALOGUE (TWO FEMALES) CHARACTER

MRS. BENTON: Put that one over there, Maggie. Pack it down good and tight. . . . Not too tight though.

MAGGIE: Whew! I'm tired, Mama. Can't we rest a while?

MRS. BENTON: We're almost through now. We'd better get done before it gets too dark to see.

MAGGIE: My back's almost broke in two from bending over so long.

MRS. BENTON: Well all right. Set down an' rest then. I'll finish 'em up.

MAGGIE: Look Mama! There she is!

MRS. BENTON: What, who?

MAGGIE: That woman in mourning. The one who's been putting flowers on Bill Anderson's grave.

MRS. BENTON: Yes, I see her now. Poor soul. I wonder who she is. Bill Anderson didn't have no relatives that I ever heard of.

MAGGIE: Maybe it's his widow.

MRS. BENTON: His widow? Why, Maggie Benton, you know as well as I do, Bill Anderson was a bachelor.

MAGGIE: Maybe she was his secret wife, like in the books sometimes, an' she was rich an' he was a poor orphan an' they couldn' let her folks know, an'—

MRS. BENTON: Maggie! I declare, I'll have to set my foot down on them trashy love stories you been readin'. Such ideas!

MAGGIE: (*Stubbornly*) Well, it could happen like that an' who else would be puttin' flowers on Bill Anderson's grave?

MRS. BENTON: That I don't know. But we'll find out in God's good time.

MAGGIE: Couldn't we ask her?

MRS. BENTON: H-m-m. Well, it might be neighborly to go over and speak to her. Yes. I could take her some of my rose cuttings.

MAGGIE: Let's take these. They're the best.

MRS. BENTON: The poor woman must be lonely. In a strange place too. (*Fading out*) Watch your step there—be sure you don't step on any graves (etc.) . . .

DIALOGUE (TWO FEMALES) INTENSE

MARLENE: Paula, listen, do you hear a strange sound?

PAULA: What sort of a sound?

MARLENE: A sound like a woman moaning?

PAULA: No!

MARLENE: I heard it distinctly. You listen!

PAULA: You drink this tea and forget about such things.

MARLENE: Please, Paula! Quiet!

MOTHER: (*Moaning off*)

MARLENE: Now, do you hear?

PAULA: Heavens!

MARLENE: You do hear it?

PAULA: Some unusual sound.

MARLENE: Where is it coming from?

PAULA: I don't know.

MOTHER: (*Moaning*)

MARLENE: There it is again.

PAULA: Yes . . . it sort of seems to be coming from these walls of the music room!

MARLENE: That's it!

PAULA: Or from out on the terrace!

MARLENE: It's nearer than that!

MOTHER: (*Moaning*)

PAULA: Here . . . in this wall behind the piano.

MARLENE: Yes.

PAULA: Mmmmm.

MARLENE: Why are you feeling of the walls?

PAULA: This panel here . . . look!

MARLENE: It's . . . It's . . .

Sound: Spring clicks . . . panel sliding open

MARLENE: Why it's a panel that opens. I've lived here all my life and I never knew of it before!

PAULA: An inner room in here!

MOTHER: (*Moaning closer*)

MARLENE: And you can hear the moaning from here much closer.

PAULA: Marlene, get the candle from the piano. I'm going to look around in here!

MARLENE: Yes. (*Pause*) Here, Paula!

Sound: Lighting match.

PAULA: This passage in here must lead to another room in the house!

MARLENE: I'm coming with you.

Sound: (Now muffled voices as if in tunnel)

PAULA: The moaning we heard was from someone in the adjoining room from here!

MOTHER: (*Moan . . . close . . . but muffled*)

MARLENE: Paula, wait, here, look!

PAULA: What is it?

MARLENE: This enormous chest. Listen!

MOTHER: (*Moaning*)

MARLENE: Quick! There's someone inside this chest!

PAULA: I believe you're right!

MARLENE: Hurry, they'll smother to death!

PAULA: It's locked!

MARLENE: LOCKED! Someone has been pushed into this chest then and it's been locked against them. Hurry, can't you break it open?

PAULA: I'm going to try!

Sound: Pounding against chest

PAULA: No use. I'll have to go to the garage for tools.

MARLENE: Hurry, Paula, O, please hurry!

Organ: Comes in. Hold for scene transition. Fade for:

Sound: Pounding chest with hammer

PAULA: Did you hear the moaning while I was gone?

MARLENE: No, it stopped. Whoever is inside must have fainted or died. Are you getting it?

DIALOGUE (TWO MALES) STRAIGHT, LOW

HALL: Keep your eye on the Major.

HAWKINS: You know what I been thinking all this week?

HALL: He's gettin' pretty snappy with his orders.

HAWKINS: I been thinkin' this is the sweetest life a man ever knew.

HALL: You mean just coastin' downstream?

HAWKINS: Look at us go, slickin' by that bank. Water smooth as a kitten's purr. Good food. Duck soup and roasted ribs every night. Biscuit.

HALL: You're a fine cook, Billy.

HAWKINS: Except it's always so quiet. Take like now—what're we whispering for?

HALL: Well, we could talk loud.

HAWKINS: You want to talk loud?

HALL: Not particuar. Do you?

HAWKINS: I don't mind whisperin'.

HALL: Me too. Saves the voice.

HAWKINS: I guess the Major figured 'cause you an' me was boys they'd put us in the last boat 'cause we didn't count so much.

HALL: It's all right by me.

HAWKINS: Me too. That way we're together.

HALL: That's all right too.

HAWKINS: Sure. That way we're in the same boat.

DIALOGUE (TWO MALES) CHARACTER, OLDER

WEBB: A mighty fine ceegar, Mr. President. My compliments on your taste.

CLEVELAND: Thank you, thank you. Uh—haven't noticed you dancing with my wife this evening, Mr. Webb—you were paying her pretty close attention last time you were here.

WEBB: Well, I'll tell you, sir. She is so surrounded by attentive young gentlemen. . . . And if you don't mind my sayin' so—she'd better kinda watch her step.

CLEVELAND: I *do* mind your saying so. What do you mean?

WEBB: The talk, Mr. President. You know how people *love* to talk.

CLEVELAND: And what about? My wife enjoys her social life—being surrounded by friends. I wouldn't have it any other way.

WEBB: But when it gets around that she's makin' political promises that she can't keep—that's a different horse of another color, Mr. President!

CLEVELAND: I don't believe that . . .

WEBB: You may be sure—they as wants to get you outa the White House, will believe it.

CLEVELAND: You wouldn't be hoping for that happy day yourself, would you, Mr. Webb?

WEBB: Me? To be perfectly honest, I'm willin' to work my head off for your re-election . . . long as I know where I stand—on n'home ground, that is, with no Indians on it.

CLEVELAND: In other words, if I'll oppose the Indian Emancipation Act, you'll play ball with me. . . . No, it's all settled, all settled. Sorry . . .

WEBB: Mr. President, it may turn out that you *really* will be *sorry*.

DIALOGUE (TWO MALES) RESTRAINT, OLD AND YOUNG

HENRY: You've been a good son to me Peter.

PETER: I've tried.

HENRY: I appreciate your taking care of me. . . . Keeps you home all the time too.

PETER: I don't mind, father. It's just that Matt . . .

HENRY: What about Matt?

PETER: Matt's shirked all of his responsibilities. He's gone off on his own . . . enjoying himself, seeing the world.

HENRY: He's fighting for his country.

PETER: (*Bitterly*) Yes, fighting. The first time he ever got any fighting blood was when he was afraid he'd get tied down here.

HENRY: Peter!

PETER: Matt's disgraced this family—showed the whole neighborhood what he thinks of us. And you! You won't even make a will showing that dirty spalpeen what you think of his going off and leaving you to die alone!

HENRY: The money and property should be divided between you fairly.

PETER: Was he fair to you? Was he fair to me? No! He always thought of himself first! Please, make your will!

HENRY: The money shall be divided between you fairly.

DIALOGUE (MALE, FEMALE) STRAIGHT, FATHER-DAUGHTER

JOAN: Shall we go any further?

BARRETT: Oh, I think so, daughter. . . . Not tired, are you?

JOAN: No, no, I'm not tired.

BARRETT: You can talk about Norman if you want to.

JOAN: I want to . . . but not now.

BARRETT: Perhaps you would rather we didn't talk at all . . . want me to shut up?

JOAN: No, father . . .

BARRETT: I suppose you think I'm a cruel parent to ask you to do this—drive this canoe along the same paths that you and Norman traveled.

JOAN: I don't pretend to like it . . .

BARRETT: Didn't think you would . . .

JOAN: Father, we have talked about this a good many times before, but all of a sudden it has come over me again.

BARRETT: What has, daughter?

JOAN: It's a tough job being a father, isn't it?

BARRETT: It's a wonderful job . . . seems kind of easy when you think of it. . . . Consists mostly of loving a lot . . .

JOAN: And thinking a lot . . .

BARRETT: Yes, thinking a lot. . . . That's not hard to do. Comes pretty easy somehow. You get up in the morning and take a bath, start to shave, and probably say to yourself—and you laugh a little when you say it—"I bet Joan wouldn't like to scrape her face like this!"

JOAN: Father, did you ever really say that to yourself?

BARRETT: Lots of times. . . . Of course I have. Comes kind of natural. Sometimes I feel kind of sorry for you, Joan, thinking you're not going to be anybody's father . . .

JOAN: I'm afraid I'm not even going to be anybody's mother, father . . .

BARRETT: Daughter, I wouldn't count on that too much if I were you . . .

JOAN: But, father—

BARRETT: Now, wait a minute, daughter. You're in a pretty mean jam now, but you're young, you're strong and healthy, you're not going to feel like this always.

JOAN: But, father—I love Norman. . . . I'm frantic with anxiety about him. . . . He's been missing more than two weeks. I don't know whether he's living or whether he's dead. I don't know how I can go on from here.

BARRETT: Joan, you're drifting a little, dear. . . . Put your paddle in the water and give the boat a push. . . .

DIALOGUE (MALE, FEMALE) MALE CHARACTER, AGE 45; FEMALE SOPHISTICATED

COLLINS: Your modesty, Miss Elizabeth, adds to your perfections.

ELIZABETH: You mistake me, Mr. Collins.

COLLINS: Allow me to assure you that I have your mother's permission for what I am about to say. And I would presume that she has not left you totally unprepared for my address.

ELIZABETH: And I assure you, Mr. Collins, that I have no notion of what you may be about to say.

COLLINS: Dear Miss Elizabeth! You have natural delicacy! Have you not known that almost from the moment I entered this house I singled you out as the companion of my future life?

ELIZABETH: Mr. Collins!

COLLINS: I believe firmly that every clergyman should marry. I believe marriage would add greatly to my happiness. And I feel it my responsibility, nay, my duty, since I am to inherit this estate, to choose my wife from among your father's daughters.

ELIZABETH: (*Growing angry*) You're too kind, Mr. Collins.

COLLINS: Not at all, Miss Elizabeth. Never in all our years together will a single reproach pass my lips concerning the smallness of the dowry you will be given. . . . I am aware that your father and mother have no

great fortune. It is perhaps even better so, since you are then accustomed to making yourself useful and will fit the modest, though respectable position of a parson's wife.

ELIZABETH: Please, Mr. Collins . . . before you go on. . . . Accept my thanks for the compliment, but understand that I must decline your proposal. There is no need for you to take pity on any of us.

COLLINS: If you had not interrupted me, Miss Elizabeth, I would have continued to tell you of the violence of my affections for you. Duty led me to this house, yes. But your amiable disposition and bright manner have done much to encourage my stay.

ELIZABETH: Mr. Collins, by proposing to me you have discharged your duty to our family. I thank you again, but believe me, I am not the woman for you, and I cannot marry you.

COLLINS: I understand that it's customary for young ladies to refuse a man on his first proposal, and so I'm by no means discouraged, dear Elizabeth.

ELIZABETH: If I had any intention of accepting you, I should do so now, and not risk a change of heart in you. Believe me I cannot and never will marry you.

COLLINS: When I do myself the honor of speaking to you again on this subject, Miss Elizabeth, I will expect a more favorable answer.

DIALOGUE (MALE, FEMALE) INTENSE

WIFE: He likes you.

NARRATOR: (*Angrily*) He doesn't like me. He throws himself in my way to torment me. He doesn't want me to forget how I killed Pluto. He keeps taunting me—daring me to kill him. Well—I will kill him! I hate him—I despise him—I loathe him!

WIFE: What are you going to do?

NARRATOR: Where's the axe?

WIFE: You're not going to kill him!

NARRATOR: Oh, yes I am! You see this glistening steel? It will cut through his skull and rid me of him forever. Look at him jeering at me—accusing me. I'll close that glaring eye of his.

WIFE: Oh, no, you mustn't—I won't let you. Go away from him!

NARRATOR: And don't you try to stop me. You're as bad as he is!

WIFE: You'll not touch that cat. He's done nothing but give you his affection.

NARRATOR: I'll get rid of him here and now.

WIFE: No! No!

NARRATOR: Don't try to stop me.

WIFE: I will stop you.

NARRATOR: I warned you once before not to interfere. I told you I'd kill you if you did (*Fading. Insane rage*) I'll kill you—I will kill you—I will kill you—

WIFE: (*Screams off mike*)

DIALOGUE (KIDS)

BILL: Yeh?

SAM: You heard me.

BILL: Sammy's got a case on Miss Florence . . . yah . . . yah . . . yah . . .

SAM: That's a lie.

BILL: Yah . . . yah . . . I thought you were going to do something about it.

SAM: I am. Take that.

Sound: *A few whacks, followed by "Ow." It's a kids' fight.*

BILL: Thought you were going to fix me. . . . (*Panting*) . . . You'll be sorry.
. . . Hey, look out for that bank . . .

SAM: Ohhhhhhhhhhhhh. (*Falling about fifteen feet*)

BILL: (*Climbing down, panting and sobbing*) Sammy, are you all right?
Sammy! Sammy, I didn't mean to knock you off the bank. . . . We wuz
fightin' so hard . . .

SAM: I guess I'm all right. . . . My leg hurts awful though . . .

BILL: Here, I'll help you up. Gee, Sammy, I'm sorry . . .

SAM: (*As he's getting on his foot*) I guess I'm all right. . . . Ohhhh, my leg,
it hurts awful. I can't walk, Billy. You better get someone.

BILL: Dad's not home, he went into Romsey today.

SAM: Well, get someone, quick. My leg . . .

BILL: Sure, I'll have to get someone . . . (*fading*) . . . Gee, Sammy, I'm
sorry.

DIALECT, FRENCH (TWO MALES)

JEAN: Parlez-vous français?

GOVERNOR: I would rather speak English.

JEAN: My name, Jean Poquelin.

GOVERNOR: How can I serve you, Mr. Poquelin?

JEAN: Zat swamp behind my house belong to me.

GOVERNOR: Yes, sir.

JEAN: To me, Jean Poquelin; I hown 'im meself.

GOVERNOR: Well, sir?

JEAN: He don't belong to you; I get 'im from my father.

GOVERNOR: That is perfectly true, Mr. Poquelin, as far as I am aware.

JEAN: They want to make strit pass yond; but strit can't pass dare!

GOVERNOR: But, why, Mr. Poquelin?

JEAN: I tell you zat land belong to me!

GOVERNOR: Of course, realize you will be indemnified for any loss you suffer.
(*Pause*) You will get PAID, you understand?

JEAN: I don't want money, I want my land!

GOVERNOR: Well, Mr. Poquelin, I can do nothing. You will have to see the
municipal authorities.

JEAN: (*Slowly*) Pardon, Monsieur, you is not Le Gouverneur?

GOVERNOR: Yes.

JEAN: Yes, you har Le Gouverneur—yes. Veh-well, I come to you. I tell you, strit
can't pass at me 'ouse.

GOVERNOR: But you will have to see—

JEAN: I come to you. You is Le Gouverneur! I know not the new land. I am a
F-r-r-renchman! F-r-r-renchman have something go wrong—he come to his
Gouverneur. I come. I want you do something for me, eh?

GOVERNOR: (*Patiently*) What is it?

JEAN: I want you tell Monsieur le Président strit—can't—pass—at me house.

GOVERNOR: Why, Mr. Poquelin?

JEAN: I tell you zat is my house, my land. You mus' not let them touch it!

GOVERNOR: You go to see the municipal authorities. I'll be glad to ask them to
help you out.

JEAN: (*Dejectedly*) All right. I go.

GOVERNOR: One moment, Mr. Poquelin. (*Slowly*) You will possibly be called upon to make some explanations—you realize the Creole citizens tell some very odd stories about your house.

JEAN: (*With deep feeling*) I am Jean Poquelin. I mine my own bizness. Zat all right? (*Pause*) I go. Adieu.

DIALECT, GERMAN (TWO MALES)

OBERST: Your name?

LUDWICK: Christopher Ludwick.

OBERST: (*Impatiently*) You are a deserter from the Americans?

LUDWICK: Yes, I am. Only three days.

OBERST: Why? Why did you desert?

LUDWICK: Herr Oberst I do not wish to fight my own people.

OBERST: (*Suddenly and sharply*) Your own people! You are a spy!

LUDWICK: No. . . . Believe me. I am no spy. Look—I wear the American uniform.

OBERST: (*Snaps*) That proves nothing. Anyone can pick up a bundle of rags like that. Where did you get it?

LUDWICK: They gave it to me, Herr Oberst.

OBERST: When?

LUDWICK: Two months ago.

OBERST: (*Slyly*) Oh—they forced you into service—is that it?

LUDWICK: I enlisted, Herr Oberst!

OBERST: (*Leaps on this*) You enlisted; and two months later you desert! What kind of a soldier is that?

LUDWICK: I did not know at that time I would have to fight Hessians.

OBERST: Where did you say you came from?

LUDWICK: Giessen . . . in Hesse . . .

OBERST: (*Angrily*) No—I mean—three days ago.

LUDWICK: New Jersey.

OBERST: (*Easily*) Oh—from the American army there. (*Pause*) I asked you a question, Ludwick!

LUDWICK: From the American army there.

OBERST: Mmmhuh. Good. Then you know where they are—and how many.

Sound: *Chair shoved back; Oberst rises*

OBERST: (*With his steps*) That is very interesting—yes—

Sound: *Rattle on a map*

OBERST: (*Off mike: softly*) Come over here, Ludwick.

Sound: *A few steps*

LUDWICK: Jah, Herr Oberst?

OBERST: Do you know what this is?

LUDWICK: A map.

OBERST: A map. And this—where I point?

LUDWICK: (*Tightly*) New . . . Jersey.

OBERST: Correct. Now show me where you came from? (*Pause*) Well? Show me!

LUDWICK: Forgive me but—I—I must look a little closer.

OBERST: I will help you. The American forces are . . . here. Yes?

LUDWICK: (*Tensely*) They—no—I do not think that is where I came from.

OBERST: No? Perhaps—from here.

LUDWICK: No.

OBERST: Come come, Ludwick—you came from *somewhere*. (*Suddenly*) And I think it was . . . *here!* (*Pause*) Answer!

LUDWICK: No—it was not there.

OBERST: (*Laughs*) You saved your neck three times, Ludwick—because we know the Americans are not in those places. But—surely they are somewhere. Point out the place from which you came, Ludwick—(*Softly*) Point it out.

LUDWICK: (*Pause, Strained voice*) It—it was here, Herr Oberst.

OBERST: (*Gently*) Mmm? Yes—that could be. The most unlikely place—yet one that General Washington would pick if he wished to hide. Yes—(*Chuckles*) Maybe you are telling the truth, Ludwick.

LUDWICK: (*Tightly*) I am telling the truth, Herr Oberst—

OBERST: Very well, thank you.

LUDWICK: I may go now?

OBERST: Yes—to the prison.

LUDWICK: Prison . . . ? But . . .

OBERST: I am not a fool, Christopher Ludwick. I shall make sure that *you're* not one. Because only a fool would lie and put his neck in a noose. If you tell the truth—good. If you lie, you will do a little dance on air.

DIALECT, CHINESE (TWO MALES)

SOU: Cousin Pin Chan has good rooking restaurant and I am very preased when I walk in and ask waiter for him. We speak in Chinese naturarry but this is what it sound rike to me.

SOU: Capable waiter, is this the establishment of the illustrious Pin Chan?

TOM: It is. What the heck are you selling?

SOU: Please be so kind as to conduct this unworthy person to Pin Chan. I am his cousin.

TOM: (*Laughs*)

SOU: What is so fun making?

TOM: Impossible you are his cousin. I, Tom Chan, am Pin Chan's cousin.

SOU: A man may have many cousins; a dog has more than one flea.

TOM: I do not like your comparisons! You are no cousin to Pin Chan. Get out.

SOU: I will not.

TOM: Get out.

SOU: I must see Pin Chan.

TOM: Oh, Pin Chan! This rustic says he is our cousin.

SOU: It is true, honored sir. My father is the son of Gin Sin who is the cousin of your more than honored uncle, fourth removed. I have a letter for the honorable Pin Chan.

PIN: Let me see it. Did your father write this letter, boy?

SOU: He dictated it, honored sir. I wrote it down. Father is a farmer. He does not write.

PIN: How is it that you write, boy?

SOU: When I was ten, I was climbing for a bird's nest. I fell out of a tree and for two years could not work. So father sent me to the village school.

PIN: Oh! Why have you come to me, boy?

SOU: I hope perhaps the Honorable Pin Chan may have some small bit of work

for his unworthy cousin. Times are hard home and I am anxious to take some American dollars back to China.

PIN: I suppose they told you at home that here the streets were paved with gold.

SOU: I did not see any such streets coming from the ships, honored sir. I will work very hard, Cousin Pin.

PIN: For me you will have to. Welcome to America, Cousin Sou.

PROJECT VI

RECREATIONAL READING WITH RADIO BACKGROUND

FARRINGTON, FIELDEN: *The Big Noise*, Crown Publishers, New York, 1946.

LAURIA, LEW: *Let the Chips Fall*, Radco Publishers, New York, 1946.

LENT, HENRY B.: *This is Your Announcer—; Ted Lane Breaks into Radio*, The Macmillan Company, New York, 1945.

MEAD, SHEPHERD: *The Magnificent McInnes*, Farrar, Straus & Company, New York, 1949.

SCHECHTER, A. A.: *Go Ahead Garrison! A Story of News Broadcasting*, Dodd, Mead & Company, Inc., New York, 1940.

WAKEMAN, FREDERIC: *The Hucksters*, Rinehart & Company, Inc., New York, 1946.

WING, PAUL: *Take It Away, Sam! The Story of Sam Hubbard's Career in Radio*, Dodd, Mead & Company, Inc., New York, 1941.

SUGGESTED CLASS ASSIGNMENTS

The following assignments are not questions upon the contents of the text but are exercises designed to encourage further study, practice, and research upon phases of broadcasting dealt with in the chapters.

GENERAL

1. Refer to Project I.
2. Build a library of materials concerning radio. Anyone in educational radio knows that experience in getting things for nothing is good training. See what you can get from these sources of general information prepared by Gertrude G. Broderick.

SOURCES OF GENERAL INFORMATION

- American Broadcasting Company, RCA Building, New York, Manager of Public Service.
- American Library Association, 50 East Huron Street, Chicago. Chief, Information and Advisory Services.
- Association for Education by Radio, 228 North LaSalle Street, Chicago. President: George Jennings.
- Broadcast Measurement Bureau, 270 Park Avenue, New York.
- Bureau of Educational Research, Ohio State University, Columbus.
- Columbia Broadcasting System, 485 Madison Avenue, New York. Director of Education.
- Educational Radio Script and Transcription Exchange, Federal Security Agency, Office of Education, Washington, D.C. Director: Gertrude G. Broderick.
- Federal Radio Education Committee, U.S. Office of Education, Federal Security Agency, Washington, D.C. Executive Secretary: Gertrude G. Broderick.
- FM Association, 101 Munsey Building, Washington, D.C. Executive Director: J. N. Bailey.
- Intercollegiate Broadcasting System, 507 Fifth Avenue, New York. Business Manager: Louis M. Bloch, Jr.

- Lowell Institute Cooperative Broadcasting Council, 28 Newbury Street, Boston. Director: Parker Wheatley.
- Mutual Broadcasting System, 1440 Broadway, New York. Educational Director: Elsie Dick.
- National Association of Broadcasters, 1771 N Street NW, Washington, D.C. Director of Public Relations and Education.
- National Association of Educational Broadcasters, 30 Rockefeller Plaza, New York. Executive Secretary: M. S. Novik. President: Richard B. Hull, Station WOI, Ames, Iowa.
- National Broadcasting Company, RCA Building, New York. Director of Education.
- National Congress of Parents and Teachers, 600 South Michigan Boulevard, Chicago.
- National Education Association, 1201 16th Street NW, Washington, D.C. Director Publicity.
- New Tools for Learning, 280 Madison Avenue, New York.
- Radio Division, Office of Education, Federal Security Agency, Washington, D.C. Chief: Franklin Dunham.
- Rocky Mountain Radio Council, 21 East 18th Avenue, Denver.
- World Wide Broadcasting Foundation, 630 Fifth Avenue, New York. President: Walter S. Lemmon.

CHAPTER I

FUNDAMENTALS OF RADIO-AMPLITUDE MODULATION

1. Refer to Project II.
2. Write the F.C.C. for "A Public Primer" which will inform you about the radio spectrum. Ask the Department of Information, Radio Corporation of America, to mail you *Radio Age*. Engineering Products Dept., Radio Corporation of America, Camden, N.J., has a fine publication, *Broadcast News*. The Chicago Radio Council (Station WBEZ) issued a mimeographed booklet, *Handbook for Control Room Operators*.
3. Purchase an outline map of the United States and, using different-colored pencils, trace the basic networks of the National Broadcasting Company, the Columbia Broadcasting System, the Mutual Broadcasting System, and the American Broadcasting Company.
 - a. Mark the location of each outlet with its call letters.
 - b. Draw, in the colors of the network represented, the primary coverage area of each station. The following basis for such areas, while not accurate, will give the approximate coverage: 1000-watt stations use a radius of 30 miles; 5000-watt, 40 miles; 10,000-watt, 50 miles; 25,000-watt, 60 miles; 50,000-watt, 70 miles.
4. Purchase an outline map of your state. Mark the location of each radio station in the state with its call letters. Using the same radii given above, mark the coverage areas of state stations. For 100-watt stations use a radius of 15 miles; for a station of 500 watts, use a radius of 20 miles.

5. Make a dial chart of all stations that may be heard regularly in your area.
6. Visit the local station to observe the acoustic treatment of the studios.
7. Visit the transmitter of your local station. Report to the class your observations. Draw the type of antenna used.
8. Arrange, during the year, for radio equipment distributors to display equipment at your school.

CHAPTER II

FUNDAMENTALS OF RADIO—VERY HIGH FREQUENCIES

1. Get all the information you can concerning the Low Power Station. Both General Electric, Electronics Dept., Syracuse 1, N.Y., and Collins Radio Company, Cedar Rapids, Iowa, will provide information concerning transmitters and low-powered stations. Over 91 educational institutions applied for low-power station permits in 1949. Start a campaign in your institution and community for such a station.
2. The U.S. Office of Education, Federal Security Agency, will send you a pamphlet on *FM for Education*, by Franklin Dunham; and General Electric has a pamphlet on *How to Plan an FM Station*.
3. You can fill a bookcase with material on TV. Both N.B.C. and C.B.S. will help you if you are starting a library of broadcasting at your school. C.B.S., N.B.C., and the DuMont Station, WABD, will inform you concerning color television.
4. For further information concerning Fax, write Radio Inventions, Inc., 155 Perry Street, New York.
5. Zenith Radio Corporation has a fine map showing AM and FM coverage in the United States.
6. The University of Wisconsin issued an eight-page pamphlet on FM antennas and how to make one.

CHAPTER III

PROGRAMMING

1. Check up on the programs from your local station. In what way and to what extent does the station conform to the ruling of the F.C.C. that it must serve "public interest, convenience, and necessity"?
2. Referring to the listing of the radio programs of your local station for a single day, analyze the programs:
 - a. Network program:
 - Sponsored.
 - Sustaining.
 - b. Programs originating in the local station:
 - Sponsored.
 - Sustaining.
 - c. Make a comparative evaluation of like programs.

3. Among the programs that you listen to regularly, choose the one you consider best from the standpoint of program building. Justify your choice.
4. The person most apt to succeed in radio is the individual who has something new to offer. Try to evolve an original idea for a broadcast series.
5. Which radio program do you consider to be the best on the air? Why?
6. Prepare for the class a schedule of your radio listening for the coming week. Why have you selected the programs that you indicate? Compile such schedules handed in by all the students for purposes of analysis.
7. Radio stations make surveys to determine the popularity of their programs. See if you can induce your local station to assign some survey to the members of your class. Such a survey should be useful to the station and instructive to the students who make it.
8. If public-address equipment is available, organize the class into a broadcasting-station staff. Operate or present an abbreviated day of broadcasting which will run for 3 hours. During the first hour present shortened and typical morning programs, during the second hour broadcast afternoon types, and during the third period present typical evening programs. Students should write all copy, direct, rehearse, and produce programs. No program period should be over 15 minutes in length. Maintain a rigid time schedule. Observe rules for station breaks. Emulate programs that are on the air. Present all types of programs that are popular during the 3-hour period.
9. The Mutual Broadcasting System has a pamphlet on *Program Standards* and the N.B.C. a working manual of N.B.C. program policies titled *Responsibility*.

CHAPTER IV

RADIO ANNOUNCING

1. Listen to and evaluate various professional announcers. Compare the merits of those upon the local station with those of the network.
2. Attempt to make a catalogue of voices on the air according to their quality, tone, pitch, and appeal.
3. Note the emphasis that is placed upon certain words by experienced announcers, and try to determine why these words are emphasized.
 - a. Is accent used more effectively than a change of pitch?
 - b. Is it advisable to emphasize a word by lowering the pitch or by raising it?
4. Radio stations are generally very willing to give auditions. Take one of these auditions and ask for criticisms that you can report to the class. What type of material was given to you to read? How long did the audition last? What instructions were given to you before the audition? What criticism was made? What type of job application did you fill in?
5. Listen to your best radio station and compare the commercial with the noncommercial announcements. Is there a difference in the style of delivery?
6. Participate in Project V.

7. Pick out the station where you would like to be employed after graduation. Listen to the style of its announcers and try to emulate them. Take down some of the commercials used on that station and try to give them in the same style.

8. Get some used transcribed commercial programs from your local station. Copy the commercials on those transcriptions; then read the copy to a tape or wire recorder. Compare your delivery with that of the announcer on the transcription.

CHAPTER V

RADIO SPEAKING

1. One of the first things to do in training the radio announcer or speaker is to create within him the feeling that he is reading to a small audience when he is addressing the microphone. With this in mind, at the outset I place the radio speaker with his copy at a table with the microphone before him and a listener on the opposite side of the table and try to get the speaker to read his material as if he were talking to the person who is opposite him. His auditor in this case must show by facial expressions he understands what is going on. After the speaker becomes accustomed to the microphone and to reading in such a way that what he is reading sounds conversational, I allow the auditor to remain in the room with the speaker while he is addressing the microphone. It is not until after the novice has been accustomed to the microphone that I take away a visible auditor.

2. Have various members of the class deliver the same 3-minute talk to the class. Determine to what extent listening interest is due to the manner of speaking.

3. Using a stop watch, check the number of words that you deliver a minute in:

- a. Conversational speech.
- b. Reading copy.

4. From the following bibliography of monologues, select one or two for presentation over the public-address equipment. Monologues for men: *Five Vaudeville Monologues with Nonsense Poetry and Monologue Fillers*, by Arthur Leroy Kaser, and *Headliner Monologues for Men*, by Ward Morley (both these selections are available from Walter H. Baker Company, 178 Tremont Street, Boston), *Your Show* by Clay Franklin, and *These Mortals among Us* by Clay Franklin, both obtainable from Samuel French, Inc., 25 West 45th Street, New York, \$1 each. Monologues for women: *Character Monologues*, by J. C. Geiger, Fitzgerald Publishing Corporation, 75 cents; *A Dash of Vanity and Other Monologues* by Eve Bretherton, Samuel French, Inc., 50 cents; *Fifteen Funny Monologues*, by Lorene Bowman, Fitzgerald Publishing Corporation, 75 cents; and *My Operation and Other Uncommon Monologues*, Fitzgerald, 60 cents.

CHAPTER VI

RADIO PRONUNCIATION

1. Purchase a copy of *You Don't Say, or Do You?* by F. F. Tilden of Melrose, Mass., 50 cents. Use this in practicing pronunciation.
2. Compare the pronunciation of foreign names and titles as given by announcers with pronunciations of these same names and titles as given in a pronouncing dictionary. Which are the more understandable? Do your findings prove or disprove the idea that foreign names should be Anglicized for American listeners?
3. Ascertain what are the colloquialisms in general use in your locality. Are these ever heard over your local radio station?
4. Are there examples of sectional or regional speech to be heard over stations in your locality? What is the public reaction to such speech?
5. Using one of the pronouncing aids mentioned in the text, practice the correct pronunciation of at least five words each day. Select words that are frequently heard over the radio.
6. Select 10 words with disputed pronunciations and discover the preferred pronunciation by educated people in your locality.
7. Write to the G. & C. Merriam Company, 10 Broadway, Springfield, Mass., for a pronunciation test. Enough copies of this will be sent to your instructor for the entire class. Make it the basis of an announcer's test over the public-address system. It will be admittedly poor radio copy but is good practice in pronunciation.
8. Different state organizations in the various states issue pronunciation guides for the names of places in their states. Write for these—particularly in your own state.

CHAPTER VII

ARTICULATION, INTONATION, RHYTHM

Innumerable authors of speech textbooks have presented voice exercises for students of speech. Select those which will be most helpful to the radio announcer and speaker.

CHAPTER VIII

NEWS PROGRAMS

1. Write a 10-minute news program in the style of your favorite news commentator.
2. Select items from a newspaper which you would use in a news broadcast. Arrange them in the order in which you would present them. Justify the selection and arrangement.
3. Write a news program to be broadcast to children.
4. Dramatize a short news item. Trace the news backward in a short dramatization.

5. Have a student obtain from the local newspaper a strip of A.P., U.P., or I.N.S. news. Rewrite this strip for radio presentation.
6. Try preparing scripts for different types of news broadcasts, such as women in the news, youth makes news, science in the news, etc.
7. Practice the news audition in Project IV.
8. Develop a different type of news commentating—backwoods philosopher—a Will Rogers type—feature stories of the day—brighter side of the news, etc.
9. Those students who are interested both in broadcasting and in journalism may be organized into a news dissemination service for the university. Their copy should embrace material of an educational nature designed to inform the public accurately concerning the scholastic news of university life. Classroom news, advances in educational methods, and the value and extent of research as presented by such news broadcasts will give to the public a different insight into college life than it receives from newspaper items. Accuracy, methods of unifying the news, transitions from one item to another, and the development of an individual style are matters to be stressed in addition to journalistic principles.

CHAPTER IX

SPORTS PROGRAMS

1. Read the rule books for various major sports and report to the class on those rules which the sportscaster must know.
2. After attending a sports event (football, basketball, baseball, etc.), write a résumé of the game for radio presentation.
3. Prepare the filler to be used by the sports announcer for a sports broadcast.
4. Attend a sports event with a portable radio. Listen to the announcer describe the plays and compare his description with the actual event.
5. Prepare a sports program for an imaginary program broadcast at a time when there is little national interest in sports.
6. The athletic department of nearly every college takes motion pictures of its football games to be used for analysis by the coaches and players. Borrow some of these films and run them slowly in the classroom and try to give a running account of the game.
7. Using the above silent film, announce the game as the television sportscaster would. Your classmates will see the picture on the screen just as they would see it in television.
8. Make a sports announcer's spotter board. (See Fig. 30.)

CHAPTER X

UNWRITTEN TALK PROGRAMS

1. Conduct a 15-minute round table, using a stop watch. Arrange it so that those participating in the discussion are invisible to the balance of the class.

Have the other members criticize the presentation from the standpoint of human interest, unity, sequence, delivery, and summary.

2. Conduct a classroom interview with another student on a topic of local interest. Have it criticized as above.

3. Using the public-address system for a room-to-room broadcast, the teacher should assign a speaker to be introduced by a student. Shortly after the speaker starts his talk he should either run out of material or become physically incapacitated to finish, requiring the student announcer to ad-lib the balance of the assigned period. The announcer should not know such a burden will be placed upon him.

4. Prepare quiz programs for your various classes, bearing in mind that the material presented must be interesting, entertaining, and test the knowledge not only of those participating but also of the radio audience. Have quiz programs in civics, English literature, political science, botany, history, etc.

5. Make a small scrapbook of material which could be used by a master of ceremonies when he is ad-libbing on a variety show.

6. There are many question and answer books (a complete list can be obtained from the Library of Congress, Department of Bibliographies). Using these, build a classroom quiz program. Here are a few recommended books:

BOYKIN, EDWARD: *The American History Quiz Book*, Blue Ribbon Books, Inc., Garden City, New York.

—: *The Second American History Quiz Book*, Blue Ribbon Books, Inc., Garden City, New York.

GOLENPAUL, DAN, ed.: *Information, Please!* Simon and Schuster, Inc., New York.

HASKIN, FREDERIC J.: *Answers to Questions*, Grosset & Dunlap, Inc., New York.

—: *5,000 New Answers to Questions*, Grosset & Dunlap, Inc., New York.

—: *The Quiz-and-Answer Book*, Grosset & Dunlap, Inc., New York.

MACNEIL, NEIL, ed.: *Modern Events Quiz Book*, Blue Ribbon Books, Inc., Garden City, New York.

SMITH, DON: *Peculiarities of the Presidents*, Wilkinson Printing Co., Van Wert, Ohio.

7. A small, domestic, motion-picture projector can be used to throw a silent picture on a screen which can be seen through a window in the announcer's booth. The student announcer will be required to describe the action vividly and clearly so that the rest of the class who cannot see the picture will be able to visualize the scene through their ears. This will require vocabulary control by the announcer and concentration upon his task. Another student who has previously seen the picture can blend the necessary sound effects from recordings to make the audition realistic. Such auditions should start with simple types of motion pictures. Comedies and parades should be practiced.

CHAPTER XI

PREPARING THE RADIO ADDRESS

1. Write a 2-minute speech on something you have observed during the day, following the principles outlined in the chapter. In your selection of material, how will you be guided by what to accept and what to reject?
2. Copy several complex sentences from a printed article and then rewrite them, incorporating the fundamentals of proper radio sentence structure.
3. Select a descriptive sentence from some article and rewrite it in such a way that the description is addressed to an individual. Use the second-person pronoun.
4. Criticize a radio address upon the following points:
 - a. Conversational style of the speaker.
 - b. His choice of words.
 - c. Sentence structure.
5. Make a list of ways to attract interest in the opening of a radio address.
6. Write to the broadcasting services of some universities which broadcast programs requesting copies of radio talks. Criticize these.
7. Request Columbia Broadcasting System, 485 Madison Avenue, New York, to put your class on the mailing list for its publication *Talks*.
8. What visual material, slides, photos, models, specimens, motion pictures can be used to remake a selected radio talk into a TV show?

CHAPTER XII

RADIO IN THE PUBLIC SERVICE

1. Listen to the local stations and report upon all community and public-service programs.
 - a. Are they presented during the morning, afternoon, or evening?
 - b. Are they prepared, presented, and conceived by the station or by local groups or individuals?
2. Originate and plan additional programs to serve the local audience. Submit these to the local station manager. Report upon his reaction to your suggestions.
3. Classify programs being broadcast in the public service into sustaining and sponsored programs. Which have the greater audience appeal? Why?
4. Evaluate the programs that are broadcast to appeal to the community to determine whether they are entertaining as well as instructive. If they are not, suggest methods by which the audience appeal may be increased.
5. If your community has an outlet station for a network and also a local station, evaluate the programs over both to determine which type of station serves the community better.
6. By personal interviews determine the influence of the local station upon the community.
7. Visit your city health department and discuss with the health officer a

program of current interest which might be presented over the radio. Prepare such a program with his cooperation.

8. Present a radio dramatic version of a medical fact; then present a straight talk on the same topic. Which method of presentation results in the more lasting impression upon the audience? Dr. Bauer of the American Medical Association, 535 North Dearborn Street, Chicago, has a great number of scripts on medical subjects. It is possible to obtain from him mimeographed copies of some of these scripts and various instructions and informative papers on different phases of medical radio programs. Also, ask for the Radio Handbook of the Bureau of Health Information.

9. I have found that my students in writing courses are offered outside opportunity to practice the preparation of radio skits. The Bar Association of the state was eager to have a series of programs prepared to familiarize the public with the service rendered by the lawyer. The legal group furnishes facts to be used in the preparation of such programs, which combined the dramatic and discussion, and the students prepared the continuity, which was then submitted to the committee of lawyers before it was put on the air. Another group that appealed to the university was the Forty-Plus Club, which requested that the students prepare dramatic programs for these men over forty, who are seeking employment. Such programs offered problems that had to be met by those in the writing class. Historical groups, medical societies, and other organizations need aid in preparing their programs which may be obtained through the writing class and the workshop.

CHAPTER XIII

MUSICAL MIKE

1. Arrange a half-hour program of dance music. How would you unify the program? How will your announcer relieve the monotony?

2. Prepare a musical program understandable and of interest to children. Write the continuity to be included in the program. Make the program lively, entertaining, and instructive.

3. Tune in on a musical program. Criticize it from the standpoint of balance, timing, monotony, selection, continuity. How could the faults, if any, have been eliminated?

4. Write to WQXR, 730 Fifth Avenue, New York, for a sample of its program schedule and study the musical programming. The Zenith FM station in Chicago also does a fine job.

5. You will hear a great deal about ASCAP. Write to the American Society for Composers, Authors, and Publishers, 30 Rockefeller Plaza, New York, for *The ASCAP Story*.

CHAPTER XIV

THE PREPARATION OF CHILDREN'S PROGRAMS

1. Classify and analyze the so-called children's programs broadcast by a local station during a single day.
 - a. "Kiddie" programs (for those under eight), children's programs (for young listeners over twelve).
 - b. Dramatic, musical, or storytelling programs.
 - c. Instructive, entertaining, harmful, innocuous programs.
2. Listen to a program and criticize it from the standpoint of:
 - a. Clarity for child comprehension.
 - b. Interest for the listener.
 - c. Plot.
 - d. Personality and voice of performer.
 - e. Percentage of commercial copy.
3. Write the opening skit (15 minutes) of a series of broadcasts for boys based upon the Tom Swift books.
4. Select an historical incident that may be used as the plot for a play arranged for children. It must be interesting, informative, accurate, and have plenty of action.
5. Prepare a program of poetry that will interest children.
6. Discuss the statement, "The majority of children's programs now on the air are emotionally overstimulating and have undesirable effects upon the characters of the young listeners."
7. Of what value is the child audience to the radio advertiser?
8. Many children's plays require the dramatization of such characters as frogs, fishes, dolls, dogs, etc. Attempt to evolve speech modes that might be used by these characters—for instance, how would a frog talk?
9. Get some of the albums of recorded children's stories and observe how they are done: music, sound effect, voices, etc.
10. If your school has a film library, check over the films that would make good TV shows for children.
11. How about a puppet show?

CHAPTER XV

BROADCASTS TO SCHOOLS

1. Make a comparison of the educational programs presented by the networks with those presented by near-by educational institutions over the radio. Requests addressed to the N.B.C. and the C.B.S. in New York and to the educational institutions will bring you announcements of their educational programs. Which have the greatest local value? Why?
2. Write to the stations heard in your locality for a weekly announcement of all radio programs. Draw up a list of all educational programs available to schools in your area.

3. Using the above schedule, divide the broadcasts among students in the class so that each student will evaluate a program.
 - a. What is its age or class level?
 - b. In what courses may it be used?
 - c. Why is it good or valueless?
 - d. Type of program, length, hour, day, station.
4. What sponsored programs may justly be considered educational? How do they compare in value and presentation with sustaining educational programs?
5. Prepare visual aids to be used in conjunction with a program to be received in the classroom.
6. Write a 15-minute program addressed to a definite grade and course. Prepare advance material to be of value to teacher, also follow-up suggestions.
7. Visit a classroom in which an educational radio program is being received. Report on the visual aids used, student attention, teacher attitude, reception, the program itself, and what the class retained from the program.
8. Write to the various boards of education in cities (Cleveland—WBOE, Detroit—WDTR, Chicago—WBEZ, Ohio State University—WOSU) where school broadcasting is extensive and obtain from these sample scripts and other informative material.
9. Write to the Chicago Radio Council for some of the teachers' guides that are used for educational programs and observe the things that should be done by the teacher in the classroom receiving a program. Build one program of an educational nature and make out a teacher's guide for that program.
10. List all educational programs that are heard in your area and make available to all the teachers of your schools such a listing.
11. What educational films could be best used for TV shows to the schools?

CHAPTER XVI

WRITING THE RADIO PLAY

1. Listen to and analyze a radio play.
 - a. Type of plot.
 - b. How much of the program time is devoted to the play?
 - c. Number of main characters.
 - d. How are characters identified?
 - e. Is there a contrast of voices?
 - f. How is the scene set?
 - g. How are the transitions or scene changes made?
 - h. What are the sound effects?
 - i. Were they essential?
 - j. How important to the play was the announcer or narrator?
2. The radio skit must introduce characters and plot quickly. Write the first 100 words of a skit introducing essential characters, plot, mood, and setting.
3. Dramatize and cut for a 10-minute radio play a story by O. Henry, Bret Harte, Morgan Robertson, or other short-story writer.

4. Use some school or college situation (*The Blind Date*, *The Rooming-house Bath*, *Behind First Base with a Girl*) as a plot foundation. Write an 8-minute skit.

5. Write a brief radio skit using the same plot for the radio presentation and for a stage presentation. Present the radio version to one group of students and the stage presentation to another group, and try to ascertain which group got more out of the presentation.

6. The United States Department of the Interior, Office of Education, has established an Educational Radio Script Exchange, from which various types of manuscripts may be obtained for analysis. It is helpful to place the students in charge of the script library and have them solicit copies so that there will be enough for the casts of the plays when used in the classroom.

CHAPTER XVII

WRITING THE RADIO SERIAL

1. Analyze a radio serial which is presented five days a week. How much advance is made in plot development during the week? Is plot or characterization more important?

2. The series of radio skits is very much like a comic strip in a newspaper. Frequently the cartoonist will use a strip to summarize the action of the past month. Write a summarizing program for a series of radio skits.

3. At the University of Michigan, we took the report of a trial and from that transcript we started a serial—first the facts in an auto accident, the selection of a jury, then the testimony of witnesses, the charge to the jury, and finally the decision of the jury. The program became an interesting and informative serial. Try something like that.

CHAPTER XVIII

DIRECTING THE RADIO PLAY AND THE ACTOR

1. Through correspondence with stations and from the newspaper schedule of radio programs, list all dramatic programs that may be heard in your locality. Tune in on these plays and criticize.

2. Attend the rehearsal of a radio play in the studio of your local station.

3. Select short stories or one-act plays that could be satisfactorily adapted for radio presentation and justify your choice:

a. For a youth (over twelve years) audience.

b. For an evening adult audience.

4. Having adapted the play for radio, cast it from among your classmates.

5. Direct the reading of the play. Watch for a read-y style, interpretation, characterization.

6. Rehearse the plays obtained from the Educational Radio Project, U.S. Office of Education, Washington, D.C.

7. Refer to Project VI.

CHAPTER XIX

TELEVISION PRODUCTION

1. Someone in the class must have an 8- or 16-millimeter motion-picture camera. Write a television play after studying some of the books in the bibliography on TV production. Produce the play. Use the motion-picture camera in place of a TV camera. Then show the developed film on a 16-inch screen. The result when analyzed will illustrate some of the problems of TV.

2. Build TV sets and act out a play. View the play through pieces of cardboard in which have been cut 5-by-7-inch oblongs. What you see through the holes would be what you see upon a TV screen. Do you cut off the legs of actors? Can you get them all in one frame? Is the cast well balanced?

3. Would any of the motion pictures procured by your class in Project IV make good TV shows for a general audience?

CHAPTER XX

SOUND EFFECTS

1. Make a card index of how all manual sound effects are made. Cross-index this so that when you are required to prepare a sound for broadcast you merely have to refer to the card index. (See chapter on Sound Effects.)

2. From the yearbook *Broadcasting Magazine* obtain a list of manufacturers of sound-effects recordings. Obtain their catalogues for your sound-effects library.

3. Write a script using all possible, logical sound effects, then rehearse this script.

4. Refer to Project IV.

CHAPTER XXI

RADIO HUMOR

1. Just try to be funny.

2. Get a group of three or four together. Agree on a comedy situation. Write your jokes around that situation. Don't use any old jokes unless they are rebuilt. Usually you should have at least 100 jokes for a 15-minute program and then trim it down to about 45. Never tell a joke the way you heard or read it. Make it fresh.

CHAPTER XXII

THE BUSINESS SIDE OF RADIO AND TV ADVERTISING

1. You are preparing to approach a merchant with the idea of selling him time upon the local station. Prepare a prospectus showing station coverage, the cost, the advantages, the tie-in campaign, and the program to be presented.

2. Make a survey of local merchants.

- a. Interview those who are advertising by radio. Are they satisfied with the results?
- b. Interview those who are not advertising by radio. Why not?
3. Analyze a number of commercial programs. How much time is devoted in each to straight advertising? What proportion of the program period?
4. Originate new methods to tie the entertainment continuity to the commercial copy. Evolve names for programs which are catchy, which suggest the product, and which will be published in the newspaper announcements that eliminate free advertising.
5. The Manufacturer of Ironclad Overalls has decided to broadcast a series of 5-minute advertising programs.
 - a. Decide upon a name for the series.
 - b. Decide upon a time for presentation.
 - c. Will the programs be given over a network, by transcriptions, or by spot programs?
 - d. Create a distinctive idea for such a series.
 - e. Plan and write continuity for the first program.
 - (1) To what extent will music be used? For what purpose? What selections?
 - (2) Will the program be in the form of skits, talks, or dialogues?
 - (3) How will the advertising material be tied into the program material?
 - (4) Number of voices required. Types.
 - f. Outline the remainder of the series.
6. Enlist the aid of those in the radio department of advertising agencies to explain the relation of the advertising agency to broadcasting.

CHAPTER XXIII

WRITING COMMERCIAL CONTINUITY

1. Listen to the commercial continuity from your local station and criticize. What type of copy seems to have the greatest sales force? Why?
2. Listen to any advertising plug broadcast over a national hookup and evaluate the copy and its presentation.
3. Make a comparison of the commercial copy used over the radio to advertise a product with the copy printed in magazines to advertise the same product.
4. Go to your local station and obtain copies of its used commercial continuity for class examination. Endeavor to emulate the copy for the same product.
5. Using a newspaper advertisement as the basis, prepare a 100-word commercial announcement for radio.
6. Write a series of dramatized commercial continuity slanted toward:
 - a. Human interest.
 - b. Economy.
 - c. Hospitality.
 - d. Personal appearance.

7. Examine commercial announcements over the local station.
 - a. If straight commercial announcements are used, do they give the listener some interesting and worth-while information about the product?
 - b. Do they tell the story in a pleasant manner?
 - c. Are they positive, or do they have a tendency to belittle a competitor's story?
 - d. Do they ring absolutely true?
 - e. If you were actually calling on the listeners personally, would the same story be used in the same way?
 - f. Are they so technical that the layman cannot understand or be interested?
 - g. Are they in good taste? Human nature does not like to hear or discuss disagreeable things unless compelled to.
 - h. Does the commercial part of the program harmonize in spirit and tone with the rest of the program?
8. In the text, a series of "Do's" for writers of commercial copy has been given. The "Do's" were given because of the statement that commercial copy should be positive, not negative. You write a series of "Don'ts."

CHAPTER XXIV

THE MAKING OF A RECORDING

1. Working with your control operator, learn how to spot a record.
2. If your radio does not subscribe to *Broadcasting-Telecasting Magazine*, it should. Be sure to get the yearbook which is included in the subscription price. Look in the list of transcription libraries and write each for material on transcriptions, sample continuity, etc.
3. Arrange with distributors in your locality for demonstrations at your school of tape and disc recording equipment.
4. Use your tape recorder to make sound recordings of traffic, thunderstorms, crowds, etc.
5. Write for *Setting Up a Recordings Library*, reprinted for radio service, U.S. Office of Education, from the *Educational Research Bulletin*, Vol. XXIII.

CHAPTER XXVII

RADIO AS A VOCATION

1. Induce members of the staff of the local station to appear before the class and be interviewed concerning their work.
2. Make out a station organization chart of a local station showing relation of employees to one another, number of employees, etc.
3. Check with local station on the qualifications required of different employees.

SPECIMEN PROFESSIONAL SCRIPTS

CBS IS THERE

Lincoln's Assassination¹

BY ROBERT LEWIS SHAYON

The imaginative experience for the listener in "LINCOLN'S ASSASSINATION" is the triumph over death. The story is on an epic scale: a great hero, in his hour of victory, struck down by a vengeful madman. Booth's act is horrible because it is so illogical, pointless, fruitless, devoid of any purpose but anarchy and chaos. It is a symbol of all violations of man's sense of justice, order and meaning. As such, the epic can be felt in intimate, personal terms. Its terror is instantly communicated when the curtain rises, because we know what Lincoln, the reporters, and the people of the time do not—that this is the hour of the President's murder. The note of joy which pervades Washington is all the more poignant for us. Then as the President enters Ford's Theatre, takes his chair in the fateful box and "Our American Cousin" continues, the pure radio device begins to weave its powerful spell. We are no longer observers: we are the unknowing victims. When the shot rings out, it is we who are mortally hit. The panic, the fears, the rage are ours: so is the torturous waiting for the end. But as the moments pass heavily, we begin, in the reactions from world capitals, to rise above the shock, to master it, to experience the resurrection: and when Secretary Stanton delivers his famous (apocryphal) line, "Now he belongs to the ages!"—we know that Wilkes Booth has failed, and that when time has turned the ambivalent moment from pain to glory, Lincoln, the mortal, will be dead, but Lincoln, the immortal, is alive.

This broadcast was the first in the series "CBS IS THERE" (latterly "YOU ARE THERE") re-creating historical events by way of the on-the-spot radio reporter method. Originally suggested by Goodman Ace, I gratefully acknowledge the assistance of a company of writers, technicians and some of radio's finest actors in developing it. Its many awards and world-wide recognition are clear evidence that what we call history is vital human experience ever waiting to be re-thought and newly lived in fresh, contemporary terms.

¹The script is reproduced here by courtesy of the author and of the Columbia Broadcasting System.

COLUMBIA BROADCASTING SYSTEM (Repeat)

"CBS IS THERE"

NO. 13 LINCOLN'S ASSASSINATION—APRIL 14, 1865

SUNDAY, DECEMBER 14, 1947

2:00—2:30 P.M. E.S.T.

CUE: (COLUMBIA BROADCASTING SYSTEM)
(..... 30 seconds))

- 1 *Cast & Sound: Crowd outside theater. Horns, cow-bells, church bells pealing—boat whistles on river*
- 2 DALY: Good evening. This is John Daly standing in front of Ford's Theatre in Washington, D.C. This is indeed a red letter night in the history of Ford's Theatre, April 14, 1865, because tonight President Abraham Lincoln and his party will attend a special charity performance of the celebrated English comedy, "OUR AMERICAN COUSIN." (*Fades*)
- 3 MAN: (*Echo*)
Time: April 14, 1865
Place: Washington, D.C. CBS IS THERE!
Inside the theatre the curtain has already gone up. Outside here in front of the theatre, the crowd of curious spectators stand around waiting the arrival of the President's carriage . . . (*Out Daly and crowd*)
- 4 ANNCR: (*Normal*)
Abraham Lincoln at Ford's Theatre. CBS takes you back 82 years to one of the great dramas in our nation's history. All things are as they were then, except for one thing.
- 5 MAN: (*Echo*)
CBS IS THERE!
- 6 ANNCR: "CBS Is There"—produced and directed by Robert Lewis Shayon—is based on authentic historical fact and quotation. And now . . .
- 7 MAN: (*Echo*)
WASHINGTON—APRIL 14, 1865—AND JOHN DALY . . .
- 8 DALY: (*Fades back with crowd noises*) . . . the elements might have been kinder here in Washington but the damp and misty weather in Washington tonight has not dampened the ardor of the crowds who for four days now have been wildly celebrating the surrender of Lee to Grant. The people here are in high spirits, gathered around Ford's Theatre, which is a three story, red stone building, windows and entrance in grey. Taltavull's Saloon on the right, and Ferguson's Saloon on the left, are jammed. The windows and doors of the houses along both sides of the streets are open, people hanging out of them for a look at the President. Although the curtain has gone up on the play, members of the cast who are not on the stage at the moment, stand around in their costumes for a look at the President—there's John Dyott, Mrs. Helen Muzzy, Young Miss Jane Goudy, there's John Wilkes Booth, the handsome, dashing Shakespearian favorite; he's not in the performance tonight. And I think I see over there—yes, yes—there's Mr. Harry Ford, one of the three brothers who manage this theatre. Now if I can just get to him—excuse me please—let—let me push through here. I'm sorry—watch this cable, please. Oh Mr. Ford—Mr. Ford—this is CBS, you have a great crowd here tonight

- 9 FORD: Yes, the theatre is sold out.
- 10 DALY: Have you raised your prices for tonight?
- 11 FORD: Tonight's a charity benefit—the orchestra is one dollar—the dress circle and the parquet seventy-five cents, and the family circle is twenty-five cents.
- 12 DALY: I see. And this is the second time President Lincoln has attended your theatre, isn't it, Mr. Ford?
- 13 FORD: Yes and tonight he's going to sit in the same box—and I brought in that old rocker he likes.
- 14 DALY: I thank you very much, Mr. Ford, I think I see John F. Parker, the president's personal guard arriving on foot. Evidently he has come ahead of the President to be on hand when the President and his party arrive—now if I can get through to him—excuse me please—let me through here—just a little bit—please—Mr. Parker—Oh Mr. Parker—this is CBS, Mr. Parker—has the President's carriage left the White House—is he on his way here?
- 15 PARKER: Yes, he and Mrs. Lincoln left about ten minutes ago to pick up Major Rathbone and Miss Harris.
- 16 DALY: Well, aren't General Grant and Mrs. Grant in the party?
- 17 PARKER: No. They were supposed to come—but General Grant left on the evening train for Burlington.
- 18 DALY: Oh that's too bad—we had hoped to see the General as well as Mr. Lincoln. By the way—who is Miss Harris?
- 19 PARKER: That's Miss Clara Harris, daughter of the Senator from the State of Maine.
- 20 DALY: Oh yes, of course—and Major Rathbone is an attaché at the War Department.
- 21 PARKER: That's right. Oh, here comes the President's carriage now—
(*Crowd reaction*)
- 22 DALY: Yes, yes, the President's carriage is just coming down Tenth Street. It has crossed F Street and is going to pull up right here at the carriage platform. The President is smiling, bowing, and doffing his high black silk hat to the crowds, and the band that has been waiting here for this moment is picking up its instruments and getting ready to play. Burns, the coachman, is slowing up the horses now—and the carriage is stopping. Forbes, the footman, jumps down to assist the party as they get out—Mrs. Lincoln and Miss Harris are getting out—and now the President—followed by Major Rathbone. (*Cheers*) The band wants to play a tune, and they're asking the President what he wants to hear—But it'll probably be Yankee Doodle, Marching Thru Georgia or Rally Round the Flag. The President just said something to the band leader—but in all of this racket I just can't hear what he's saying.
- Music: Band hits "Dixie."*
(*Excitedly*) Do you hear that—it's "Dixie"—Mr. Lincoln has asked the Union band to play the Confederate song—and they have responded with a will.
- Music: Holds for one chorus and the crowd picks up the song—then cheers.*
I hope you can hear me above this din—the crowd understands the meaning of Mr. Lincoln's request—it's his policy of forgiveness and

reconciliation with the South—of harmony for the nation. The war is over—the United States of America is now one great nation. Now Mr. Ford is leading the way to the theatre—up the grey stone steps. Oh—Mr. Lincoln is just a few feet away—Oh Mr. President—Mr. President—Mr. President. This is the CBS—May I ask you a question please?
(*Crowd quiet*)

23 LINCOLN: Fire away.

24 DALY: Well, as you know Mr. President, the newspapers and a part of the clergy have been opposed to your practice of attending the theatre—and I'm sure that—

25 LINCOLN: Yes, I know. Some think I do wrong to go to the opera and the theatre. But it rests me. I love to be alone, and yet to be with the people. I want to get this burden off, to change the current of my thoughts. A hearty laugh relaxes me. And I seem better able after it to bear my cross.

26 DALY: I understand, sir.

27 LINCOLN: Good night.

28 DALY: Good night, Mr. Lincoln. And thank you. (*Crowd cheers*) And now we are following the presidential party into the theatre, now—that is if I can make my way through this crowd—Thank you—oh, I'm sorry—just a minute—one bit further—watch the cable—watch the cable, please—let me through here—will you? (*Lose exterior crowd*) Well—I'm in the theatre now. (*Pick up stage on echo*) The Audience doesn't know the President has arrived yet. The ladies might be interested, by the way, to know that Mrs. Lincoln is wearing a white silk crinoline under her cloak—an elaborate headdress of flowers and combs over her curls—silken mittens, and a shawl held together at her throat with a brooch. The President seems to have lost a lot of weight, but oh he looks happy to-night, very happy. And now the party is turning right and going upstairs to the boxes. We'll be in there in just a minute.

FLO: There is nothing I'd really like better now, Lord Dundreary.

LORD D: Oh would you, now? Ha ha. (*Crowd laughs*)

FLO: And I would also like to discuss with you the little matter of our American cousin, Mr. Asa Trenchard.

LORD D: Dear me—what an undistinguished name.

FLO: I don't see anything undistinguished about it. I think it is quite distinguished.

LORD D: Do you now? Asa Trenchard. Ha Ha Ha (*Crowd laughs*) Asa Trenchard. Ha Ha. (*Crowd laughs*)

29 *Music: Pit orchestra plays "Hail to the Chief"*

30 *Cast: Applause—Cries of Lincoln . . . The President . . . God save the Union . . . Cheers*

31 DALY: The audience has caught sight of the President. The play stops. The orchestra strikes up "HAIL TO THE CHIEF." And now I've reached the dress-circle floor. As I head for the CBS booth directly across the theatre from the President's box—I can see the President going into his box at the right.

32 *Sound: Door opens*

33 DALY: Well—we're in the CBS box now, and we have Columbia micro-

phones on the stage and in the audience. I'm going to open them both and let you hear what's going on.

Music: Comes in to finish . . . Sustained applause . . . Cheers . . . Cries . . .

The President is in his box now. The audience is standing. Mr. Lincoln is acknowledging the welcome. Beaming, he nods his head and waves to the jam-packed crowds. And now motioning towards the stage and the interrupted play, Mr. Lincoln sits down. The ovation continues, but following the President's lead, slowly and almost by sections, the audience resumes its seats and the play will resume in just a moment. (*Crowd talks*)

DALY: "OUR AMERICAN COUSIN" by Tom Taylor is an eccentric comedy, as many of you probably know—a popular favorite, having been performed at least a thousand times. The play revolves around a typical, drawing Yankee in England who lights his cigar with an old will, burning the document to ashes, thereby throwing a fortune into the hands of an English cousin. (*Down*) And now the CBS microphones on the stage will pick up some of the dialogue. (*Slight echo*) Lord Dundreary, a silly, foppish Englishman, is being teased by Florence, the heroine, played by the star, Miss Laura Keene.

34 FLO: She is a great sufferer, my dear.

35 LORD D: Yes, but a lonely one.

36 FLO: What sort of a night had she?

37 LORD D: Oh, a very refreshing one, thanks to the draught I prescribed for her.

38 *Cast: Laughter*

39 FLO: What? Have you been prescribing for Georgina, Lord Dundreary?

40 LORD D: Oh yes. Yes, quite. You see, I gave her a draught that cured the effect of the draught. (*Laughter*) And that draught was a draft that didn't pay the doctor's bill. (*Laughter*) Didn't that draught . . .

41 FLO: Good gracious! What a number of draughts! You almost have a game of draughts.

42 LORD D: Ha! Ha! Ha!

43 *Cast: Laughter*

44 FLO: What's the matter?

45 LORD D: That was a joke, that was. Ha! Ha! Ha!

46 *Cast: Laughter*

47 FLO: (*Aside . . . ad lib*) Anyone can see the draft has been suspended!

48 *Cast: Laughter from audience*

49 DALY: Miss Keene has very neatly injected a bit of the national Peace celebration into the play. With Lord Dundreary making so much of the word draft, Miss Keene threw in the line "anyone can see the draft has been suspended"—and everyone in the audience knows that General Grant suspended the military draft this very morning. That was quite keen of Miss Keene, if I may be permitted the pun. The President enjoyed the joke, too. He's smiling broadly. The play continues and we'll take you again to the stage presently but on this gala night, the audience is as interested

ASA: Waal now, Mrs. Mountchessington. I've been sort of looking forward to meeting you.

in the presidential party as they are in the play, although, because of the angle at which the box is set, they can only see Miss Harris and Major Rathbone. The presidential party is occupying boxes number seven and eight, the partition between them having been removed to make it roomier. The boxes are decorated with four flags, and the President is seated in that old rocker Mr. Ford told us about before. There's a chair at the door of the box in which John Parker, the guard, is sitting. He can't see the stage, but he can hear the actors' voices. Oh, evidently John Parker wants to see *and* hear, for he is now getting up from his chair and taking a seat in the dress circle with a clear view of the stage. Mrs. Lincoln is seated on the President's right. From time to time she leans over on his arm and they exchange a few words.

The President appears completely relaxed. Perhaps his mind is on other things.

Perhaps he is looking at his wife and thinking: "We have had a hard time since we came to Washington, but the war is over, and with God's blessing we may hope for four years of peace and happiness, and then we will go back to Illinois and pass the rest of our lives in quiet."

But then it's more likely that Mr. Lincoln is just plain enjoying himself tonight, for the President is listening with obvious pleasure to Mrs. Mountchessington, an English lady in the cast, and Harry Hawk, who is playing Asa Trenchard, the American cousin.

And now once again—our microphones on the stage pick up the play.

Mrs. M: Indeed, Mr. Trenchard?

ASA: Yes ma'am. Back home where I come from—folks don't often get to meet up with aristo-aris . . . aristocra . . . there you see now—I don't even know how to pronounce the blame fool word.
(*Crowd laughs*)

Mrs. M: The word is aristocracy, Mr. Trenchard—and I am moved to ask you whether or not it is customary for children to attend school in America?

ASA: What kind of school, ma'am, public or private?

Mrs. M: In England a public school is a private school and a private school is a public one—if you know what I mean . . .

ASA: Frankly, ma'am, I don't.
(*Crowd laughs*)
And I don't see how you can.

Mrs. M: One can easily see that you are a provincial, Mr. Trenchard.

ASA: Now, there you go—talkin' that high falutin' language, Mrs. Mountchessington. Don't you folks ever come out of the fog in England? (*Crowd laughs*)

- 50 MRS. M: I am aware, Mr. Trenchard, you are not used to the manners of good society, and that alone, will excuse the impertinence of which you have been guilty.
- 51 *Cast: (Laughs)*
- 52 DALY: Mrs. Mountchessington flounces off in aristocratic dudgeon leaving the drawling Yankee alone on the stage.
- 53 ASA: (*Soliloquizing*) Don't know the manners of good society, eh? Well, I guess I know enough to turn you inside out old gal . . . you sock-dologizing old man-trap.
- 54 *Cast: Laughter*
- 55 *Sound: Muffled shot from small pistol*
- 56 DALY: What was that? That sounded like a shot—but there's no shot in the play. One moment. (*Up*) Oh, Major Rathbone is struggling with a man in Mr. Lincoln's box; a man who is stabbing wildly at him with a knife. Major Rathbone is giving ground before that knife—and now his attacker has leapt over the railing. He's on the stage.
- 57 MAJOR R: (*Shouting*) Stop that man! Stop that man!
- 58 DALY: The man has risen. He's running across the stage. He's gone—through the stage-exit directly under this box. That was Major Rathbone who shouted "Stop that man!" Someone in the audience has leaped over the footlights after him. Something has happened. Something is terribly wrong. This is *not* part of the play. Blue smoke is curling from President Lincoln's box. I can't see him, Miss Harris and the Major and Mrs. Lincoln are surrounding him.
- 59 MRS. L: (*Screams*) He has shot Mr. Lincoln!
- 60 DALY: (*Shouts*) President Lincoln has been shot! That was Mrs. Lincoln who just cried—He has shot Mr. Lincoln. The man did it . . . the man who ran across the stage . . . the man who grappled with the Major.
- 61 *Sound: Door opens*
- 63 WOMAN: What is it? What has happened? Tell me—What's happened?
- 64 DALY: Someone has shot Mr. Lincoln.
- 65 MAN: It was Booth—
- 66 DALY: Who?
- 67 MAN: John Wilkes Booth.
- 68 DALY: One member of this frantic crowd has identified Mr. Lincoln's attacker. He says it was Booth, the actor. John Wilkes Booth. We'll try to get someone who was in or near Mr. Lincoln's box.
- 69 DALY: Let me through here, please. Watch that cable—watch it. Let me through. Just push a little harder. Thanks. Thanks. Please. The whole theatre is in an uproar. Everyone is standing, running up and down the aisles. Women are moaning, fainting. Miss Keene is handing water up
- Cast: Confusion*
- MAJOR R: A surgeon . . . please—A surgeon!
- MISS KEENE: Quiet, keep your seats, please . . .!
- WOMAN: No, no, for God's sake, it can't be true. Mr. Lincoln . . . the man shot Mr. Lincoln . . .
- MAN: Booth . . . Booth . . . kill him . . . hang him . . . burn him. . . .
- Confusion*
Screams
Cries from men

- to Mr. Lincoln's box. Watch the cable please! Men are lifting up an Army sergeant . . . on, an Army surgeon up on their shoulders. The stage is swarming with people. We'll be through to Mr. Lincoln's box now in just a second.
- 70 SOLDIER: Stand back . . . back!
- 71 DALY: A soldier is blocking the door, his bayonet poised. The soldier is weeping. Tears are streaming from his eyes. There's an officer. Lieutenant! Lieutenant!
- 72 LT: Lt. Crawford, Sir.
- 73 DALY: Lt. Crawford! What happened?
- 74 LT: I was sitting in the seat, nearest the door to Mr. Lincoln's box. I saw Booth go in . . .
- 75 DALY: Just walk in—but where was Mr. Lincoln's guard?
- 76 LT: I don't know. I heard a shot. I saw Booth leap over the railing. His spur caught in the flag as he jumped. It ripped the flag—it broke his fall—maybe broke his leg.
- 77 DALY: You're certain it was Booth?
- 78 LT: I'd swear it.
- 79 DALY: What did you do? Did you get into President Lincoln's box?
- 80 LT: I rushed it—but the door was barred. Booth had barred it when he went in—from the inside. We broke through. Major Rathbone let the doctors through—only the doctors. Look—have they caught Booth. Did he get away?
- 81 DALY: Just a minute, Lieutenant. The door is opening. Four soldiers are carrying Mr. Lincoln out. (*Up*) Where are you taking him? Are you taking him to the White House?
- 82 DOCTOR: No, no . . . not to the White House!
- 83 DALY: Doctor, doctor—is the wound mortal? Will Mr. Lincoln live?
- 84 DOCTOR: Guards! Clear the passage! Clear the passage!
- 85 GUARDS: (*Shouting*) Clear out . . . clear out . . . clear out!

SOLDIER: Back—back! Everyone back!

*Sound: Screams
Cries
Confusion*

- 86 DALY: President Lincoln is being carried out of the theatre now. Two more soldiers join the four who are carrying him. Tenth Street is jammed with people who have heard the news. It is a wild, awed, panic-stricken, swirling mob. The guards are having a hard time breaking through the mob—crossing the street. The long roll you hear is the alert being sounded. There's a light in a house. The door is open and a man stands at the door with a candle, calling to the group carrying Mr. Lincoln. They're taking the President in there. The number is 453 . . . 453 Tenth Street. (*Up*) Anybody know who lives in that house?
- 87 MAN: Peterson . . . it's the Peterson house!
- 88 DALY: It's the only house available! The President's White House Guard is thundering into the street now. Perhaps you can hear the ring of their horses' hoofs on the cobblestones. They're flashing their sabres and clearing the street. President Lincoln has been shot! There has been so much excitement. Only now the full horror of what has just happened at Ford's Theatre is beginning to dawn. We will stay here in front of the Peterson house to bring you immediately any reports on Mr. Lincoln's condition. But we have just been informed that something has happened elsewhere in Washington that we don't know of here on the scene. And so we return you now to our studios!
- 89 *Biz: Cut*
(*Pause*)
- 90 *Sound: Newsroom teletype—phone ringing—ad lib*
- 91 CALMER: I'll give you the bulletins as fast as they come in, Quincy, as soon as we get it back from Daly down there on the street. Right?
- 92 HOWE: How much time have I got? How long am I on?
- 93 CALMER: Wait! Wait! You're on the air!

Cast: Exterior—
shouts, screams
. . . confusion
. . . curses . . .
long sustained

Sound: Hoofs of horses
ringing on
cobblestones

Sound: Maximum peak
of crowd
terror

- 94 HOWE: (*Quietly nervous*) This is Quincy Howe. John Daly has just announced that an attempt has been made on the life of Abraham Lincoln at Ford's Theatre. Secretary of State Seward has also—oh, wait—wait—here's the bulletin—here's the bulletin. Secretary of State Seward has been attacked. A man entered the Seward house on Lafayette Square in Washington tonight. He overpowered all resistance, gained entrance to the Secretary's bedroom and slashed at Mr. Seward with a knife. It is not known whether the attacker was John Wilkes Booth or an accomplice, nor whether the two attacks were connected. Now here's Ned Calmer with more bulletins.
- 95 CALMER: All Washington is in a state of panic—this terrible night of April 14, 1865. There are wild rumors that the entire cabinet has been murdered—that General Grant has been assassinated—that the war is not over. There is no evidence, as yet, that these other wild rumors are true. I repeat—the other rumors are not true. Secretary of War Stanton has arrived at the house on Tenth Street where Mr. Lincoln has been taken—He is in complete charge of the situation. Now again, Quincy Howe.
- 96 HOWE: John Wilkes Booth has escaped. He left Ford's Theatre by a rear-door, leaped on a horse waiting for him there and dashed off into the darkness—a member of the audience chased him—missed him narrowly just a matter of inches. Booth left Washington by the Navy Yard Bridge where a sentry challenged him and he gave his true name—John Wilkes Booth.
- 97 CALMER: The following is the fiend's description. Age: twenty-six—lithe and sinewy of body—having probably a broken leg—intense of speech and behaviour. Height: five feet, eight . . . weight: one hundred, sixty pounds—hair black, eyes black, heavy dark eyebrows; wears a large seal ring on little finger; when talking moves his head forward, looks down.
That is John Wilkes Booth. Rewards totalling one hundred thousand dollars have been offered for his capture. Armed pursuit-groups are after him already.
- 98 HOWE: Booth *must* have had help. He could not have committed this crime alone or without careful preparation. Who was the man who slashed Secretary of State Seward? Who crossed the Navy Bridge a few moments after Booth? Why did Booth try to see Vice-President Johnson this afternoon—then leave his calling card when he failed? Why and by whom were the telegraph wires cut out of Washington? Where was the President's guard, John F. Parker? How could Booth have *possibly* gained entrance to the President's box without being challenged? These are some of the questions that the tragedy has raised in our bewildered Capital here. How deep do the roots of this plot go? Does the trail perhaps lead directly to persons highly placed in the government? A note has just been handed to me. John Daly, in front of the Peterson house, has news of President Lincoln's condition. So we take you now to the Peterson house.
- 99 Biz: *Cut studio*
- 100: *Bring in crowd outside Peterson's home*
Whistles

Carriage passing

Horses' hoofs on cobblestones

- 101 DALY: This is John Daly in front of the Peterson house where President Lincoln was carried after he was shot in Ford's Theatre, across the street. The President is sinking swiftly. He has not regained consciousness since Booth sent a single bullet, fired at close range, into the area behind the President's ear. The surgeons cannot remove the bullet. There is nothing to do but wait. Mrs. Lincoln is in there at the bedside. So is the President's son, Captain Robert Lincoln. Tad, the President's younger son, is at the White House. He has been assured that his father will live, but this was told the lad only to quiet him. Major Rathbone was slashed about the arm and shoulder by Booth, and fainted from a loss of blood. And he has been taken home. In addition to Secretary of War Stanton, most of the cabinet members have arrived. And here comes the Secretary of Navy, Mr. Gideon Welles. Mr. Welles, Mr. Welles, this is CBS, we know how great your grief is at this moment, sir, but there are so many questions still to be answered about this frightful tragedy. Will you help us? Who is this amazing madman, John Wilkes Booth?
- 102 WELLES: (*Elderly, venerable—Speaks with deep feeling*)
This lunatic—this unspeakable Judas—is a known secessionist who did not have the courage to don the uniform of his cause.
- 103 DALY: But what possible motive do you think he could have had in committing this hideous crime?
- 104 WELLES: Only a mind deranged could give birth to such an act. It may be that he thought to kindle again the dead spark of rebellion. If so—he is as great a fool as he is a villain. The war is over. The Union will stand. Booth has done the Confederate cause more harm than he can imagine.
- 105 DALY: What about the South? What will the South think of Booth's act?
- 106 WELLES: I do not know the mind of the South—but I predict that when the men who fought with Lee, in uniform under a flag, and according to a clean code—hear of this day—they will shrink with horror from the vile deed. Assassination is not an American tradition. It never struck in this country—until tonight.
- 107 DALY: Thank you, Mr. Welles. I know that as Mr. Lincoln's friend and Secretary of the Navy—you want to go in and see him. A note has just been handed me. It says: oh and this is sad, tragic news—the President's pulse is still falling. His breathing becomes more labored. That's all the note says. As this night of unutterable gloom and sadness wears on, stern resolve melts. Great men weep openly. There is scarcely a dry eye in this crowd here. The door to the Peterson house is opening. Once again, Mr. John Hay—President Lincoln's private secretary—is coming out. Mr. Hay! Mr. Hay—over this way, please—Mr. Hay, you have been close to Mr. Lincoln. Did he have any fear that he might be struck down before his great work was finished?
- 108 HAY: (*Youthful, serious*)
Our beloved President constantly received threatening letters which

- he filed away in an envelope. In March, last month, there were eighty letters in the envelope. It was marked "Assassination."
- 109 DALY: Letters from cranks and that sort—
- 110 HAY: Yes. In 1860, in Springfield, Mr. Lincoln saw a double image of himself in a mirror. One face held the glow of life and breath, the other shone ghostly pale, white, portent of a safe passage through the first term and death before the end of the second.
- 111 DALY: That was five years ago that he had this omen of—
- 112 HAY: Yes, but only last week the President dreamed that he was walking through the White House amid the sound of great sobbing. In the East Room he came upon a coffin guarded by soldiers, surrounded by a weeping throng.
The President asked: "Who is dead in the White House?" And the soldier replied, "The President. He was killed by an assassin."
- 113 DALY: How did Mr. Lincoln feel about the presentiments?
- 114 HAY: Perhaps he answered that question this afternoon. He was walking across the White House grounds and he passed some profane, drunken men. Mr. Lincoln remarked to his guard, "Crook, do you know, I believe there are men who want to take my life. And I have no doubt they will do it. I know no one could do it and escape alive. But if it is to be done, it is impossible to prevent it."
- 115 DALY: Thank you, Mr. Hay. The tragic news of the attack on President Lincoln has spread around the world. And now CBS takes you to important European capitals. First—to Buckingham Palace in London, England—and the voice of her Britannic Majesty, Queen Victoria.
- 116 Biz: (*Cut effect*)
(*High filter*)
(*Static high*)
- 117 VICTORIA: I speak to Mrs. Lincoln. No one can better appreciate than I can, who am myself utterly broken-hearted by the loss of my own beloved husband, what your suffering must be; and I earnestly pray that you may be supported by Him to whom alone the sorely stricken can look for comfort.
- 118 BRITISH ANNCR: And now to the French Capital.
- 119 Sound: (*Static*)
- 120 Biz: (*Cut*)
- 121 Sound: (*Low static*)
- 122 FR. YOUTH: (*Low filter*) This is Paris. I am a French student, speaking for thousands of us at the Latin Quarter. President Lincoln is a fellow citizen. There are no longer any countries shut up in narrow frontiers. Our country is everywhere where there are neither masters nor slaves—where people live in liberty or fight for it.
- 123 FRENCH ANNCR: From Paris—we take you now to the Capital of Russia.
- 124 Sound: (*Static*)
- 125 Biz: (*Cut*)
- 126 Sound: (*High static*)
- 127 RUSSIAN: (*High filter*) This is St. Petersburg, Russia. I will read a message from Leo Tolstoi—our great Russian author . . . who has just been informed of the attempted assassination of President Lincoln. The message reads:

In far places over the earth, on every continent, the name of Lincoln will be worshipped and the personality of Lincoln will become a world folk legend. Many hardships and much experience brought him to the realization that the greatest human achievement is love. The greatest of Napoleon, Caesar or Washington is moonlight by the sun of Lincoln. His example is universal and will last thousands of years. Lincoln is humanity.

128 *Static (pause)*

129 We return you now to the United States.

130 *Come in with crowd outside Peterson home and quiet off mike Negro spiritual*

131 *Sound: Rain falling*

132 DALY: This is John Daly in front of the Peterson home on Tenth Street. It is past seven o'clock in the morning of April 15, 1865. President Lincoln was shot last night at ten fifteen.

Doctors say there is no hope. The long vigil will soon be over. Here outside the Peterson house a cold rain is falling. The sky is dully grey. The early morning mist is like a shroud. The hearts of men and women are overflowing with grief. Some are kneeling . . . some lift their voices in the singing of spirituals.

133 *(Singing up and down)*

DALY: We are told that Mrs. Lincoln is not in the room with the President. She has made her last farewell and is seated in a back parlor. Captain Robert, the President's son, is leaning on Secretary Stanton's arm. He has borne himself well. Only twice has he given way to his overwhelming grief. The Reverend Dr. Gurley has spoken a prayer. For Abraham Lincoln there will be black borders on the newspapers today—anguished sermons on Resurrection Sunday—tomorrow. There will be the lying-in-state, the lonely train, the slow journey, the final resting place. There will be the end of the mortal but the beginning of the immortal. For Abraham Lincoln will live on—in the Union he has saved—in the freedom he has given—in the dreams he has dreamed—in the vision he has seen—the vision—under God—of a new birth of freedom; government of the people, by the people, for the people.

134 *Sound: Door opens*

135 DALY: Secretary of War Stanton is coming out of the Peterson house. He pauses in the doorway—and the crowd—looking at his grief-stricken face—is suddenly silent. Mr. Stanton, how is Mr. Lincoln?

136 STANTON: Now he belongs to the ages.

137 DALY: *(Fading)* The dread we have waited for now has come. President Lincoln, the victim of the—

138 MAN: *(On Echo)*

WASHINGTON—APRIL 14, 1865—ABRAHAM LINCOLN IS ASSASSINATED AT FORD'S THEATRE.

THE GOLDBERGS

BY GERTRUDE BERG

The Goldbergs, after a run of seventeen years in radio, is now an equal success in television. This script has been chosen because it represents the best in serials. A very human American family is sincerely portrayed five evenings a week. By including "The Goldbergs" for student analysis it is possible to combine in a single script a sample of the radio serial, the radio play, and the television script. For the benefit of those interested in commercial writing, both the opening and closing commercials are included. The scripts are written by Mrs. Berg who also plays the part of Molly in "The Goldbergs."

This script, or parts thereof, may not be reproduced in any form without permission of the author, and Young and Rubicam, Inc., advertising agency for General Foods.

The Goldbergs

BY GERTRUDE BERG

October 10, 1949

Composition Script

(TV)

Cast:

MOLLY
 JAKE
 ROSIE
 SAMMY
 DAVID
 MRS. CRAMER
 MRS. LIEDERKRANZ

Scene 1
Living room

MOLLY: I'll be right back. And, Rosie, don't forget, I didn't hear you practice. And not less than one hour.

ROSIE: I know, ma, I can't find the dish towel.

JAKE: Where are you going, Molly?

MOLLY: I'll be right back.

ROSIE: Where did you say the dish towels are ma?

MOLLY: I didn't say yet—nobody gave me the opportunity yet.

JAKE: You also didn't answer my interrogation.

MOLLY: The dish towels are in the kitchen in the left drawer near the side by the stove.

ROSIE: You used to keep them on the right side.

MOLLY: I changed them—and now Jake, what is your interrogation?

JAKE: Where are you going?

MOLLY: Upstairs.

JAKE: For what?

MOLLY: 5-C wants to see me about something.

JAKE: You were just by 3-C; she wanted to see you about something—3-D, 4-A, 2-G.

DAVID: Come in Pinky. Mrs. 2-C wants to see you, Molly.

JAKE: Let the housing shortage only get relieved that's all.

MOLLY: Jake, please.

JAKE: How long can this go on, how long? Don't you think it would be interesting to mind your own affairs for a little change?

MOLLY: When everybody's business stops being my business, then I will consider myself a very useless human being.

ROSIE: Sammy.

SAMMY: I'm not drying dishes tonight.

ROSIE: Ma!

MOLLY: Sammy!

SAMMY: I'm not drying dishes tonight.

DAVID: I'll dry dishes tonight.

MOLLY: Nobody has to dry them. Let them dribble off 'till I come back.

JAKE: And when will that be?

MOLLY: Go to David, Pinky, go.

CRAMER: Yoohoo! Mrs. Goldberg!

JAKE: Molly, Mrs. Cramer.

MOLLY: Thank you.

JAKE: Don't mention it.

MOLLY: Yes, dear.

CRAMER: What plans are you making for the Parents and Teachers meeting?

MOLLY: Well, that's what I'm doing now. I want to see what the girls are planning.

CRAMER: I think the mothers have to supply the refreshments.

MOLLY: We'll have to appoint a committee.

CRAMER: Did Rosie tell you about the composition the children are writing—and a few of the best ones will be read at the meeting.

MOLLY: Ai, you mean it?

CRAMER: I'm surprised Rosie didn't mention it.

MOLLY: My Rosie's best subject is composition.

CRAMER: Maybe it would be better if she wasn't so good in composition—the subject is very personal.

MOLLY: What do you mean?

JAKE: Your door is buzzing, Molly.

MOLLY: My door is ringing. Appoint yourself.

CRAMER: Thank you.

MOLLY: So nobody could take the door, only me. Jake

Doorbell

dear, you'll have to bring me a dress for the Parents and Teachers meeting.

Door opens

MOLLY: Oh, come in Mrs. Liederkrantz. I was just coming up to you. Come in.

LIEDER: Good evening.

JAKE: Good evening.

DAVID: Good evening.

Sammy and Rosie off stage, quarreling

ROSIE: All I asked you to do is bring the rest of the plates in from the dining room.

SAMMY: And all I said was stop bossing me around.

Molly and Mrs. Liederkrantz walk toward the kitchen. Molly looks at Jake. Molly goes to dining room. Rosie and Sammy come into dining room, quarreling

MOLLY: Silence! I said leave the dishes dribbling and Sammy, into your room.

Sammy leaves to go to his room. Rosie goes back into the kitchen. Molly and Mrs. Liederkrantz in the dining room

MOLLY: Sit down, Mrs. Liederkrantz.

LIEDER: I'm so nervous, Mrs. Goldberg, I can't stand and I can't sit. I just heard something that the hair is on top of my head. And what to do about it, only maybe you can advise me.

MOLLY: Yes.

LIEDER: Did Rosie tell you about the composition they have to write for school.

MOLLY: Mrs. Cramer said something—an intimate subject.

LIEDER: If my Janet wasn't the most brilliant scholar in the class, I wouldn't be so concerned, but that her composition will be read, there's no question, and if that happens, I'll have to move because I won't be able to show my face in the neighborhood.

Rosie comes into dining room

MOLLY: Rosie, what is the subject of the composition you have to write?

ROSIE: I wrote it.

MOLLY: What's the subject?

ROSIE: My family.

She leaves

LIEDER: You should hear what my Janet wrote about her family. I never knew what I just found out about myself and my husband. Four aspirins he just took.

MOLLY: What! Let me hear. Take a little Seltzer.

LIEDER: We don't understand her. Her home is a dictatorship. We try to fit her into a mold like jello. The furniture gets more attention than the family.

MOLLY: Did she send it in already?

LIEDER: I think so. You should hear what Shirley on the fifth floor wrote. And 2-C! Who would know that children could be such people. Try to see the composition before Rosiely hands it in. That's all I came to tell you. Goodbye, Mrs. Goldberg.

MOLLY: Goodbye.

LIEDER: You see how children can be strangers, ha!

MOLLY: Hold yourself in, Mrs. Liederkranz.

Door closes

JAKE: What is it?

MOLLY: The whole house is topsy-turvy.

DAVID: Why?

MOLLY: The children are writing a composition. The subject of which is "My Family."

JAKE: So what's wrong with that?

MOLLY: The compositions are going to be read at the Teachers and Parents meeting.

JAKE: So what?

MOLLY: Nothing.

DAVID: What your Rosiely thinks of her family the whole world can know, not only the Teachers and Parents meeting.

MOLLY: How can you tell?

Rosie comes in

MOLLY: Rosiely, did you finish your composition?

ROSIE: Ha-ha.

MOLLY: Ha-ha is yes or no?

ROSIE: Yes.

MOLLY: You handed it in, yet?

ROSIE: Not yet.

DAVID: You're going to read it to us, Rosiely?

ROSIE: Ha-ha.

MOLLY: Ha-ha—meaning yes or no?

ROSIE: No.

JAKE: Why not?

ROSIE: Because.

MOLLY: Is because an answer? Why not, Rosiely?

ROSIE: Because I'd rather not, ma.

MOLLY: Why not?

ROSIE: Because I'd rather not, ma. Please don't ask me.
 MOLLY: Is it good?
 ROSIE: How do you mean, good?
 MOLLY: Well . . .
 JAKE: Mama means . . .
 DAVID: If it's . . .
 SAMMY: What did you write?
 ROSIE: It's the way I see you, that's the way I wrote it and I'm not going to change one word, not one!

Scene 2

SAMMY: Rosie, why can't you show me what you wrote. I won't say anything if you don't want me to.
 ROSIE: Only a few more days and if my composition is selected and I think it will be, then you'll hear it at the Parents and Teachers Meeting

Molly enters

MOLLY: Don't you want Sammy to go over the spelling, Rosie?
 ROSIE: I use the dictionary when I'm not sure of the spelling.
 JAKE: And the punctuation marks?
 DAVID: Sometimes when a question mark is where a period should be, it's a big difference.
 MOLLY: Where you going, Rosiely?
 ROSIE: Upstairs to Janet, we have to polish.
 MOLLY: Polish?
 ROSIE: Goodbye.

*Rosie leaves**Door closes*

SAMMY: Wait Rosie, I'm going too.
 JAKE: Should we be worried at this moment? Shouldn't we have the confidence that whatever our child would write would be what we would like to hear? If I was the kind of a father that I should be—
 MOLLY: You're not a good father?
 JAKE: I am a good father? In what way am I a good father? Did I ever sit and read to the child like other fathers do? How many times did I ever take her to the park—to the zoo—the planetarium? Shouldn't a man of my age control his temper? Have I the right to bring my business worries across my threshold? Shouldn't the child be protected from the storms of the outside world? The trouble is you only get one chance to be a good parent. There's no second chance.
 DAVID: And me. . . . I'm a Uncle? What kind of an uncle am I? I'm an also.
 MOLLY: David!
 DAVID: I am. I'm an also. Should a man of my age be an also? Read the newspapers. People of my age are

running governments. She'll have in the composition I'm an also . . . and I am. And Pinky, Pinky! Is Pinky a dog? Mr. Pinkus gave Rosiely the dog. And I took Pinky like he was my dog. That was very wrong of me . . . to take Pinky's love . . . very wrong. A very fine uncle I am . . . very. . . . Whatever she'll write, I'll deserve.

JAKE: And Molly, from you I hear only silence. Are you so contented?

MOLLY: Did I say?

JAKE: So say.

MOLLY: What should I say?

JAKE: If you won't say it, I will.

MOLLY: Maybe you're right.

JAKE: I think I'm right.

MOLLY: Maybe you are Jake. It's never too late to change.

If I'm mixing too much, I'm willing to stop mixing. Not for nothing did the teachers give them the subject of "My Family." To know the family is to know the child better. It's the background and the foreground that makes the individual. If a Teachers and Parents meeting could be held before the children are born, then it would be more helpful. Maybe, Jake?

JAKE: Yes?

MOLLY: She didn't send in the composition yet.

JAKE: So.

MOLLY: Maybe if we . . . I mean . . .

JAKE: If she's polishing the composition already, Molly, then it's too late.

MOLLY: Maybe not.

DAVID: Maybe not, Jake.

MOLLY: From now on, Jake, let us be models of parenthood.

JAKE: If it's not too late.

DAVID: Maybe not.

JAKE: David, if you hear me by one syllable talk above a whisper . . .

MOLLY: And David, if you hear me Yoo-hoo once from now on my family, and my family only.

JAKE: And speak to Sammy and see that he is also a brother.

MOLLY: I will Jake, I will.

Scene 3

CRAMER: What's the matter with Mrs. Goldberg? Is she sick?

LIEDER: I don't know. She hardly spoke to me. Just good morning . . . good afternoon. I had something very important to tell her.

CRAMER: Me too, and she wasn't interested. And if that's the way she feels, as far as I'm concerned, she's no longer my idea of a friend or a neighbor. How a person can change! See how you never can tell? Excuse me, my bell.

Scene 4
Rosie at piano

MOLLY: Rosiely, you've practiced sufficiently, no?

ROSIE: I'm only practicing ten minutes, ma.

MOLLY: If that's all you want to practice, that's very well with mama, dear.

ROSIE: But . . .

MOLLY: And Rosiely dear, if playing and studying the piano is not exactly to your desire—because I don't want you to do anything that you don't feel the natural urge—

ROSIE: But ma, I . . .

MOLLY: Only do what you yourself wish, because I want you to know that mama and papa neither does not wish to force our wishes on you. Some parents make that very foolish mistake, to want their children to be what they failed to be and couldn't be. That's a big mistake. I want you to do and be what you want to be, not what I want you to be. That's a very good point for your composition, Rosiely.

ROSIE: My composition is written, ma.

MOLLY: You didn't send it in yet, though?

ROSIE: No, I didn't.

Starts to play
piano
Jake enters

MOLLY: Jake dear, do you wish something?

JAKE: No, my dear beloved, this is the hour I spend with my daughter. "Between the dark and the daylight, when the night begins to lower, comes a pause in the day's occupation that is known as the children's hour." Come, Rosiely, sit upon your Daddie's knee.

Rosie looks at her
mother

JAKE: Come, dear.

Rosie sits on Jake's
knee. Jake takes
funnies out of his
pocket

JAKE: Now, what shall I read to you . . . the Katzenjammer Kids?

ROSIE: Pa!

JAKE: Peter Rabbit?

ROSIE: I read them all this morning, pa.

JAKE: Then slip on your coat. You and your daddy are going to take a stroll.

ROSIE: But pa?

JAKE: My pleasure, Rosiely. I think the Botanical Gardens . . . or the Planetarium.

ROSIE: I've been to the Planetarium, pa.

JAKE: Then we will just walk and discuss the celestial sphere. It's about time we really got acquainted—not as father and daughter—It's time you looked upon me as a pal, Rosiely. Do you?

ROSIE: Of course, pa.

JAKE: Well then, don't linger, dear. Get your coat, dear.

ROSIE: I have an appointment, pa. I can break it, pa.

JAKE: That's up to you, Rosiely.

CRAMER: Yoo-hoo, Mrs. Goldberg.

MOLLY: Tell Mrs. Cramer I'm not interested.

Rosie looks at her mother

JAKE: Mrs. Cramer, Mrs. Goldberg has all to do to look after her family. Perhaps there are other people who have time for these things.

CRAMER: What things?

JAKE: Gossip, etc.

*Jake puts window down
Sammy comes out of kitchen*

SAMMY: The dishes are all washed.

ROSIE: Thanks, Sammy. I'll dry them.

SAMMY: I dried them. You did them yesterday.

MOLLY: Ai, what a brother you have, Rosiely!

SAMMY: This is a family, isn't it? We have to learn to live together like civilized people, don't we? I'm just going to take a little walk unless there's something else you want me to do.

MOLLY: No, dear Sammy. Thank you.

JAKE: Thank you, Sammy.

SAMMY: Not at all.

*Shakes hands with his father as he says goodbye
Ad lib goodbye
Door closes
Uncle David enters*

DAVID: Rosiely, dear, I'm covering your school books, and I'm making you a beautiful pencil box. Pinky, go to Rosie, you're Rosie's dog. Look how he loves you, Rosiely. Of course, why shouldn't he love you, he's your dog. Go Pinky, go to Rosie. Oh, how he loves you!

JAKE: Get your coat, dear. You're going for a stroll with your father.

ROSIE: I don't think I'll have the time, pa.

MOLLY: Why not, Rosiely?

ROSIE: I think I have to rewrite my composition.

Jake, Molly, and David exchange looks

*Scene 5
Living room
At window*

ROSIE: Hello, Janet. I'll be right up. I want to go over my new version of "My Family."—I will.

Window down

MOLLY: Where are you going, dear?

ROSIE: To Janet's house. I just want to get my sweater.

David enters

DAVID: She finished the new composition?

MOLLY: Yes, she's going up to Janet with it. And you see, Jake dear darling, what holding yourself in can do, ha?

JAKE: And you?

MOLLY: Me too, Jake.

JAKE: What's a greater accomplishment than self discipline, I ask you?

MOLLY: Nothing, absolutely nothing.

DAVID: Go to Rosiely, Pinky, go.

Rosie enters

ROSIE: I'll be right back. And here, ma, since I'm not sending in the first composition I wrote, maybe you'd like to read it.

MOLLY: Oh, thank you.

Rosie goes out

JAKE: Let me see it.

MOLLY: Please, Jake, I'm holding. Let me!

JAKE: I'm a faster reader than you are.

MOLLY: Sammy is the fast reader . . . Sammy.

JAKE: Can you imagine a woman, ha!

CRAMER: Yoohoo, Mrs. Goldberg.

JAKE: If you're going to the window, give me the composition.

MOLLY: Jake, please, not without me.

DAVID: I thought no more Yoohoos.

MOLLY: Rosie is not here, so I can answer one yoohoo.

Window up

MOLLY: Yes?

CRAMER: I just wanted to see if you would answer me, that's all.

MOLLY: That's all?

CRAMER: That's all.

MOLLY: How are you?
 CRAMER: Are you interested?
 MOLLY: I am, but I'm busy.
 CRAMER: That's what I thought!



FIG. 60. Molly Goldberg (Mrs. Gertrude Berg). This shot of Molly is in practically every television show of the series. (*Columbia Broadcasting System.*)

*Cramer window
 down
 Molly shakes her
 head. Puts win-
 dow down*

SAMMY: Did you call me, ma?
 MOLLY: Rosie said we could read the first composition.
 SAMMY: I wouldn't if I were you.
 JAKE: Why not?
 SAMMY: Because what you don't know won't bother you.
 MOLLY: Maybe Sammy is right.
 JAKE: Just the same, I would like to hear it. Why shouldn't we know our shortcomings?
 MOLLY: I don't want to hold anything against the child. You can be unconscious about a person.

DAVID: I'm unconscious many times.

JAKE: Conscious or unconscious, I think we should read it.

MOLLY: All right, Jake. Here, Sammy.

*Telephone
Takes composition
back*

JAKE: Who is that now?

MOLLY: Hello. Yes, Tante Elka. Fine . . . well . . . everybody, and you and yours?

JAKE: You'll call her back later.

MOLLY: Anytime next week. Ai, now, that's the Teachers and Parents meeting. . . . All right, darling. . . . I will. . . . My best love to you from one and all. David also.

DAVID: Also!

MOLLY: Goodbye.

Click

JAKE: Are we going to hear or not?

MOLLY: So come here by the light.

JAKE: I thought Sammy was going to read it.

Bell

MOLLY: Let me.

JAKE: Molly, will you please let me have that composition.

MOLLY: Jake, temper!

Door opens

MOLLY: Come in Mrs. Liederkrantz. My Rosiely just went up to your house.

LIEDER: Why do you think I'm here?

MOLLY: Why . . . what is it?

LIEDER: Accidentally and a little bit on purpose, I heard your Rosiely's second composition.

MOLLY: Oh, yes?

JAKE: Is that so?

LIEDER: Well, I'm sorry to say you didn't make out much better than I did.

MOLLY: Ai, what do you mean?

LIEDER: Just what I said. And if she reads it at the Parents and Teachers—you won't feel so comfortable in this neighborhood either.

MOLLY: You sure she read the second composition?

LIEDER: I heard the one she was just reading to my Janet.

JAKE: What did you hear?

LIEDER: First of all, you, Mr. Goldberg, do not realize that there is a generation between you and your children, and it is not possible to be pals.

JAKE: Ha!

LIEDER: And family worries should not be withheld from the family as you are evidently doing. And you, Mrs. Goldberg, are living only for your family.

MOLLY: I'm very happy.

LIEDER: That is not the proper community spirit. And Rosie thinks she should give Pinky to somebody whose family will also love him. And Sammy is more like a stranger than a brother. I just wanted you to know. Maybe because misery likes company. Goodbye.

*Ad-lib goodbyes
Door closes*

JAKE: Mu . . . a pal I wanted to be! And that wasn't good either.

MOLLY: I live only for my family. That's what I said always. A man is not an island.

DAVID: I wanted Pinky to love her only . . . so that was bad.

MOLLY: If I mixed it was because I was interested in people. My interest wasn't gossip. My interest was interest.

JAKE: If I hollered why was I hollering?

*Door opens
Rosie comes in
and listens*

JAKE: A child should know; a child should share.

DAVID: And if Pinky . . .

Ad-lib quarrel

ROSIE: You didn't tear up my first composition, did you ma[?]

MOLLY: No.

ROSIE: Will you give it back to me. I think I'll use the first one after all.

MOLLY: What was in the first one that wasn't in the second one?

ROSIE: My family.

MOLLY: What "My Family?"

ROSIE: I'm reading it. "A family is something everybody has, but my family is very special. My mother loves people, that's why people love her. My father's temper is as kind as a kiss. My Uncle David is always around when you need him, and my brother . . ."

*Fade, all kiss and
hug Rosie*

Opening Commercial

MOLLY: Hello. I just jotted down a couple of notes. Very often when I'm alone thoughts and ideas come to me and if I don't jot them, I forget. And what I jotted is very important. So if I may . . . if you will. First I jotted, not to forget to tell you about the instant SANKA. Sometimes I talk about the regular and I neglect the instant. And for people like us. I mean, do we sit to be served? Everything that has to be done we do ourselves. Wait—I made another little jot. Oh, yes! With instant SANKA you have no cof-

fee pots to wash. One, two, three, with a little boiling water and you have a delicious cup of coffee. And if a neighbor falls in on you, it's no extra effort to make two cups of instant SANKA. It's a real coffee and delicious. And if you're a person who shouldn't drink coffee with caffeine in it, you can still drink as much instant Sanka as you like and sleep, because 97% of the caffeine is removed and the sleep is left in, and your restlessness and your irritability becomes null and void, if you sleep well. Absolutely! And for mothers and wives and people in general, if you were my own, which you are anyway, could I recommend anything better than SANKA coffee, instant and regular?

Closing Commercial

MOLLY: Nu? Is that adorable, to have the pleasure to read such a composition? Full of joy and love and laughter. Listen, when a person is well, to love is not difficult. I don't want Mrs. Liederkrantz to hear me. She lives right here on top of me. . . . But, I know that if anybody shouldn't drink coffee with caffeine in it, she shouldn't. As many people should not. She gets up in the morning, her sister told me, irritable, restless. Of course, how else can you get up, if you don't sleep? I'll see her tomorrow and once again I'll tell her about SANKA coffee. You would think that if you told a person once, that SANKA coffee is a real coffee and it's delicious with a flavor of flavors, and 97% of the caffeine is removed and you can drink as much as you like and sleep, and that the penny or two more it costs is nonconsequential for what it does for a person . . . you'd think that a person would listen and switch. What could be easier? A switch in time, saves sleep.

PATH OF GLORY

BY WILLIAM BENDER, JR.

This script, "Path of Glory," is one of a series of 13 programs based upon original source material in the William L. Clements Library of American History.

It is based upon the original painting, "Death of General Wolfe," by Benjamin West (Fig. 61). The program opens with a teaser to prevent scaring away the audience by an opening announcement containing such words as library, studio, university, etc. It is pointed out in the original scene that the picture is being painted 11 years after the death of General Wolfe and that many of the people in the picture were in the battle and were actually in Benjamin West's studio to pose for the painting.

From a writing standpoint, the greatest problem was to shift scenes frequently and definitely. The desired effect was to establish a scene in 1771 when West was painting the picture. From this setting, the story of the siege

of Quebec had to be told by means of many flashbacks as seen through the eyes of the generals portrayed. For a while it seemed impossible to shift scenes as readily as desired. It was decided, therefore, to run a musical background under the scenes in Benjamin West's studio. This would identify the scene for the listener—the sound cue. The scenes at Quebec, on the other hand, were frequently given over the sound of battle or military tumult. In choosing suitable music for the studio scenes, the harpsichord was selected. Through research it was found that Benjamin West's wife, being young and entertaining social ambitions, could have been a harpsichord player and very possibly was. As it worked out in production the harpsichord background gave a timely and a definite setting and enabled the producer to shift the scenes at will with no confusion to the listener.

Among the characters in "Path of Glory" are three British generals, all approximately of the same age, training, and background. This affected the writing for whenever these three appeared in the same scene they had to be very positively identified. Much of this was accomplished by excessive use of last names, acceptable only because generals might so address each other. However, there was still apt to be confusion. In production it was decided that one of the three, General Townshend, would be given a Scottish accent. This was sufficient to keep the voices well identified.

Path of Glory

(Painting—Death of Wolfe)

BY WILLIAM BENDER, JR.

Characters:

WOLFE	.....	Youngish, hypochondriac.
BROWN	.....	Junior officer.
HOWE	.....	} Generals in British army.
TOWNSHEND	.....
MONCKTON	.....
WEST	.....	Older man, darling of society.
SMITH	.....	Wolfe's ADC.
LIEUTENANT	.....	Young. Must handle French.
VOICES	.....	All men. One must speak French.
MAJOR	.....	Bit.

Sound:

Harpsichord music (Scarlatti Sonatas)
 Height of battle
 Door open and close
 Bosun's whistle
 Cannon shot—single
 Explosions
 Fireball lands on wood; flames; is extinguished

Biz with paper
 Hammer & nails in BG
 Water pouring in glass
 Gentle splash of water
 Owl hoot
 Frogs croaking
 Boat scrapes on sand
 Rustle of brush
 Shot . . . musket



FIG. 61. "Death of General Wolfe" by Benjamin West. The original hangs in the Clements Library, University of Michigan. It was upon this picture that the script "Path of Glory" is based. (*University of Michigan.*)

ANNCR: The University of Michigan presents . . . Treasures Off the Shelf.

Music: Brief stirring intro, Segue into:

Sound: Height of battle

WOLFE: (*Coming on*) Lieutenant Brown: Turn the command over to me!

BROWN: (*Amazement*) General Wolte, sir! You shouldn't be exposed like this. We're ready to attack.

WOLFE: And I'm going to lead your Grenadiers, Brown.

BROWN: But . . . but, sir. There's too great a risk . . . for you.

WOLFE: If this charge fails, the whole expedition fails.

BROWN: We'll crack them, General; go back while there's still time. For England's sake, sir: Go back!

WOLFE: I'm leading your troops, Brown. As soon die on a French bayonet as of a broken heart if anything goes wrong. Grenadiers! Ready! Charge like you did at Louisbourg and Quebec is ours! Follow me!

VOICES: *Battle yell*

Music: *Curtain into theme*

ANNCR: Treasures Off the Shelf . . . a series of dramatic stories behind the original documents now in the Clements Library at the University of Michigan.

Music: *Up and down*

ANNCR: The Clements Library is known chiefly for its documents of American History—letters, maps and books that had a crucial bearing on the development of the Western Hemisphere. But the Library also contains rare and original pictures, and one of these forms the basis of this story. . . . Benjamin West's original painting: "The Death of General Wolfe." It is the year 1770 . . . eleven years *after* the French power in the New World was broken at the crucial battle at Quebec. Benjamin West, a socially popular middle-aged artist, has taken lodgings on Bedford Street, Covent Garden, in London. And he has managed to bring together some of the most distinguished officers of the British Army. . . .

Music: *Out*

Sound: *Polite ad libs indoors. Hold generally throughout*

HOWE: I say, Mr. West. I find your studios most attractive, but may I ask what we are doing here?

WEST: My apologies, General Howe . . . and to each of you gentlemen. We still lack one member of the group. General Monckton should be here momentarily.

HOWE: Monckton! You don't mean it. Hear that, Townshend?

TOWN: I did. Wonderful. Haven't seen him for years.

HOWE: (*Reflective*) Waiting for Monckton. . . . I remember once we didn't have to wait for the old boy. At Quebec. I wonder about that old wound of his?

Sound: *Door open in BG*

MONCK: (*Into middle BG*) I suppose this is the right place . . . ? Why, Townshend! Howe!

HOWE: Monckton!

TOWN: Why, hello, old boy. It's been a long time.

MONCK: Good to see you again. And I suppose you are Mr. West?

WEST: Yes, indeed. So glad you could come. I see you know Generals Howe and Townshend. You probably know the others, too, but let me introduce you.

MONCK: Splendid.

WEST: Colonel Brown . . . formerly of the Louisbourg Grenadiers . . .

BROWN & MONCK: *Ad-lib greetings*

WEST: And over here, Colonel Hervey Smith.

SMITH & MONCK: *Ad-lib greetings*

MONCK: Hervey Smith . . . ? Now I have it. You were Wolfe's Aide-de-camp at Quebec.

SMITH: Yes, sir. Good to see you again, General.

MONCK: And Brown . . . your Grenadiers were at Quebec. I know Townshend and Howe were there. What is this, West? A reunion?

WEST: (*Laughingly*) I suppose I have no secrets from men who have spent their lives outwitting the enemies of England. Yes, this in a way is a reunion. Gentlemen: I need your cooperation. I have undertaken to paint a symbolic picture of the death of James Wolfe. (*Ad-lib reactions*) So far

it's developing well. But to create that final bit of authenticity, I wanted those who knew Wolfe best to pose for me briefly.

TOWN: A commendable task, Mr. West. He was a great man and a great General. But us? Our faces have grown old. Wolfe has been dead these eleven years.

WEST: Still, you look more like yourselves than anyone else I might find. Here. Let me show you the painting in its present stage. I'll throw back these curtains . . . and . . . there you are.

Cast: *Ad-lib Ohs and Ahs*

SMITH: That's him all right.

BROWN: But . . . but . . . if you'll pardon me: It isn't accurate. I was the only one with him when he was hit.

WEST: I know, Colonel Brown. But you must understand that I am trying to create an impression—not to recapture a specific scene.

MONCK: Is that me? The one holding his chest?

WEST: Yes, Monckton.

HOWE: Of course. You were wounded in that same assault.

MONCK: Very neatly done. My compliments on the grouping, Mr. West, it draws the viewer immediately to the General.

Sound: *Eruption on harpsichord. Scarlatti.*

HOWE: What in heaven's name is *that!*

WEST: Mrs. West. She is quite adept with the harpsichord. (*Fading*) Pardon me, I'll shut the door.

Sound: *Door shut. Harpsichord into middle BG*

WEST: (*Coming*) That will do it.

MONCK: I was about to say: that figure behind Wolfe is Hervey Smith, isn't it?

WEST: I thought that was the best spot for the Aide-de-camp.

MONCK: Very fitting. You always were backing him up, Smith.

SMITH: Not at all, though it may have seemed that way. Actually Wolfe, for all his constant infirmity, was one of the bravest men I ever knew. (*Narrative*) I'll never forget that night we anchored in the St. Lawrence just a few miles below Quebec. We'd landed some troops on the *south* shore to push back any French that might have crossed over from the city. The rest of us stayed aboard the frigates and transports. Nearly two hundred ships crowded the river . . . each of them packed with troops and supplies for the expedition. It was a chance for the French to wipe out the entire force—and Montcalm knew it as well as we did. That was a night I'll never forget . . .

Sound: *Harpsichord up then fade down & out. (Pause) Five bells*

SMITH: Just short of mid-night, sir. You ought to go below and get some sleep.

WOLFE: I'll be all right, Smith. Did Monckton get those troops safely ashore?

SMITH: Yes, he did, General. Apparently had no trouble.

WOLFE: I wish we could say the same.

SMITH: What . . . ? Is anything the matter?

WOLFE: I'm not a Navy man, Smith. But it seems to me this fleet is confined in an awfully narrow stretch of the river.

SMITH: What difference does it make?

WOLFE: I'm not sure. Montcalm knows we're after Quebec by now. And the Marquis is a most resourceful enemy. Invincible, to hear some tell it.

VOICE 1: (*Far BG*) Ahoy the deck!

VOICE 2: (*Middle BG*) Aye, aye!

WOLFE: It's the lookout in the main-mast.

VOICE 1: Fire rafts coming downstream!

VOICE 2: Fire rafts! Pipe all hands on deck.

Sound: Bosun's whistle. Begin crowd noise in middle BG. (Live whistle)

SMITH: General Wolfe! He said fire rafts. Look, look: you can see the glare of them now.

WOLFE: Montcalm has struck. This is what I was afraid of.

VOICE 2: Fire a warning gun for the fleet.

SMITH: The way we're packed in this river, they could set the whole fleet ablaze.

Sound: Single cannon shot

WOLFE: They're warning the rest of the ships. Do you see our Captain, Smith?

SMITH: Yes, sir. He is coming this way. Look at those rafts drifting down on us. They're coming fast.

WOLFE: (*Calls*) Captain. I say, Captain.

VOICE 2: (*On*) Frightfully busy now, General Wolfe.

WOLFE: What about my men? Shall we try to put them ashore?

VOICE 2: Just keep them from panicking, General. The navy will handle those rafts. (*Leaving & calling*) Man the long boats. Bosun . . . hop to it.

WOLFE: I hope he's right about handling those rafts. They'll be loaded with explosives: grenades, bombs . . . everything Montcalm could pile into them.

VOICE 2: (*Off*) Lower away. Now go after those rafts and beach them!

SMITH: Regardless of the bombs, sir . . . look at that spray of fire.

WOLFE: They'll start to explode any moment. They're coming close enough.

Sound: Begin explosions in BG. Growing louder

SMITH: There they go! The long boats won't dare go near them now.

WOLFE: Courage isn't the sole province of the army, Smith. They'll go. There's two of them drawing close already. One of them has hooked a line onto that lead raft.

SMITH: By the saints! That water must be boiling hot out there. The fire is lighting both shores.

WOLFE: I'm worried about the fleet. If they can't turn those rafts . . .

Sound: Loud explosion. Followed by "Look out." Then swoosh and clump of stuff landing on deck. Crackle of flame close. All on cue

SMITH: Look out, sir! That fire ball is coming through the air right at us.

WOLFE: Steady. Hug the railing. (*Hits*) Watch it, Smith.

Sound: Fire up, roaring

VOICE 2: (*Off*) Water buckets. Hurry.

Biz: Cast ad-lib, excitable

SMITH: Perhaps I can help them with that fire, General.

WOLFE: Let them be. They know what they're doing.

VOICE 2: Drench it men, hurry. That's it. Throw that water on it.

Sound: Steam gust (water hitting fire)

Music: Violent passage of time—not much

Sound: Fire dwindles and out

SMITH: Well, they've got it out, finally.

WOLFE: Excellent work, Captain. How are they handling those fire rafts, Smith?

SMITH: They're pulling them toward shore, General. Some sailors have actually

climbed aboard . . . regardless of the fire and explosions. I think the fleet's safe now.

WOLFE: It looked for a moment that Montcalm had done for us with the first blow. We have a terrible opponent, Smith. Our strongest weapon will be courage.

Music: Brief curtain. Segue into:

Sound: Harpsichord in BG

SMITH: So that's the way it was, gentlemen. Wolfe never had a thought for his own safety all the time those fire rafts were exploding around us. He was worried about the fleet and the troops. He never did get over praising the sailors for their bravery in handling those rafts.

MONCK: He was talking about it days later when we made plans for the attack, I know that.

TOWN: Yes, I remember, Monckton. There was you and I and . . . were you there, Howe?

HOWE: In the staff conference? No, I was only a Colonel at the time.

MONCK: I think there were just the three of us, Townshend, including Wolfe. My brigade had been feeling out French resistance *down-river* from Quebec. We'd landed near the Falls of the Montmorency, but we couldn't fight our way across the stream.

TOWN: Not for want of trying.

MONCK: We lost four or five hundred men before Wolfe called us back onto the ships. And then . . . the council of war in his cabin aboard the *Richmond*.

TOWN: *That was a wild session!*

MONCK: I'll never forget that evening. Wolfe was always rather emotional, (*fading*) but this time he pulled out all the stops . . .

Sound: Harpsichord fade with Monckton to complete kill

WOLFE: I don't care what you say! We've been fumbling around here too long. I'm going to hit Montcalm within the week. Do you think these are *practice* manoeuvres, or what?

MONCK: I lost 400 men at Montmorency Falls, General Wolfe. If that wasn't war . . . (I DON'T KNOW WHAT IS).

WOLFE: Montmorency Falls! We have only one objective: Take Quebec. Take the city and you can have a hundred waterfalls.

TOWN: It's a tough nut, Wolfe. They haven't received any supplies from France since we've been here . . . they've had several bad fires caused by our bombardment. But, so help me, I don't think Montcalm's any worse off than he was before.

WOLFE: He sits up on that rock palisade like a crafty spider. We'll never shake him loose with cannon. We've got to go in after him. (*Pause*) Now, gentlemen: the last thing Montcalm would expect would be a concerted frontal attack on the city.

TOWN: *Ad-lib protesting*

MONCK: I hope you're not thinking of a frontal attack . . . ?

WOLFE: As a matter of fact, I am. Think of the surprise element.

MONCK: It would be a surprise, all right. They'd throw us right back into the river.

WOLFE: What would you have us do? Keep trying to take the Montmorency Falls?

MONCK: I certainly wouldn't recommend a frontal.

WOLFE: And I certainly won't waste manpower capturing a river six miles away from our target. What do you say, Townshend?

TOWN: I'm against a frontal attack on the basis of principle. It's too bloody.

WOLFE: I'll exchange blood for success. Let me repeat one fact, gentlemen: I want Quebec!

TOWN: . . . Secondly, I'm against it because I don't think it will succeed.

WOLFE: If you rule out the frontal assault . . . mind you, I say "if" . . . and rule out the *flanking* movement through Montmorency . . . what other recourse have we?

MONCK: Attack *up-river* from Quebec.

WOLFE: In that wilderness? We'd get the ranks hopelessly confused. Besides, that natural palisade runs for miles.

MONCK: Let me see that map.

Sound: Biz with paper

MONCK: The forest ends here . . . at the edge of this "Plains of Abraham." That ought to be beyond cannonshot of the city; an excellent place to draw up our battle lines.

TOWN: And right about here is that defile our Rangers found a few days ago. Foulon Pass. It goes from the water-edge to the heights.

WOLFE: You'd move troops up *that*?

TOWN: It could be done.

WOLFE: I think you're both madmen. I don't like it.

TOWN: Will you agree, at least, that a flank attack is better than a direct assault . . . ?

WOLFE: Remember that night the fire-rafts came down on us? If those sailors had tried a flank attack then, our whole fleet would have burned. They went straight in after them.

MONCK: We can't refute that, Wolfe. But this is a different problem.

WOLFE: (*Resignation*) All right.

MONCK: As a matter of fact, I would urge a landing still further up the river . . . around Pointe Trembles, or . . .

WOLFE: No you don't, Monckton!

MONCK: I beg your pardon?

WOLFE: You've convinced me not to try a direct attack, but you're not going to get me further from Quebec if you talk all night. We'll go up this Foulon Pass to the Plains of Abraham. But I tell you frankly, I don't like it.

Music: Organ segue into harpsichord and hold harpsi under

HOWE: Look there, Monckton. While you were telling us about that, West was working on the painting.

MONCK: Oh? Let me see. (*Pause*) Hummm. Very good, except for one minor detail, West.

WEST: What's that?

MONCK: I wasn't there. You've got me wounded and all that, but I never did see Wolfe after the attack got under way.

HOWE: That's superfluous. I wasn't there either when he was hit.

MONCK: That's you in the green uniform, isn't it, Howe?

HOWE: I supposed that it was . . . ?

WEST: That's right. I wish Elizabeth would stop that harpsichord. You just can't shut it out of this studio.

Sound: Harpsichord out

MONCK: My! What is this power you have over women, West? She stopped.

WEST: (*Self-amused*) Humpff. Rather good, eh? I just say the word, and . . .

Sound: Harpsichord in, crashing

WEST: . . . and . . . and . . .

MONCK: Ah hah. You were saying, Mr. West . . . ?

CAST: (*Laugh*)

WEST: I was saying—I hope you gentlemen like harpsichord music. Quite the fad, you know. (*Break*) But General Howe, if you were not with Wolfe, where were you?

HOWE: My battalion led the assault to capture the heights, and then went into reserve. The last I saw the General alive was the evening before the attack. We had run past the guns at Quebec and anchored up-river from the town. The ship had taken several French cannon balls in her side during the run past the city. And as I went down to Wolfe's cabin for my final orders, I could hear the ship's carpenters working on the hull. I'll never forget the sight of Wolfe—lying in bed, dosing himself with medicine . . . and reading aloud. . . .

Sound: Harpsichord cross fade into hammer & nails in BG and Wolfe reading up. Door open and close. Heel click

WOLFE: "Full many a gem of purest ray serene
The dark unfathom'd caves of ocean bear . . ."

HOWE: (*On*) You sent for me, Gener—ah, General.

WOLFE: In a moment, Howe.

"Full many a flower is born to blush unseen
And waste its sweetness on the desert air.

Some village Hampden that with dauntless breast
The little tyrant of his fields withstood
Some mute inglorious Milton here may rest
Some Cromwell guiltless of his country's blood.

Their lot forbad; nor circumscribed alone
Their growing virtues, but their crimes confin'd;
Forbad to wade through slaughter to a throne
And shut the gates of mercy on mankind."

I think this is the most beautiful thing in existence, Howe—Gray's "Elegy in a Country Courtyard."

HOWE: I recognized it. Very nice.

WOLFE: A remarkable understatement. (*Deep*) Colonel, I should rather have written this poem than win tomorrow's battle.

HOWE: (*Let's get off it*) I heard you wanted me, sir. Orders?

WOLFE: I suppose we must get back to war. The staff thought your Ranger battalion should secure the landing for us, Howe. Be a good man: reach me that box of pills. No, no. The black ones.

HOWE: Here you are.

WOLFE: Deuced inconvenience.

Sound: Water pouring in glass

WOLFE: (*Drinks*) Bah! Now then: we've decided to go up this Foulon Pass . . . a rat trap if I ever saw one. We'll give you an hour's start on the rest of us. In that time, you've got to clean out all French resistance along our route.

HOWE: I understand, sir. What time should we take to the small boats?

WOLFE: Two in the morning. I don't have to stress the need for caution. Try not to alarm the French unduly.

HOWE: But if we are obliged to shoot or withdraw?

WOLFE: Then shoot. We must be formed and ready for battle at sunrise. As soon as the regiments come onto the Plains, take your men into reserve. Pray God we won't need you from then on. That's all, Colonel. Monckton will give you a map of the operation.

Sound: *Heel click*

HOWE: Yes, sir. I'll see you on the Plains of Abraham.

Sound: *Door open and close seguing into:*

Music: *Organ bridge*

Sound: *Cautious splash & sprinkle of water. BG owl hoot. Hold*

LT: (*Whispering*) If only that moon would come out, Colonel, we might be able to find that pass.

HOWE: (*Whispering*) And we might get blown out of the water, too, if the French are looking for us.

LT: We must have gone beyond it by now.

HOWE: Yes, and we're losing valuable time. The main army will be attempting to land any minute.

LT: Why don't we put in to shore, sir?

HOWE: I'm afraid we'll have to. Maybe we can find the pass on foot.

LTS (*Sotto & off*) Coxswain—turn in toward the shore.

VOICE: (*Off*) Aye, aye, sir.

Sound: *Fade in frogs croaking, etc., as boat "approaches shore"*

VOICES: *Low ad libs*

HOWE: Quiet, men. French sentries have good ears.

LT: Here's the land, sir.

Sound: *Frogs strong. Boat scrapes on sand*

LT: The other batteauxs are coming right along, Colonel.

HOWE: Get ashore, men. Quietly now. Quietly.

Sound: *Several boats scrape on sand (optional)*

HOWE: You all have your orders. We missed Foulon Pass, so we'll have to climb the heights right here. Come along, Lieutenant.

LT: Yes, sir. Spread out, men.

Sound: *Rustle of brush. Frogs fade out*

HOWE: (*Effort*) Lord, this must go straight up.

SENTRY: (*Off but startlingly loud*) Qui va là!

HOWE: Hold it!

LT: It's a French sentry just above us.

HOWE: You speak French, Lieutenant?

LT: A little.

SENTRY: Qui va là!

HOWE: Tell him we're a detachment from the city.

LT: (*Clears throat*) Nous sommes le détachement de Québec.

SENTRY: Que faites-vous là?

LT: He wants to know what we're doing down here.

HOWE: Tell him Montcalm ordered us to patrol the river bank.

LT: Montcalm nous a commandé de foiller le rivage. (*Pause*) Où est le défilé?

SENTRY: Eh! Un peu plus loin en amonte.

HOWE: What was that?

LT: He obligingly informed us the Pass is a little up-river from here.

HOWE: Let's keep going, men.

Sound: Rustle of brush. Short kill. Rustle of brush

HOWE: (*Whispering*) It's getting lighter out.

LT: (*Low urgency*) There's another sentry, Colonel. I think he sees us!

SENTRY: Qui va là. . . . Les Anglais! Les Anglais!

Sound: Close-up shot

HOWE: (*Loud now*) Who shot that Frenchman. We've got a fight on our hands, now. Let's go after them!

Sound: Cast voices, shouts. Musketry segue into:

Music: Organ curtain. Cross fade into:

Sound: Harpsichord holding under

HOWE: It took us almost an hour to clear the Pass for the main body of the army. There weren't many of them, but those French-Canadian woodsmen were hiding behind rocks and trees and we had to pry them out with bayonets. It was quite a tussle.

TOWN: Tussle indeed! When my troops went up the pass, there were so many bodies lying about we thought the battle was over.

HOWE: It wasn't that bad, Townshend.

WEST: When did you go up the Pass, General?

TOWN: We were among the last. Being third in command, I was back in reserve. We were mostly worried by reports that a French brigade was coming up from the rear. The battle was pretty well decided, though, by the time I learned that both Wolfe and Monckton were dead.

MONCK: I think I'd better object to that. I'm not dead yet, old boy.

TOWN: I know, Monckton. But that was the story I heard during the fight. It put me in over-all command, but by then the regimental commanders had the situation in control. The French were running back into the city; the fight was over. That was the 13th of September. Before the week was out, a French officer left the walls of Quebec under a flag and was brought to my tent. . . .

Sound: Harpsichord out. Pause. Heel click

MAJOR: Mon Général Townshend, permit me to introduce myself: Major de Joannes . . . of His Most Christian Majesty's forces in Quebec.

TOWN: Yes, Major.

MAJOR: I come on a difficult yet humanitarian mission, mon Général.

TOWN: Continue.

MAJOR: Analyzing the situation, we find there are severe obstacles in the way of your continuing the attack. At the same time, *we* have little to gain on defense . . . except, of course, to destroy your army if you try an assault.

TOWN: You are carrying your presumptions too far, Major. Quebec is on the verge of collapse, and you know it.

MAJOR: Not at all, mon Général. Quebec can hold out for months. We have food . . . we have troops . . . *and* we have warmth. Winter approaches

rapidly, Général. Rather than watch your army freeze to death, we offer you an opportunity to break this impasse.

TOWN: I'm well acquainted with the predicament you French are in. And I'm curious to know what Montcalm suggests.

MAJOR: Le Général Vaudreuil commands the city. Montcalm is dead.

TOWN: Montcalm dead! When did it happen?

MAJOR: During the engagement here on the Plains . . . he received a mortal wound.

TOWN: The same day as Wolfe. . . . How strange.

MAJOR: Both gone in the same battle.

TOWN: Well, what does Vaudreuil hope to get in the way of terms?

MAJOR: It is not a matter of hope, M'sieur. I remind you there has been no decisive engagement here. Our armies are in stalemate.

TOWN: Apparently your idea of a decisive battle is far different from mine, my dear sir. What terms would you like me to give you?

MAJOR: I object to your interpretation, mon Général. It is a matter of give and take.

TOWN: (*Potent*) Major, I invited you in here because I thought you had something to say. Since you apparently intend to haggle, be gone with you.

MAJOR: But, M'sieur. . . .

TOWN: Get out, I said. When you hear British artillery pounding Quebec to dust . . . as you most certainly shall . . . remember you could have prevented it by being honest with me.

MAJOR: M'sieur! I will remind you that I am entitled to respect.

TOWN: I'll not listen to any more feeble excuses, Major. If you are beholden to speak your piece, do so at once!

MAJOR: (*Stiff*) Very well. We submit the following as agreeable to ending our present conflict: That the French troops leave the city with the honors of war, carrying with them their arms, baggage and artillery. Two: that the people of the city be granted the free exercise of their religion under the supervision of the Bishop of Quebec. Three: that British guards be assigned to prevent looting. Four: that the wounded. . . .

TOWN: That's enough . . . that's enough. Major de Joannes: as the commander of the British forces, I shall give you my terms. I give General Vaudreuil exactly four hours to surrender the city. If he fails to do so, there shall be no further negotiations and I shall carry Quebec by storm!

Music: Organ segue into harpsichord

WEST: And the French then surrendered, General Townshend?

TOWN: Oh, they took their four hours, all right, West. Just on the hour, though, a fully repentant Major de Joannes reappeared with the acceptance.

BROWN: I thought you were remarkably liberal with them.

TOWN: Perhaps so, Brown. But remember: It was already mid-September. That country gets terribly cold without much warning. Furthermore, French reinforcements were coming through the forests. I think we were lucky to bluff a surrender from them when we did.

WEST: What a remarkable double-tragedy . . . Wolfe and Montcalm dying in the same battle.

TOWN: I'll never understand why he insisted on leading the charge.

BROWN: You didn't see him that morning, did you?

TOWN: No I didn't, Colonel Brown. At least . . . not after we left the ships.

BROWN: I have an inkling why he did what he did.

TOWN: Yes . . . ?

BROWN: General Wolfe was scared.

CAST: *Ad-lib protest*

TOWN: Ridiculous. He was never frightened in his life.

BROWN: I know . . . I know, hear me out. He was scared that morning; that's the only thing that explains it.

TOWN: I trust, Colonel Brown, you can explain *yourself*. Wolfe was my dear friend. The most fearless man who ever walked.

BROWN: Nevertheless, on the morning we attacked Quebec, Wolfe was scared. (*Break*) A few moments ago, Monckton told us about that council of war . . . and he said something I'd never known 'till now. Wolfe himself hadn't planned this attack . . . you and General Monckton did it for him.

TOWN: But he agreed to it.

BROWN: Only with profound reservations. He was the one who would be at fault if Montcalm had thrown us back into the river. The responsibility was his, if the idea was not. This was his first major campaign (*pacing words*) and General James Wolfe was terrorized by the prospect of failure.

TOWN: It had never occurred to me. . . .

BROWN: Nor to any of us, probably. But I saw it when I knelt beside him. He knew the wound was fatal; he knew he was dying . . . but for the moment he disregarded it for this greater fear. . . .

Sound: *Harpsi cross fade into height of battle; establish & hold*

WOLFE: (*Thru pain*) Charge! . . . Make them charge, Brown.

BROWN: Here . . . don't try to sit up, General.

WOLFE: They've got to beat the French . . . charge . . . (*Coughs*)

BROWN: Easy, sir. We're tearing into them all right. They're breaking.

WOLFE: Good! Keep it up, men. . . .

BROWN: General! General!

WOLFE: (*Feeble*) Eh?

BROWN: A Grenadier is running back toward us. . . .

WOLFE: No . . . No. . . .

BROWN: . . . and he's carrying the French colors!

WOLFE: Eh?

BROWN: The French colors, sir. We've got their flag!

WOLFE: Uh. Now, God be praised, I will die in peace.

Music: *Organ covers cannonade & into harpsi*

BROWN: Yes, those were his last words: "Now, God be praised, I will die in peace." He was gone soon after.

WEST: How terrible Wolfe didn't see the fruits of his victory.

BROWN: One of the tragedies of war. There was a stanza in Gray's *Elegy* . . . Wolfe was fond of that, and think how closely it matched his life and death. Let me see: It went:

"The boast of heraldry, the pomp of pow'r
And all that beauty, all that wealth e'er gave
Awaits alike th' inevitable hour
The paths of glory lead but to the grave."

WEST: Well, gentlemen—I've touched up the painting a little here and there. What do you think?

VOICES: *Ad-lib approval*

BROWN: It isn't the scene I remember.

MONCK: No, Brown, probably not. But as the years roll by, what *we* remember . . . those of us gathered here . . . will be of little account. For thousands of people yet unborn, this painting will be the Battle of Quebec. Such morbid memories which you and I retain—the fire rafts exploding in the river . . . Wolfe's penchant for reading poetry and taking pills . . . the mad scramble onto the Plains of Abraham—these will gradually vanish. This painting . . . still wet . . . will come to be the Alpha and Omega of that whole summer's invasion along the Saint Lawrence. And perhaps it's just as well . . .

Music: Organ curtain. After creeping in under Monckton

ANNCR: And now, here is Jim Schiavone . . . the producer of *Treasures Off the Shelf* . . . to introduce our special guest.

SCHIAVONE: *Brief intro to Librarian*

LIBRARIAN: Thank you.

Benjamin West's huge painting of the Death of General Wolfe now hangs in the main room of the Clements Library here at the University of Michigan. It is one of many original paintings and drawings that add to our resources on early American history.

As you have heard . . . the artist had many of the actual participants in the battle pose for him as he painted the death scene. But, unless you are entirely conversant with the *field*, you may have missed one *artistic* point. In the 1770's . . . when West created this picture . . . he shocked the artistic world by boldly painting the Quebec generals in their actual uniforms.

Until this time, the accepted practice had been to dress heroic characters in the sandles and togas of early Rome . . . regardless of contemporary uniforms. Fortunately for us, West chose to ignore the established custom in "The Death of Wolfe." His sharp details and brilliant colorings give us one of the earliest records of the uniforms and equipage of the British army in North America.

The painting that formed the basis of our story is on display in the Clements Library, and you are welcome to stop in and see it anytime you wish.

SCHIAVONE: *Ad-lib credits*

ANNCR: Join us again next week at this same time for another story behind the original documents in the Clements Library. **TREASURES OFF THE SHELF** is written by William Bender, Jr. and produced by Jim Schiavone. This is _____ speaking for the University of Michigan Broadcasting Service.

Music: Theme up and out

THE LONE RANGER

"The Lone Ranger" went on the air in January, 1933.

George W. Trendle created the idea, and Fran Striker wrote the scripts; Charles D. Livingstone is the production director.

The same year the show became sponsored in Detroit, New York, and Chicago. Land wires linked the cities. "The Lone Ranger" secured another sponsor on several New England stations, then on a group of West Coast stations. To accommodate these, more land wires were added, and a new network came into being. It was the Mutual Broadcasting System.

In 1942 the show transferred to the Blue Network, which later became the ABC. Meanwhile, the stories won first place in many polls, and a number of national awards for contributions to public safety and good citizenship.

From the first broadcast down to the present time, "The Lone Ranger" has been on the air three times each week with only two missed broadcasts. One of these cancellations came on the night of Franklin D. Roosevelt's death, and the other on the night of V-J Day.

No half hour show in radio has had so many broadcasts—over 2600.

Permission to print "The Lone Ranger" script in this textbook is based on a personal license granted to Waldo Abbot, and the manuscript entitled "The Lone Ranger," #2646-1871, subtitled "A Look to the Future," is intended for and shall only be used for reproduction in a radio textbook being written and compiled by the said Waldo Abbot. All other rights being expressly reserved.

The work, complete as submitted herein, when published in the said book shall contain a complete reservation of copyright as follows:

Copyright 1950, The Lone Ranger, Inc.

All rights reserved.

THE LONE RANGER, Created by Geo. W. Trendle

A Look to the Future

by FRAN STRIKER

January 2nd, 1950

Number 2646-1871

RANGER and TONTO

ACE PERIGON	Heavy #1. Cold. Hard.
MARTIN	Undercover agent.
"CHIEF"	Government official.
RHINO	Heavy #2. Rough.
BAT	Heavy #3. Crook.
PADRE	As before.
VOICE 1, 2, 3, 4.	Males. Small parts.

A Look to the Future

(Usual opening)

ANNCR: The first half of the nineteenth century saw the beginning of expansion into the West. The end of that era came in 1849 and '50 with the great rush of people to the gold fields. During the last half of the century, communities sprang up along the wagon trails. These settlements expanded into towns with schools and churches and people who were determined to make permanent homes. Indians and wild beasts had been conquered, but there remained the bandit gangs and outlaws—men who lived by the gun and preyed on fellow men—men like Ace Perigon, who led one of the strongest gangs.

Shouts, yells, hoofs, shots, cries, squealing of animals, etc., sustain under:

Perigon's gang was large and powerful. It was virtually an outlaw army that swept down on a long train of freighting mules.

VOICE: *(Yell)* Don't leave no survivors! Get the mules as well as the mule skimmers!

Music: Burst

Sneak in RR train

ANNCR: A freight train out of St. Joe was heavily loaded with mining machinery and equipment. The cargo would have meant much in the development of a community, but Perigon's gang planned otherwise.

Crashing of trestle, falling of train, etc., as:

A weakened trestle sent the engine plunging into the bottom of the canyon, and all the heavy cars went after!

Crash up, finish. Steam escaping, hoofs milling

Perigon's gang was waiting at the bottom of the canyon.

ACE: *(Shouts)* Move in, boys! You know what to do if you find any survivors!

Ad lib: (Shouts of agreement)

ACE: Burn all the cars and roll that machinery into the deep water!

Music: Sting

Sneak in steamship

ANNCR: A river steamship headed toward St. Joe. It was heavily loaded with lumber and building materials to be sent overland from the Missouri city, but it never reached its destination. Perigon's gang struck when the river boat touched Harper's Landing.

Shouts, shots, etc.

ACE: *(Shouting)* No survivors, boys! Kill off everyone on board, then fire the boat and cargo!

VOICE: *(Cry out in pain)*

ACE: Who's that? One of our boys get hit?

VOICE 2: It's Al!

VOICE: My leg! My leg!

VOICE 2: He got it in the leg, Boss. Looks like he can't stand up!

ACE: If he can't stand he can't travel! There's no room in my gang for cripples!

Close shot, emphatic

VOICE: *(Cry out)*

VOICE 2: *(Awed)* Perigon, you—you—

ACE: Al Kurts has just dropped out of our gang.

VOICE 2: B-b-but Boss—you didn't give Al a chance!

ACE: I'd put a mercy bullet into the head of a horse with a broken leg. Why shouldn't I do the same for Al?

Music: Sting

ANNCR: After the attack the charred remains of the steamboat and its cargo drifted downstream together with an assortment of wreckage. The Lone Ranger and Tonto were on the river bank watching the grim procession.

Running stream, or river B.G.

RANGER: Another attack, Tonto.

TONTO: Must be plenty big gang.

RANGER: Tonto, during the past few months there have been a number of big raids.

TONTO: That right.

RANGER: I know of two railroads that were wrecked. A wagon freight line was attacked and destroyed, also a mule freighter.

TONTO: Me know.

RANGER: There's something curious about every one of those attacks.

TONTO: What that?

RANGER: The attackers didn't steal anything. They simply destroyed the cargo.

I—*(break off)* Tonto, look!

TONTO: Man float downstream!

RANGER: Face down.

TONTO: Him dead.

RANGER: The current is bringing the body close to shore. I think I can reach it. *(Wading)*

I'll wade out a couple of yards. Give me your hand, Tonto.

TONTO: *(Grunts)*

RANGER: *(Effort)* Almost—there. I have him!

(Dragging body to shore)

RANGER: *(Ad lib effort)*

TONTO: Wet clothes make-um heavy.

RANGER: There.

TONTO: Him shot in side of head.

RANGER: Another bullet broke his leg. Let's see if it's anyone we— Tonto! I know who this man was! His name was Al Kurts.

TONTO: Me hear of name. Him bad man.

RANGER: His picture's on handbills all over the country.

TONTO: Maybe him in gang that raid steamboat.

RANGER: If that's true, I can name the leader of that gang.

TONTO: Perigon?

RANGER: That's right. Ace Perigon. Kurts never made a move that wasn't ordered by his boss. Get a blanket, Tonto.

TONTO: What we do?

RANGER: We'll wrap this body and leave it here while you go into town and report to the Sheriff.

TONTO: Where you go?

RANGER: Tonto, I want to know more about Ace Perigon, and there's just one way to get the information.

TONTO: *(Grunts)*

RANGER: Before I act I want to see our friend the Padre. I'm going to start at once for his Mission.

TONTO: Me join you there?

RANGER: Yes.

Music: Interlude

ANNCR: When Tonto went into the Sheriff's office, he saw a handbill on the wall. He pointed to this and said:—

TONTO: That feller—him one we find in river.

VOICE 3: Al Kurts, eh?

TONTO: That right.

VOICE 3: This calls for special handlin'. We've had orders from Washington, D. C., as to what we should do with any leads we got on the gang that hit the riverboat. Wait here, Injun. I've got to get to the telegraph office!

Music: Burst, and under

Telegraph clattering

Music: Burst and under

VOICE 4: Here, Chief. A telegram from the West—a small town on the river.

ANNCR: The Sheriff's message was delivered to a high official in a government building in Washington.

CHIEF: Um-m. Al Kurts, eh? So he is dead.

Rustle papers

I have a file on him. Find Inspector Martin and ask him to come to my office immediately!

Music: Burst to finish

(Door opens and closes)

MARTIN: You sent for me, Chief?

CHIEF: Sit down, Martin.

MARTIN: *(Sits)* Some time ago you told me to hold myself in readiness for a special assignment.

CHIEF: You'll hear about it in a moment. Martin, in the last half century, our nation has expanded beyond all expectations. The wilderness beyond the Mississippi has been conquered. A railroad runs thru to the Pacific. Indians have been driven back, and towns and villages have been established.

MARTIN: *(Wondering)* I know all that, sir.

CHIEF: These gains must be consolidated and developed. Now Industry must move West. Machinery must be put to work to mine and refine valuable minerals. Water power must be harnessed and used for running mills and factories. More people will be moving to the West. They must have homes, schools and churches, to say nothing of roads and means of communication.

MARTIN: That's true, Chief. But what are you getting at?

CHIEF: This expansion must come from the enterprise of individuals. The land was won by men who fought with guns. The progress must be carried on by men of vision with the ability to fight the war of Industry—of organization. That is the American Way. Businessmen, industrialists and financiers are ready to risk all they have. Our government must protect those men; must safeguard their property against illegal seizure. That is our moral obligation!

MARTIN: That's right, Chief.

CHIEF: A lot of machinery and equipment has already been sent to the West. It's been seized and destroyed, and Martin, we won't stand for that! The United States will tolerate no seizure of private capital by any foreign power or local mob!

MARTIN: Do you know who destroyed this property?

CHIEF: Until today we had no clue. We knew by footprints that it was the work of a large gang—obviously well organized—a gang that seems to have declared war on businessmen who sponsor our expansion. Today the first break came through the telegraph.

MARTIN: Good!

CHIEF: You were told to study the records and familiarize yourself with Western bad men.

MARTIN: I've done that, Chief. I know those records by heart. (*Slight laugh*) I guess I know as much about Western characters as anyone alive.

CHIEF: Then you know about Ace Perigon.

MARTIN: A man of great executive ability. A ruthless man without emotion. He never leaves survivors so the law has never had a witness who could testify against him.

CHIEF: What about Al Kurts?

MARTIN: Two terms in prison. He's said to be a side-kick of Ace Perigon.

CHIEF: He's been found.

MARTIN: Where?

CHIEF: His body was found floating downstream with the wreckage of the *Dixie Belle*.

MARTIN: His body, eh?

CHIEF: A bullet had broken his leg. The bullet that killed him was in the head.

MARTIN: That sounds like Perigon. It's in the record that he's shot his own men when they've been wounded. Chief, if Kurts was in the gang that burned the river boat, it must have been Perigon's gang.

CHIEF: That's our beginning, Martin. I think we'll find that Perigon has recruited an army of outlaws to block Western progress. You must find Ace Perigon and find some way to become a member of his gang. Learn why he wants to block development, and find a way to trap his entire organization.

MARTIN: Yes, sir.

CHIEF: Martin, the assignment is dangerous.

MARTIN: I'm aware of that, sir.

CHIEF: If Perigon has the slightest suspicion that you're an undercover agent, he'll shoot you without mercy!

Music: Interlude

ANNCR: Inspector Martin, one of the keenest, shrewdest men in the Federal Service, started West that afternoon. In the meantime, the Lone Ranger had reached a little Mission and joined his friend, the Padre.

PADRE: My son, never before have I seen you wear an expression of such great concern.

RANGER: Never before, Padre, have I faced a situation like this. You've heard of Ace Perigon?

PADRE: And who has not?

RANGER: You have heard of the many recent attacks on wagon trains, railroads, steamships—

PADRE: Great tragedies.

RANGER: Perigon is behind them.

PADRE: Indeed?

RANGER: He has a powerful organization, Padre. He and the men with him are fighting "Change." They are opposed to progress.

PADRE: But why, amigo?

RANGER: Their own greedy, selfish interests are best served if the West remains unchanged. They know that if this country develops and becomes more civilized, there will be more law and order. They don't want that. They want things to remain just as they are—with small communities isolated and easy prey for outlaw armies. They don't want each community to expand and to be connected by good roads, railroads, and telegraph lines to every other community. That's why they are opposed to progress. That's why they are destroying everything that might develop this country.

PADRE: My son, you may be right. I think you are. What can be done?

RANGER: I'm going to join Ace Perigon's gang and try to work against him from the inside.

PADRE: There is great danger—

RANGER: That's why I came to you. This mission may be my last. If I am unmasked and my body is found—as an outlaw member of Perigon's gang—you will know what to do.

PADRE: Your grave shall be alongside that of your brother and the brave Texas Rangers who died with him.

RANGER: Thanks, Padre.

PADRE: And now let us pray that your courage may remain steadfast no matter what may come.

Music: Interlude

ANNCR: It was one hour later when the masked man followed by the Padre came from the Mission and stood beside his great horse Silver.

(Hoofs clumping)

Refreshed both physically and spiritually, his eyes held a light of courage as he tightened the cinch.

RANGER: One last request, Padre—

PADRE: Yes, my son?

RANGER: Tonto will come here. Keep him with you until you hear from me—or about me. This is a job I must handle alone.

PADRE: I understand. I shall pray for your safe return, but if this is not to be—

RANGER: It will be up to Tonto to take care of Dan Reid.

Hoofs clatter

Steady, Silver. *(Mounts)* Hasta la vista, Padre! Come on, Silver!

Hoofs, start hard, fade as

Music: Burst, fade under

PADRE: *(Soft and close)* Just so the girded knights rode forth to battle.

Music: Burst to finish

ANNCR: The curtain falls on the first act of our Lone Ranger adventure. Before we continue with the next exciting scenes, please permit us to pause for just a moment.

(Commercial)

When the undercover man named Martin came West, he brought carefully prepared handbills and circulars that would establish him as a notorious outlaw. Aided by good luck, he found Ace Perigon's gang within a short time and became accepted as a probationary member.

ACE: Travel with us, Martin. It'll take a couple of weeks to reach our next job. Meanwhile, I'll test you. I'll find out if you're really the killer those handbills claim.

Music: *Sting*

ANNCR: Martin's every move was closely watched during the next ten days while he rode with Perigon's ruthless men. Meanwhile, the Lone Ranger covered many miles after leaving the Padre. He made countless inquiries in his efforts to locate Perigon. By piecing together bits of information, he concluded that the crooks were moving toward Cheyenne. And he was right.

Ad lib: *B.G. of voices in camp*

ANNCR: Perigon was camped near a shallow canyon within a day's ride of a railroad warehouse at Cheyenne. He was talking to Martin.

ACE: In two days, Martin, we'll attack a railroad warehouse. You'll go on ahead and kill the guard. That will be your test.

MARTIN: Cold blooded murder, eh?

ACE: Yes. Then we'll all move in and burn the warehouse.

MARTIN: What's in it?

ACE: It's filled with machinery and supplies that a mining syndicate has shipped out here.

MARTIN: What will be gained by burning it?

ACE: We don't want a lot of easterners moving in here with big business and a lot of newcomers. Why this West would become just like the East.

MARTIN: With too much law and order, eh?

ACE: That's the idea. We like things as they are and we don't want them changed. We'll take care of that warehouse Saturday. After that we'll see about putting the railroad out of business!

Music: *Interlude*

ANNCR: The Lone Ranger was less than a mile away at the bottom of the canyon that bordered Perigon's camp. His saddlebags had been emptied and the contents laid out on the narrow strip of beach between the deep stream and the canyon's twenty foot wall. He had seen the outlaw's camp from a distant hill and was preparing to join the gang. His mask had been laid aside. A disguise had been applied to his face. He was about to change into other clothing when a sharp voice spoke from behind a nearby rock.

RHINO: Get 'em up!

RANGER: (*Startled*) Eh?

Hoofs clatter. Steps coming in

BAT: (*Fading in*) We got you covered, Mister!

RANGER: Who are you?

RHINO: (*Fading in*) You can call him Bat. I'm Rhino. There's a couple of other boys covering you from the ledge up above.

RANGER: If you are members of Ace Perigon's outfit, you're just the men I want to see.

RHINO: Yeah?

RANGER: I heard Perigon was taking in new members. If that's the case, I—

RHINO: Wait a minute, Mister. Just what were you doing here?

BAT: Looks like he was fixing to change clothes, eh Rhino?

RHINO: What's this? A mask?

RANGER: Of course. Don't you boys occasionally wear a mask? If you'll give it to me, I'll put it in my saddlebag with—

RHINO: Hold it, Mister! Don't make any more moves! Just keep your hands at shoulder level! Pick up his gunbelt, Bat.

BAT: (*Slight effort*) Right. () These are downright handsome guns. I—(*break off*)

RHINO: What's the matter?

BAT: Rhino, these cartridges are silver!

RHINO: Silver?

BAT: You were fixing to join our gang, eh?

RANGER: What about it?

BAT: I've heard of a gent who uses silver bullets, and he wears a mask like that one you had laying on the ground, and he rides a white horse!

RHINO: (*Cuts in*) I get it, Bat! You're speaking of the Lone Ranger!

BAT: Yeah.

RHINO: He'd be dead set against the things our outfit's pulling. The chances are, he'd rig himself up with a disguise and try to join us to work against us from the inside—maybe get evidence and bring in the law.

BAT: Keep him covered, Rhino. I'll get his horse.

Steps, hoofs clatter

BAT: Here, you! Come here!

RANGER: (*Shouts*) Go on, Silver! Go, boy!

Hoofs clatter, fading fast

RHINO: (*Ad-lib shouting*) Come back here! Come back, you critter!

RANGER: (*Shouts*) Go on, Silver! Go on—(*Cut with*):

Hard blow

BAT: (*Effort*) Shut up!

RANGER: (*Take the blow*)

Music: Fade under

ANNCR: The Lone Ranger slumped to the ground when Bat struck him cruelly with the barrel of his six-gun. When he recovered consciousness, Silver was nowhere to be seen, but Bat and Rhino and several other men waited in grim silence.

RHINO: As soon as you can stand, we'll take you to the Boss and see what Perigon has to say!

Music: Up to finish

ANNCR: The Lone Ranger felt reasonably sure that he had completed the disguise on his face before the capture by Perigon's men, but now it didn't seem to matter. He knew when he faced Ace Perigon that his life was measured in minutes.

ACE: So this is the Lone Ranger, eh?

RHINO: No doubt about it, Boss. He'd laid aside his mask and he was just about to change into other clothes. There they are.

BAT: We brought 'em along, and here's his gunbelt with the silver bullets.

ACE: What about his horse?

RHINO: We tried to get the critter, but he got away.

ACE: So you're the Lone Ranger, eh? I've heard a lot about you. Haven't you, Martin?

MARTIN: Yes, I have.

ACE: The man no one ever saw without his mask.

RANGER: Take a good look, Perigon.

ACE: I am. I suppose you know what's coming to you.

RANGER: I'll have the satisfaction of knowing that I died for a worthwhile cause, and Perigon, I'll have the further satisfaction of knowing that your days are numbered.

ACE: Yeah?

RANGER: There's a new day coming to the west, and you can't stop it. Civilization is on the march, and with it, law and order. Before the end of this century, business and industry will have made this country just as civilized as any eastern city.

ACE: Martin, I've changed my mind about your test. Instead of waiting 'til it's time to kill that warehouse guard, you can take the test right now.

MARTIN: N-n-now?

ACE: (*Sharply*) Why not?

MARTIN: Give me his gunbelt.

BAT: This?

MARTIN: You heard me. Let's have it. Be sort of fitting to let the Lone Ranger be killed with one of his own silver bullets.

ACE: (*Chuckles*) Yeah, I like that touch.

MARTIN: Keep your hands up, Mister. Walk ahead of me over to the edge of the cliff. I'll let you have it so your body will fall into the water down below and save us the trouble of digging a grave. Is that all right with you, Perigon?

ACE: That's all right. Get going. We'll be watching you from here.

MARTIN: Start walking.

(*Steps sustaining*)

Ad lib: Murmurs of men, fading back

ANNCR: It was about a hundred yards to the edge of the twenty foot drop. During the walk the Lone Ranger moved two paces ahead of Martin, and held his hands at shoulder level while he thought of many things. He wondered about his great horse Silver that he had last seen at the place of his capture less than a mile away. And he wondered about the man who had been delegated to shoot him.

RANGER: (*Murmur*) Martin—Martin—

MARTIN: What are you saying?

RANGER: Now I have it. I remember you, Martin! You're no outlaw.

MARTIN: Who says I'm not?

RANGER: A few years ago you were a Federal Agent, and I hope you're still one. Are you working undercover here to get this gang?

MARTIN: How do you know me?

RANGER: We used to be good friends.

MARTIN: I doubt that. I don't forget a face.

RANGER: You haven't seen my face.

MARTIN: What?

RANGER: I disguised it before I was captured.

Steps halt

RANGER: Do you want me to take another step over the edge of the canyon, or wait here until you shoot?

MARTIN: It's only a twenty foot drop, and the water's deep. It would break your fall. But if I let you escape, Perigon would kill me.

RANGER: Can you smash Perigon's gang?

MARTIN: I hope to. He's planning to attack the Cheyenne warehouse on Saturday. I'm going to try to slip away from him Friday night and get the soldiers from Fort Laramie.

RANGER: You've got to succeed, Martin.

MARTIN: I'd like to know who you are—there's something familiar about your eyes—the shape of your chin. The disguise doesn't hide that.

RANGER: I was with you when you were wounded by the Cavendish gang in Texas.

MARTIN: (*Tense*) Yes?—Wait! Wait a minute! No no—you can't be—a Texas Ranger by the name of Reid—the younger brother of the Captain—

RANGER: Martin, you're the only man excepting Tonto who knows my identity.

MARTIN: You can't be Reid! He and five other Rangers were killed by the Cavendish gang—ambushed in a canyon! I saw the graves. I saw *your* grave.

RANGER: My identity was buried in that grave, Martin. I wasn't killed in that ambush. Tonto found me and nursed me back to health. I concealed my identity so Cavendish would be off-guard—he wouldn't know that one of the Rangers still lived.

MARTIN: Then you went out and got the Cavendish gang—every last one of them, including Cavendish himself. And after that, you kept on riding in the name of justice. And now—now I've got to shoot you.

RANGER: If you don't, Perigon will shoot you. You're in with the gang, Martin. You can smash them.

ACE: (*Back, yells*) What are you waiting for, Martin? Let him have it!

RANGER: Just one thing, Martin, before you shoot. I have a nephew—my brother's son—his name is Dan.

MARTIN: Yes?

RANGER: Help Tonto prepare that boy for the future. His generation must carry on after our work is done.

ACE: (*Back*) How about it, Martin? We've waited long enough! (*Fading in*) Let that critter have it or I'll have my boys do the shooting for you! You, Rhino and Bat, get your rifles ready.

RHINO: Mine's ready.

BAT: Me, too.

ACE: If Martin doesn't shoot within five seconds, you two do the shooting and drill Martin as well as the Lone Ranger!

RHINO: Martin's fixing to shoot.

Shot, back

BAT: That's it!

RHINO: Blasted the Lone Ranger right over the edge!

ACE: For a minute I thought he was going to back out.

BAT: He's looking down into the ravine.

ACE: (*Yells*) Make sure of him, Martin!

Three more shots, back

ANNCR: After firing three more shots after the man who had disappeared over the edge of the ravine, Martin tossed the guns and gunbelt into the canyon after their owner and turned on his heel and rejoined Perigon.

Music: Burst

ANNCR: Plans went ahead for the attack on the warehouse at Cheyenne. Ace Perigon sent out his scouts who brought back reports that pleased the leader.

VOICE: Just one watchman, an' he's an old galoot.

ACE: Good.

VOICE 2: If every gun carryin' hombre in Cheyenne turns out to fight we'll outnumber 'em two to one.

ACE: Good!

VOICE 3: It'll take half a day for a rider to reach the army post at Laramie an' half a day longer for the troopers to get back to Cheyenne.

ACE: By that time, we'll be a long way from Cheyenne!

Music: Sting.

ANNCR: On Friday night firearms were inspected and final orders given.

ACE: All you men have got your numbers. One thru five will gun anyone near the warehouse. Six thru twenty start a dozen fires in different parts of the warehouse. The rest surround the place an' shoot down anyone who comes near. When I signal, clear out fast. Scatter an' meet at the next hideout. You all know where it is.

Ad lib: Agreement

ACE: That's all. Now turn in early an' get a good night's sleep.

Ad lib: Agreement

ACE: You, Martin—

MARTIN: Well?

ACE: Stay with me. () Rhino—Bat—

RHINO: (*Slightly back*) Yeah, Boss?

ACE: You stay close and keep an eye on Martin.

MARTIN: What's the idea?

ACE: I'm takin' no chances, that's all, Martin. You MIGHT get the idea that you could get a nice reward an' a pardon for your past crimes by sneakin' off to tell about our plans.

MARTIN: You think I'd double cross you like that?

ACE: I'll be more sure of you when I see how you act on your first big job with us. Till then, we're watching you!

Music: Interlude

ANNCR: Martin didn't sleep that night. He lay awake waiting, watching and hoping for a chance to get away as he had planned and tell the soldiers at Fort Laramie about Ace Perigon's army of destruction. But his hopes were futile. Bat and Rhino took turns sleeping. One was always awake and watching with a gun held ready. Early morning found the outlaws on the move.

Many hoofs at trot

Martin was forced to ride at Ace's side, with Bat and Rhino right behind.

ACE: There's the warehouse—straight ahead. The watchman sees us. Let him have it, Martin.

MARTIN: You mean—shoot him?

ACE: (*Angry*) I mean—shoot him!

Shot

You missed.

MARTIN: It—it's hard shooting from the saddle.

Distant shots

RHINO: He's opened fire on us.

BAT: I'll get him!

Three close shots

That got him!

ACE: Martin, I don't like the way you've been acting! You could have hit that watchman!

Sneak in distant shouts

MARTIN: Now see here, Perigon—

ACE: You'd better play straight on this job.

RHINO: Here come some of the townsmen!

ACE: (*Yells*) Close in on the double. Git up there!

Hoofs fast. Shouts and yells fade under

ANNCR: The outlaws spurred their horses and dashed to the warehouse. They reined in fast and dismounted.

*Hoofs stopping. Gunfire**Ad lib: (Whoas)*

ANNCR: Each man rushed to his assignment. Some opened fire on the approaching townsmen. Others smashed locks on the warehouse doors and prepared to go inside to start the fires. Bat and Rhino stayed close to Martin and Ace Perigon—

Yells, shouts, gunfire

ACE: Use that gun, Martin! I've been watching you. You STILL haven't shot down anyone.

MARTIN: (*Sudden energy*) Maybe I won't have to!

ACE: (*Angry*) What's that?

MARTIN: Look, Perigon! To the west!

RANGER: (*Distant cry*) Come on, Silver!

Distant bugle start fast hoofs fading in

RHINO: Boss! Soldiers!

BAT: And that man in the lead—that white horse—

ACE: (*Howls*) Martin! It's the Lone Ranger!

MARTIN: You bet it is! And he's bringin' the troops to get you.

ACE: You didn't kill him! You double crossin'—

RHINO: Boss! The army's spreadin' out to surround us!

BAT: We gotta clear out!

ACE: I got one thing to do!

Heavy, close shot

That's for you, Martin!

MARTIN: (*Gasp*)

Close shot

That's for a double crosser!

RHINO: Boss! We gotta ride hard. We're bein' circled!

ACE: (*Yells*) Every man for himself!

Hoofs, shots, yells, etc. Fade under

ANNCR: The outlaws had no chance to escape. Before they could mount and ride, the soldiers had swept around in a tight circle to surround Ace

Perigon's band. Many of the outlaws fell. The rest threw down their guns and held their hands high in surrender.

Change to milling hoofs and murmurs of crowd

The Lone Ranger quickly spotted Martin and rushed to the side of the fallen secret agent—

Hoofs in fast and stop. (One horse)

RANGER: (*Dismounting*) Whoa, Silver— () Martin—

MARTIN: (*Dying*) Glad—y—you made it—

RANGER: Let's see that wound—

MARTIN: No—no use. I'm goin'—m—my job was done when I—I passed the word of the attack to you—and—and let you get away—

RANGER: I owe my life to you, Martin—but that doesn't count—the nation owes you much—

MARTIN: I—I knew you landed in the water safely—I—I hoped you'd get to the soldiers—

RANGER: Silver was nearby—

MARTIN: I—I guess Fate stepped in, eh?

RANGER: Fate?

MARTIN: I said—one of us—had to die—and one be saved—to wipe out Perigon—

RANGER: Martin. You—

MARTIN: Listen to me—carry on. And train someone to carry on in the twentieth century when—when you join your ranger pals—and me—

RANGER: Dan Reid is going to meet the twentieth century as a man.

MARTIN: G—great things lie ahead for this nation—and great tests of strength and courage—

RANGER: America will meet those tests as long as there are men like you, Martin.

MARTIN: (*Slight laugh*) Guess I—I'm the only one who knew your name, eh Reid? Now I—I'm goin'—

RANGER: Steady Martin—

MARTIN: Y—you'll just be—unknown—just the Lone Ranger.

Theme

SELECTED READINGS

ANDERSON, SHERWOOD: *Above Suspicion*, Free Company, New York, 1941.

Broadcast over CBS in 1941.

BARNOUW, ERIK, ed.: *Radio Drama in Action*, Rinehart & Company, Inc., New York, 1945.

Twenty-five serious radio plays by leading dramatists on the subject of changing world conditions.

BENÉT, STEPHEN VINCENT: *They Burned the Books*, Rinehart & Company, Inc., New York, 1942.

BRECHT, BERTOLT: *The Trial of Lucullus*, Norfolk, Conn., 1943.

A verse play.

CANTRIL, HADLEY: *The Invasion from Mars*, Princeton University Press, Princeton, N. J., 1940.

The script of the Orson Welles broadcast with a study of audience reaction.

CARMER, CARL: *Taps Is Not Enough*, Henry Holt and Company, Inc., New York, 1945.

A poem broadcast by CBS in 1935.

CLARK, GENE EMMET: *The Plot to Tear the Statue Down*, Robert Speller Publishers, Inc., White Plains, N. Y., 1946.

A poem for radio.

CORWIN, NORMAN: *More by Corwin*, Henry Holt and Company, Inc., New York, 1944.

Sixteen radio dramas.

—: *On a Note of Triumph*, Simon and Schuster, Inc., New York, 1945.

Famous CBS broadcast immediately following V-E Day.

—: *Thirteen by Corwin*, Henry Holt and Company, Inc., New York, 1942.

—: *This Is War!* Dodd, Mead & Company, Inc., New York, 1942.

Contains 13 scripts.

—: *We Hold These Truths*, Howell, Soskin, Publishers, Inc., New York, 1942.

A dramatic celebration of the Bill of Rights presented over all networks.

CUTHBERT, MARGARET: *Adventure in Radio*, Howell, Soskin, Publishers, Inc., New York, 1945.

Scripts by some of radio's best writers selected for young people to study.

FITELSON, H. WILLIAM, ed.: *Theatre Guild on the Air*, Rinehart & Company, Inc., New York, 1947.

Twelve radio adaptations of famous stage plays. Descriptions of the problems of adaptation.

HACKETT, WALTER: *That Gaspee Affair*, Oxford University Press, New York, 1941.

An historical play.

JONES, CARLESS: *Short Plays for Stage and Radio*, University of New Mexico Press, Albuquerque, N.M., 1940.

Three adaptations and four original plays.

KOZLENKO, WILLIAM, ed.: *One Hundred Non-royalty Radio Plays*, Greenberg: Publishers, Inc., New York, 1941.

LAMPELL, MILLARD: *The Long Way Home*, Julian Messner, Inc., Publishers, New York, 1946.

Fourteen radio plays presented by CBS and dealing with the war.

LASS, A. H., EARLE MCGILL, and DONALD AXELROD, eds.: *Plays from Radio*, Houghton Mifflin Company, Boston, 1948.

A textbook of radio scripts.

MACLEISH, ARCHIBALD: *The American Story*, Duell, Sloan & Pearce, Inc., New York, 1944.

Contains 10 of the scripts introduced in 1943 over N.B.C.'s "University of the Air."

MAYORGA, MARGARET, ed.: *The Best One-act Plays of 1942*, Dodd, Mead & Company, Inc., New York, 1943.

Includes four radio plays.

MAYORGA, MARGARET, ed.: *Best One-act Plays of 1947-48*, Dodd, Mead, & Company, Inc., New York, 1948.

Contains two radio scripts.

MILLAY, EDNA ST. VINCENT: *The Murder of Lidice*, Harper & Brothers, New York, 1942.

A verse-narrative presented by N.B.C.

OBOLER, ARCH: *Fourteen Radio Plays*, Random House, New York, 1940.

—: *Radio Plays and Personalities*, Duell, Sloan & Pearce, Inc., New York, 1945.

Fourteen plays.

—: *Plays for Americans*, Rinehart & Company, Inc., New York, 1942.

Thirteen nonroyalty radio plays.

—: *This Freedom*, Random House, New York, 1942.

Thirteen plays.

—, and STEPHEN LONGSTREET, eds., *Free World Theatre: Nineteen New Radio Plays*, Random House, New York, 1944.

PRESCOTT, HERBERT, ed.: *The Radio Players' Scriptbook*, J. Weston Walch, Portland, Me., 1948.

Fifteen radio plays chosen from 400 scripts and tested by the Grinnel College Radio Players.

SAROYAN, WILLIAM: *Razzle Dazzle*, Harcourt, Brace & Company, Inc., New York, 1942.

Sixteen plays, four of which have roots in radio. Three were produced by C.B.S.

WEISER, NORMAN S.: *The Writers' Radio Theatre 1940-1941—Outstanding Plays of the Year*, Harper & Brothers, New York, 1941.

Contains 10 plays.

—: *The Writers' Radio Theatre, 1941—Outstanding Plays of the Year*, Harper & Brothers, New York, 1942.

Contains 11 radio scripts and 1 television script.

—: *We Stand United and Other Radio Scripts*, Farrar & Rinehart, Inc., New York, 1945.

NONROYALTY PLAYS FOR ALL-WOMEN CASTS

BARNUM, MADELENE D.: *Our Aunt from California* (6 women), Samuel French, 30 cents.

BREEN, BESSIE S.: *Twelve Good Men and True* (12 women), Samuel French, 30 cents.

BRIDGHAM, GLADYS R.: *Tillie Listens In* (11 women), Baker's Plays, 30 cents.

BROWN, MAY B.: *References Required* (3 women), Samuel French, 30 cents.

DORAN, MARIE: *Eyes of Faith* (9 women), Samuel French, 30 cents.

DORAN, MARIE: *Ghost of a Chance* (6 women), Samuel French, 30 cents.

FORD, HARRIET: *Wanted Money* (5 women), Samuel French, 30 cents.

GLEASON, ORISSA W.: *How the Story Grew* (8 women), Baker's Plays, 25 cents.

- KEMPER, SALLIE: *Mothballs* (3 women), Baker's Plays, 25 cents.
 LOWELL, EDITH: *Tell a Woman* (2 women), Baker's Plays, 25 cents.
 MCMANUS, POLLY: *Between Trains* (4 women), Dramatic Publishing Co., 25 cents.
 OLSON, ESTHER E.: *They Say* (5 women), Baker's Plays, 35 cents.
 PACKARD, WINTHROP: *Man in the Case* (6 women), Baker's Plays, 30 cents.
 PALMER, BELL E.: *Truth Party* (13 women), Baker's Plays, 30 cents.
 TILDESLEY, ALICE: *Cast Rehearses* (5 women), Baker's Plays, 25 cents.
 WILKINSON, GEOFFREY: *Cure for Indifference* (4 women), Samuel French, 30 cents.

The above plays (one-act) are published separately. The addresses of the publishers are: Baker's Plays, 178 Tremont St., Boston; Dramatic Publishing Co., 59 East Van Buren St., Chicago; Samuel French, Inc., 25 West 45th Street, New York.

Information Sources

The following is a list of information sources regarding one-act and three-act plays:

Catalogue and Review of Plays for Amateurs, Cecilia M. Young, Loyola University Press, Chicago, 1924. Lists copy price of each play but not royalty. Classifies plays as to type and production problems.

Library Extension Service News Letter, Vol. 17, No. 9, September, 1938, University of Tennessee Extension Service, publishers. Lists type, royalty, cast, publisher, author, and classification for grade school, high school, or little theater.

Bureau of Community Drama, North Carolina. Lists children's plays, folk, one-act, full-length, and Carolina folk plays.

University of North Carolina Extension Bulletin, No. 4, November, 1936, published by the University of North Carolina Press. Classifies plays as to type, copy price, royalty, characters, production problems.

United States Catalogue of Books.

INDEX

Radio slang, studio expressions, and abbreviations, unless discussed in the text, are not included in this index but are listed alphabetically in the Glossary, pages 374-382.

A

- Abbreviations, 380-382
Acetate records, 303
Acoustics, dead-end and live-end studios,
1, 2
 reverberation in, 2, 3
Action copy, advertising, 288, 294
Actors, radio, 213-214, 222-235, 363-364
 in AFRA, 364
 assignments for, class, 421
 auditions for, 224-225, 396-408
 copy for narrative, 397-398
 dialect, 405-408
 dialogue, 398-405
 casting of, 224-226, 230, 245
 characterization by, 213-214, 233
 children as, 162, 165, 212-217
 diction of, 222, 232
 memorizing of lines by, 243
 microphone technique of, 224, 234-
 235, 245
 Project V for, 396-408
 reading of lines by, 225, 231
 salary of, 364
 signals to, 229, 373-374
 in television, 209, 241-245
 training for, 231, 233
 vocation of, 363-364
 voices of, 222, 225, 232, 233
Acts, radio, of 1912, 1927, 1934, 327-329
Actuality broadcasts, 141, 170, 209
 sports, 108-115
Adaptations, 162-164, 206
Addresses, radio, 126-133, 137, 171
 assignments in, class, 417
 content of, 134-146
 conversational approach of, 72, 119,
 126, 131, 143
 copyrights of, 341-351
 diction of, 74, 128, 131, 139
 in education, 171
 grammar of, 127, 129, 130
 humor in, 133, 266-272
 introduction of speakers for, 132,
 133
 length of, 132, 133, 136
 libel in, 336-337
 manuscripts for, 79
 on medical subjects, 137
 outline of, 120, 121, 126, 127
 projection of personality in, 72, 126,
 129, 143
 salutation in, 120, 126
 speed of speech for, 78, 127
 style of, 131
 transitional words in, 132
television, 124, 125
Advertising, radio, 212, 273-284
 by agency, 274-278
 assignments in, class, 422-423
 commercial continuity of, 285-301
 entertainment as factor in, 212, 291-
 292
 harmony with other media in, 273,
 277
 humor in, 271
 local, 277
 sales appeal of, 212
 by station department, 277, 366
 surveys for, 274-276
 time factor in, 279
 time salesman for, 273-274, 278, 282,
 366-367
 training for, 366
 writers of, 285-301, 361-363
 writing of, 285-301
television, 280-283
Advertising agencies, 274-278, 287
services of, 275-277, 287

- Aids, visual (Project III), 389-391
 Altec mike, 9
 American Federation of Radio Actors (AFRA), 364
 "American Heritage, The" (script), 183
American Medical Association (AMA) scripts, 418
 American Society of Composers, Authors, and Publishers (ASCAP), 319, 339-341
 Amplifier, remote, 117
 Amplitude modulation, 1-21, 26, 168, 325
 assignments in, class, 410-411
 and education, 168
 Announcements, assignments in, class, 423-424
 commercial, 47, 285-301, 449-450
 log of, 317-321
 television, 115
 time of, 285
 writers of, 361-362
 Announcer, 59-69, 355-361
 advancement of, 360
 application for position as, 358-359
 assignments as, class, 412-413
 audition copy for, 391-396
 auditions for position as, 355-356
 basic training for, 60, 355-356
 commercial, 65, 395
 duties of, 360
 logs, forms, and reports, 317-320
 in FM set up, 68, 69
 instructions to, 66
 mike position of, 65, 67-69, 114
 narrator as, 198
 personality of, 60, 62, 63, 67
 in Project IV, 391-396
 pronunciation of, 64, 80
 qualifications of, 59-61, 64, 109, 356-357
 salary of, 357-359, 364
 skills of, 61
 sports, 108-115
 style of, 60, 62-63
 in television, 115
 tests for, 355-357, 391-396
 versatility of, 63, 352
 vocation of, 355-361
 voice of, 59-60, 64-65, 114, 357
- Antenna, 12, 24-25
 bays, FM, 24-25
 and beacons, 324
 dipole, FM, 25, 30
 directional, 16-17, 32
 four-bay FM, 25
 pylon, 24, 25
 super-turnstile, 25
 Appeals, sales, 285-286, 288, 290, 293
 Application for license, 15, 29, 331-332
 Armstrong, Edwin H., 23, 29
 Art, broadcasts on, 183
 Articulation, 66, 89-93
 Artists' Service Bureau, 364
 ASCAP, 319, 339-341
 Assignments, class, 409-424
 Audience, radio, characteristics of, 194
 daily classification of, 46-47
 mass, 53
 sales appeal to, 274-276
 studio, 230
 surveys of, 274-276
 Audio box, 42
 Auditions, means of obtaining, 357-359
 as projects, 391-408
 types of tests for, 356
- B
- Background music, 162, 233
 Background sound, 265
 Band, side, 17
 Bantam mike, 7-8, 68
 Baseball broadcasts, 115
 Bender, William, Jr., 450
 Berg, Gertrude, 438
 Bibliographies, amplitude modulation, 21
 announcing, 69
 broadcasts to schools, 192-193
 business side of radio and TV advertising, 283-284
 children's programs, 167
 directing radio plays and actors, 236
 expressions, slang, signals, 382
 law and broadcasting, 351-352
 making of recordings, 316
 monologues, 413
 news, 106-107
 programming, 57-58
 public service, 146-147

- quiz books, 416
 radio as vocation, 371
 radio humor, 272
 radio music, 157
 radio plays, all-women casts, 478-479
 compilations of, 476-478
 radio pronunciation, 88
 radio speaking, 79
 sound effects, 267
 stage plays for radio, 163-164
 television production, 245-246
 unwritten talk, 125
 very high frequencies, 42-44
 writing commercial continuity, 301
 writing radio play, 210-211
 writing radio serial, 220
 "Blasting" of microphone, 8, 77
 Block programming, 50, 212
 BMI (Broadcast Music, Inc.), 321, 340-341
 Board, spotter, 111
 Body movement in radio speech, 75, 233-234
 Boom mike stand, 2, 68, 234
 Breathing, 75, 91
 Broadcast Music, Inc. (BMI), 321, 340-341
 Broadcasting magazines, Project I, 383-385
 Broadcasts to schools, 168-193
 Business of radio, 273-284
 (See also Advertising, radio)
- C
- C.A.A. (Civilian Aviation Authority), 324
 Camera, electronic, 29, 242, 244
 Campus radio, 20
 Carrier current, 19-20
 Carrier frequency, 13, 16-17
 Carrier radio (see Wired wireless)
 Casting of radio play, 224-226
 Cathode-ray tube, 31
 "CBS Is There" (script), 426-437
 C.B.S. color system, 34-36
 Censorship, 329, 334
 Chain broadcasting (see Networks)
 Channel, 14, 17, 23-24, 26
 educational, 26
 Characters, in radio play, 162, 165, 199, 213
 in television, 208, 243
 Chicago public schools radio council, 183-190
 Chicago Round Table, 118-121
 Children's programs, 48, 158-167, 212, 217-219
 accuracy in, 158
 assignments in, class, 419
 bibliography, stage plays for radio, 163-164
 characters in, 162-165
 educational, 159
 listening habits created by, 159
 material for, 160-161
 plays for adaptation to, 162-164
 plots in, 158-163
 poetry for, 164
 preferences for, 159
 preparation of, 158-167
 for school, 168-193
 serials for, 212, 217-218
 for television, 166
 Children, auditions for, 404-405
 Choral singing, 150
 Civics, teaching of, 181
 Civilian Aviation Authority (C.A.A.), 324
 Clarity in speech, 89
 Class assignments, 409-424
 Classical music, pronouncing aids for, 88
 Classification of AM radio stations, 14-16, 328
 clear channel, 14
 local, 13-15
 regional, 13-15
 Cleveland public schools, 175-180
 Closed circuit, 32-34
 Coaxial cable, 31, 33
 College stations, 20, 32, 168
 Color television, 34-38
 Columnist type of announcer, 96
 Comedy writing, 268-272, 362-363
 Commentator, news, 94, 95, 391-394
 Commercial continuity, assignments in, class, 423-424
 contests in, 297-300, 329
 diction in, 289, 295-296
 do's for commercial writers in, 300-301
 dramatized, 291-294

- Commercial continuity, emotional appeal
in, 285, 293
F.C.C. regulations in, 298-300
"give aways" for, 297-300
humor in, 271
length of, 47, 285, 289, 295
Mutual Broadcasting Company, regu-
lations for, 298-299
person-to-person appeal in, 290
positive approach in, 297
rational sales appeal in, 286
sentence structure in, 296
style of, 289-290, 293
subject matter of, 285
teaser, 292
television in, 280-283
uses of, 285
writers of, 361-363, 370
- Commercial educational programs, 169
- Commercial voice, 59, 60, 64, 65, 357
- Common-law copyrights, 342-344
- Communications Act of 1934, 329
- Community programs, 53, 134-136
- Console control, 10, 11
- Continuity, definition of, 346, 361
- Contract writers, 345, 361-362
- Control board, 10, 11
operators of, 365
- Control group, 172
- Conversational style, 67, 119, 140, 293
- Copy writers, 361
- Copyright regulations, 206, 338-351
- Copyrights, common-law, 342-344
duration of, 342, 344-345, 350
establishment of, 344
publication effect of, 94, 343
music, 338-341
statutory, 344-351
damages obtained through, 350
duration of, 342, 344-345, 350
holders of, 345
and ideas, 349
infringement of, 348-350
procedure necessary to obtain, 347-
348
for radio script and continuity, 346
for speeches, 341-351
- Cost of radio advertising, 275, 279-280
- Coverage distance of stations, 14
AM, 14, 410
Coverage distance of stations, FM, 15,
24
low-power, 27
television, 31
- Cue pick up, importance of, 231
- Cue sheet, 319
- Cultural background for broadcasters, 61,
355, 361
- Cutting head (*see* Stylus)
- Cyclical programming, 50
- D
- Daybook, 318-319
- "Death of General Wolfe" (script), 451-
463
- Debates by radio, 170
- Decibels, 10, 308
- Defamation, 334-338
- Definition of educational program, 169,
190
- Department store, closed-circuit, 32-34
- Dialect, regional, 86, 87
auditions for, 405-408
- Dialogue, dramatic, 196-199, 214
auditions for, 398-405
- Dichroic lenses, 37
- Dictionaries and pronunciation, 64
- Dipole, 25, 30
- Direct teaching by radio, 168-193
- Directional antenna, 16, 32, 322
- Director, dramatic, 221-229, 363
music, 363
program, 46, 48
television, 237-241, 354
- Disc recording, 302-309
acetate, 303
assignments in, class, 424
chips, handling of, in, 305-306, 309
cutting stylus for, 303, 305-306
decibels, scale of, in, 308
dubbing in, 309
equipment for, 304-305
groove in, 306
"hill and dale," 303
imperfections in, 308
inside-out, 304-305
lacquer records, 302-309
lateral cut, 303
long-play, 303

- Disc recording, microscope in, use of, 306-307
 outside-in, 304
 phonograph records, 302-303
 pick-up head for, 307
 playback, 307
 speed of, 303
 styli for, 303, 305-306
 table for, 308
 technique of, 307-309
 time of playing on disc in, 303-304
 vertical cut, 303
- Documentary script sample, 426-437
- Dramatic director of station, 221-229, 363
 assignments as, class, 421
 background for, 221
 duties of, 221-229, 240
 rehearsals, 226-229, 241
 selection of cast, 224-226
 signals, 373-374
 studying script, 223-224, 240-241
 timing of show, 227-228, 241
 television, 221-229
- Dramatic scripts, 55, 194-220, 426-476
- Dramatic staff, actors of, 214, 363-364
 director of, 221-229, 363
 salaries of, 364
 sound-effects operator, 265, 364
 for television, 208, 239
- Dramatics, radio, actors of, 230-235, 241-245
 assignments in, class, 420, 421
 auditions for, 396-408
 casting of actors for, 224-226
 for children, 48, 158-167, 217-218
 commercial, 291-293
 director of, 221-230, 237-241, 363
 microphone position for, 224, 234-235, 245
 news in, 96
 rehearsal of, 224-229, 241
 serials as, 212-220
 sound effects for, 223, 247-267
 studio audience and, 230
 voice for, 222, 225, 232-233
 writers for, 158-167, 208-210, 361-362, 370
 television, 166, 208-210, 237-245
- Dramatized educational broadcasts, 159, 170, 171, 177, 181, 183
- Dubbing, 309, 312
- Dunham, Franklin, 190
- Dynamic microphone, 5
- E
- Editing, of medical talk, 137
 of news, 94
- Education by radio, 159, 168-193
- Educational FM channels, 26, 168
- Educational low-power stations, 27-29, 168
- Educational program, definition of, 169, 190
 schedule of, 187-189
- Effects, sound, 162, 223, 247-267
 assignments in, class, 422
- Electrical disturbances of broadcasting and reception, 16, 23
- Electrical impulses, 11, 17
- Electrical pickups and turntables (*see* Disc recording)
- Electrical transcriptions, 56
 libraries of, 56, 314
 regulations concerning, 315
- Electro-Voice microphone, 9
- Electromagnetic recording (*see* Tape recording)
- Electromagnetic waves, 22
- Electron beam, 30, 31
- Elementary science broadcasts, 174-178
- Engineering logs, forms, records, 321-326
- Enunciation, 89-93, 150
- Episodic serial, 213
- Equipment, approved by F.C.C., 330
 for wired wireless, 385
- Evening programs, 48, 54
- Expressions, radio, 374-380
- Extempore-speech programs, 116-125
 libel in, 337
- F
- Facsimile, 39-42
- Fading, 13
- Farm programs, 47
- "Fax," 39-42
 expressions used in, 374-380

- Federal Communications Commission (F.C.C.), acts and regulations of, 15, 16, 19, 20, 26-29, 33, 298-300, 315, 317, 321-322, 329-333, 338, 365
- Federal Trade Commission, 288, 332-333
- Film for TV commercials, 282
- Films about radio, 389-391
- FM and education, 168
- Folded dipole antenna, 25
- Follow-up work for broadcast lessons, 183-186
- Football broadcasts, 108-115
- Foreign-language classes, 183
- Foreign-language programs, 54
- Foreign names, pronunciation of, 86
- Forms, 207 (*see* Station paper work)
- Free-lance writers, 361-362, 370
pay of, 362
submission of work of, 116, 344
- Free time for politicians, 144
- Frequency assignment, classification of, 14, 15, 328
clear channel, 14
local, 15
regional, 15
very high (FM), 27
- Frequency modulation, 3, 22-29, 31-32, 39, 42-43, 68-69, 149-150, 155, 168, 325
- G
- Gag writers, 268-272, 362-363
- Gas-pipe radio, 19, 20, 385-389
- General information on broadcasting, sources of, 409-410
- Geography, teaching of, 181
- "Goldbergs, The" (script), 438-449
- Good standards, 330
- Government programs, 57, 141-144
- Ground wave, 13, 14
- Ground wire, 12
- Guides, teacher, 175-176, 183-187
- H
- Health programs, 136-138
- Historical dramatization, 183
- Historical scripts, 426-437, 451-463
- History, teaching of, 180
- Humor over air, 268-272, 362-363
- I
- Impersonation in children's programs, 162, 165, 177
- Inflection, 89-93
- Informal style in radio speaking, 64, 72, 73, 119
- Information, sources of, 409-410
- Insincerity and broadcasting, 72
- Instantaneous recording (*see* Disc recording; Tape recording)
- Interest-getting devices of programs, 212, 291
- Interferences in reception, 14-16, 23, 24
- Interview, radio, 122
television, 124-125
- Intonation, 89-93
- Intrastore TV, 33
- Iowa State College, 32, 192
- J
- Jennings, George, 183
- Juvenile listeners, 48, 158-193, 212, 217-218
- K
- Kennelly-Heaviside layer, 13
- Kilocycle, 12, 27
- Kinescope, 30, 31, 37
- L
- Lacquer recording (*see* Disc recording)
- Languages, teaching of, 183
- Law of radio, 327-350
acts, 327-329
copyrights, literary, 341-351
music, 338-341
defamation, 334-338
development of, 327, 333
and F.C.C., 329-333, 338
libel, 334-338
obscenity, 331-332

INDEX

- Law-enforcement programs, 144-146
 Length of broadcasts, 133, 136
 Libel, 334-338
 Librarian, music, of station, 364, 370
 License of station, 329-332
 AM, 331
 FM, 29, 331, 333
 qualifications for, 330-332
 renewal of, 332
 Lighting, studio, for TV, 30
 Limited-area broadcasting, 19, 20
 "Lincoln's Assassination" (script), 426-437
 Listener participation, 172
 Listening group, 70-72, 141
 Live studio, 1
 Livingston, Charles, 464
 Local community-service programs, 134-146
 civic interest in, 134, 135
 for farmers, 138, 139
 on health, 136-138
 on law enforcement, 144-146
 necessity for, 134, 135
 parent-teacher, 141
 on politics and government, 141-144
 religious, 139-141
 for shut-ins, 134
 weather, 134
 Local programs, 47, 54
 Local stations, advertising service of, 277-278
 classification of, 15
 Logs, radio (*see* Station paper work)
 "Lone Ranger, The" (script), 464-476
 "Look to the Future, A" (script), 465-476
 Loud-speaker, 17
 Low-power station, 27-29, 42, 43, 168

 M

 Maddy, Joseph E., 172-173
 Magnetic-tape recording (*see* Tape recording)
 Manners, Lucile, 151-152
 Manuscripts, television, 210
 Mass audience, 53
 Measuring audience reaction (*see* Surveys)

 Medical programs, 137
 Microphones, 4, 5
 all-purpose, 7
 Altec, 9
 Bantam, 7, 8, 68
 bidirectional, 4
 cardioid, 6
 condenser, 5, 9
 distance from, 68, 69, 76, 114, 149-154, 224, 234-235
 dynamic, 5
 Electro-Voice, 9
 Multimike, 6
 nondirectional, 6, 9
 parabolic attachment, 10
 salt-shaker, 5
 Tru Sonic, 8
 velocity, or ribbon, 4-6
 Microvolt, 26
 Microwave transmitter, 33
 Mike stand, boom, 2, 68, 234
 Missouri, University of, 39, 42
 Modulator, 11, 12
 Monitoring TV, 240
 Monologues, list of, 413
 Montage, 202
 Mood words, 202
 Mosaic, 30, 31
 Motion pictures, about radio, 389-391
 TV, 32, 282
 Multiple-voice technique, 170
 Music, assignments in, class, 418
 as background, 223
 choral groups, 150
 copyright for, 338-341
 and frequency modulation, 149, 150, 155
 instrumental set-up for, 152-155
 log of, 320
 microphone position for, 8, 148-156
 orchestral placement for, 152-156
 piano, 153
 singers, 148-152
 teaching of, 172-173
 television, 156
 Musical bridge, 223
 Mutual Broadcasting Company policy, 298-299
 Muzac, 20, 27

N

- Narrator, 166
 National Association of Educational Broadcasters, 29
 Networks, 26
 disadvantages of, 134
 liability of, for copyright violation, 338-351
 for libel, 336
 relay, 26, 31, 32
 News programs, 47, 48, 56
 assignments in, class, 414-415
 audition copy for, 391-394
 code for, 105
 columnists, 96
 commentating, 94, 95
 commercial copy in, 95
 copyright restrictions on, 90
 delivery in, 104, 105
 diction in, 99, 100
 dramatized, 96
 in education, 181
 facsimile, 39, 40
 news services for, 94
 policies regarding, 106
 processing, 94
 salutation in, 103
 selection of news for, 97, 98
 speed of delivery in, 105
 style of, 99
 summaries in, 103
 taboos for, 98, 99, 101
 television, 97
 transitions in, 95, 101, 105
 types of, 94, 96
 writing, 99-102
 Novels about radio, 408-409

O

- Obscenity and radio, 269, 289, 331-332
 Offers, 297-300, 329
 Opening of radio play, 199
 Orchestra, pay of, 363-364
 position of microphone for, 148-156
 Oscillation, rate of, 13
 Oscillator, 12, 13

P

- Parabolic mike attachment, 10
 Parabolic walls, 2
 Parent-teacher programs, 141
 "Path of Glory" (script), 450-463
 Pearson, Francis, 160
 Personal interview, 121
 Personality, radio, 60-63, 73, 131, 140, 143
 Persuasion in advertising, 285-286, 288
 Photoelectric pickup, 40
 Phraseology of radio, 374-380
 Piano solos, 153
 Pitch of voice, 90, 114, 368
 Place names, pronunciation of, 87
 Plastic tape, 311
 Platter (*see* Disc recording)
 Plots, radio, 195-198, 214-216
 Police-blotter program, 144
 Policies, 298-299
 Political discussion over radio, 141-144, 337
 Popularity gauge of program, 51
 Position before microphone, 68, 69, 76, 114
 coughing and sneezing, 77
 drama, 224, 234-235
 extraneous noises and, 77, 152
 frequency modulation, 68, 69, 149, 150, 155
 for orchestra, 153-155
 for singer, 148-152
 for television, 156, 245
 Power of station, 14-16, 19, 328
 Primary area, 15
 Privilege and fair comment, 337
 Probst, George, 120
 Profanity, 195, 289, 331
 Professional scripts, 425-476
 Program, route of, 17-19
 Program director, 46, 50
 Program popularity, gauge of, 51, 52
 Program production, 221-229, 237-245
 Programming, 46-50
 assignments in, class, 411-412
 cyclical, 50
 filling time, 56, 57
 popularity, 52
 local features, 53, 54, 134-146

- Programming, problem of director, 46,
47, 49
television, 51, 52
- Programs, afternoon, 47, 50
children's, 48, 158-167, 217-218
civic-interest, 53, 54, 122, 134-146
comedy, 268-272
contests, 297-300
disc-jockey, 47
dramatic, 194-208, 212-217
educational, 168-193
evening, 48, 50, 54
farmer, 47, 138-139
foreign-language, 54
general requirements of, 49-50
give-away, 297-300
health, 136-138
humor, 268-272
interview, 121
law-enforcement, 144-146
local features on, 134-146
morning, 47, 212
news, 47, 48, 56, 94-107
parent-teacher, 141
poetry, 164
politics, 141-144
public-events, 117
recommended for schools, 190
religious, 139-141
round-table, 116-121
school, 168-193
serials, 47, 48, 212-220
special-day, 55
sports, 48, 108-115
surveys of, 51, 52
television, 51, 52, 125, 208-210
transcribed, 56, 314
unwritten, 116-125
variety in, 50
- Projects, actors' auditions, 396-408
announcers' auditions, 391-396
recreational reading, 408
scrapbook, 383-385
visual aids, 389-391
wired wireless, 385-389
- Pronunciation, radio, 64, 80-88, 90
assignments in, class, 414
of classical music, 84, 85
drill in, 80-83, 90
of foreign names, 86
- Public events, 117
- Public interest, necessity, and con-
venience, 331
- Public service by radio, 134-146
assignments in, class, 417-418
as community service, 134-136
farm programs, 138-139
government in, 141-144
health, 136-138
law-enforcement programs, 144-146
parent-teacher programs, 141
political programs, 141-144
religious programs, 139-141
- Pylon antenna, 25
- Q
- Questionable statements in advertising,
288-289, 291, 333
- Quiz books, list of, 416
- R
- Radiator, 24, 25
- Radio, and education, 168-193
and political campaigns, 141-145, 337
as vocation, advertising staff, 273-283,
366
announcers, 59-69, 108, 355-361,
364
assignments in, class, 424
contract writer, 361-362
dramatic staff, 230, 363-364
free-lance writer, 361-362
gag writer, 362-363
musical staff, 148, 363-364
program director, 46
salesman, 273-274, 282-283, 366
sound operator, 265, 364
technical staff, 307, 365-366
television, 237-245, 354
traffic director, 360
turnover, staff, 367
women, 368-370
writers, 220, 361-363
- Radio lessons, arithmetic, 182
civics, 181
elementary science, 174-180, 186
geography, 181
history, 180, 186

- Radio lessons, music, 172-173
 news, 181
 speech, 182
 test of educational program, 190
 vocational guidance, 173, 174
- Radio operator, 365-366
- Radio plays, 103-208
 adaptations, 162-164, 205
 announcer or narrator of, 198, 230
 assignments in, 420-421
 beginning of, 198
 bibliography, 163-164, 210-211
 casting of, 162-165, 224-226
 characters of, 162, 199, 213-214, 230-233
 children for, 158-167, 217-218
 copyright of, 206-207, 341-351
 dialogue of, 196, 199-201
 length of, 202
 manuscripts, requirements of, 206-207
 submission of, 207
 plots of, 161, 195-197
 samples of, 425-476
 scenes from, 163, 197-198
 serial, 212-220
 sound effects for, 162, 202, 205, 223, 247-267
 suspense in, 198, 214
 taboos for, 203, 210, 217-220
 television, 166, 208-210
 writers of, 158-167, 194, 208-210, 220, 361, 370
- Radio speaking, 70-79
 assignments in, class, 413
 basic principles of, 70, 71, 89
 breathing and, 75, 76, 91
 manuscript for, 79
 pitch and volume of, 73, 77, 78, 114
 position before microphone, 76, 114
 pronunciation, 80-88, 90
 selected readings, 79
 speed, 78, 79
 television, 124, 125
 unwritten programs, 116-125
 (*See also* Announcing)
- Radio surveys, types of, 46, 51, 274-276
- Radio waves, 13, 14, 16, 17, 22-24
- Rate card, 279-280
- R.C.A. color television, 37
- Reading of lines, 62, 72, 225, 231
- Receiver, radio, 17, 19
- Reception interference, 14, 16, 24
- Recorded sound effects, 247-251
- Recording (*see* Disc recording; Tape recording)
- Records, station (*see* Station paper work)
- Recreational reading, 408
- Regional dialect, 86, 87
- Rehearsals for radio presentation, 226-229
- Relay network, 26, 31, 32
- Religious programs, 139-141
- Remote amplifier, 117
- Remote origination, 1
- Repetition, 112, 117
- Reports (*see* Station paper work)
- Reproduction of tapes, 313
- Reverberation of sound in studio, 2, 3
- Rhythm and intonation, 93
- Round-table programs, 116-121
 naturalness in, 119
 signals used in, 121
 University of Chicago, 118-121
- Rural listeners, 47, 138-139
- Ruthven, Alexander G., 168
- S
- Sales appeal of radio advertising, 212, 281, 285-286
- Salesmen, radio, 273-274, 282-283, 366
- Salutation, 120
- Sample professional scripts, 425-476
 "CBS Is There," 426-437
 "The Goldbergs," 438-449
 "The Lone Ranger," 465-476
 "Treasures off the Shelf," 451-463
- Saw-toothed wall, 2
- Scanner, facsimile, 39-42
 television, 30, 35, 37
- Scenes in radio plays, 163, 197
- Schiavone, James, 397
- School broadcasts, 168-193
 assignments in, class, 419-420
 in civics, 181
 in geography, 181
 guides for teachers in, 175-176, 183
 in history, 180
 listener participation in, 170, 172
 in music, 172-173

- School broadcasts, preparation of programs for, 171
 program types for, 169
 in science, 174-180
 in speech, 182
 in teacher training, 190
 test of program worth, 190
 television for classes, 192
 in vocational guidance, 173-174
- Schoolroom reception, preparation for, 171
- Science, teaching of, 174-180
- Selected readings (*see* Bibliographies)
- Selection of programs, 190
- Sentence structure, 201
- Sequential color system, 34-36
- Serials, adult, 212-220
 assignments in, class, 421
 audiences, 212, 216
 characters, numbers of, 213
 types of, 213-214
 episodic, 213
 plots of, 214-216
 popularity of, 47, 212
 style of, 214
 submission of, to agency, 220
 suspense in, 214
 time of, 212
 children's, 158-167, 212, 217-220
- Service to sponsor, 273-283
- Shayon, Robert L., 425
- Shut-in listeners, 134, 212
- Side band, 13, 17
- Signs used in radio, 121, 229, 373-374
- Simultaneous color TV, 37, 38
- Singers, radio, 148-152, 363-364
 advice to, 151-152
 group singing, 150
 microphone position for, 148-152
 pay of, 364
 training of, 148, 150-152
 volume control by, 148
- Sky wave, 13, 14
- Slander and libel over air, 334-338
- Slang, radio, 374-380
- Soap opera, 47, 48, 212-220
- Sound effects, 247-267
 assignments in, class, 422
 for commercial plugs, 294
- Sound effects, for drama, 202, 223, 247-267
 equipment for, 247-277
 sound table, 248-249
 frequency-modulation, 266
 manual, catalogue of, 251-264
 recorded, 247-251
 manufacturers of, 247
 television (visual effects), 266-267
- Speaking, radio, 70-79, 89-93
 (*See also* Announcing; Speech)
- Special-day programs, 54
- Special features, 117
- Speech defects and radio, 89
- Speeches, commercial, 59-69
 radio, 126
 assignments in, class, 413
 basic problems of, 62, 63, 89
- Speed of delivery, 64, 66, 78, 79
- Sponsor, service, of agency to, 273-277
 of local station to, 277, 366
- Sports programs, 48, 108-115, 277
 assignments in, class, 415
 background for, 109
 baseball, 115
 bias in, 113
 cautions for, 113
 color in, 114
 diction in, 109
 football, 110-115
 forecasting in, 113
 knowledge of sport and its language, necessity for, 109
 mike position in, 114
 preparation for broadcast of, 109-110
 spotter's board for, 111
 television, 115
 tense of, 113
 voice pitch for, 114
- Staff turnover of station, 354, 367
- Staff writers, 345, 361-362
- Stage diction and radio speech, 221, 230
- Station, antenna of, 12, 24, 25
 frequency allotment of, 328, 330-331
 liability of, for copyright violation, 338-350
 for libel, 336
 license of, 329, 331-332
 staff of, 353-370

- Station break, 285
- Station paper work, 317-326
- airplane beacons, 324
 - of announcers, 317-321
 - broadcast performance, 324
 - C.A.A. requirements, 324
 - cue sheet, 319
 - daybook, 318-319
 - directional antenna, 322
 - engineering and other forms, 321-326
 - equalization record, 325
 - F.C.C. regulations, 317, 321-322
 - inspection of, 322
 - music, 319-320
 - operating log, 321-323
 - performance report, 324
 - production report, 319-320
 - program log, 317-318
 - remote log, 325-326
 - transcription cue sheet, 318-319
 - transmitter log, 323-325
 - tubes, record of, 325
- Statutory copyright, 344-351
- Stephens College, Columbia, Mo., 34
- Striker, Fran, 464
- Stroboscope, 249
- Studios, audience in, 230
- reverberation of sound in, 2, 3
 - signals used in, 374-380
 - television, 30
 - types of, 2, 3
- Studio-transmitter link (STL), 26, 32
- Style of delivery, 126
- animation in, 114
 - body movement in, 75
 - conversational tone in, 73, 119, 126
 - mental attitude and, 63
 - projection of personality in, 60, 62, 63, 67, 140, 143
 - sincerity in, 64, 72, 91
- Stylus cutting, 303, 305-306
- Subject matter of programs, determination of, 134-146, 195-199
- Subplots in radio drama, 197, 216
- Subscription radio, 27
- Supersonic signal, 27
- Surveys, radio, 46, 51, 274-276
- Suspense in radio drama, 198, 214
- Sustaining programs, 134-146
- Syracuse University, 32
- T
- Table, sound, 248-249
- Taboos, 203, 217-220, 289, 331-332
- Talks, radio, 47, 126-133, 171, 336-337
- Tape recording, 309-314
- advantages of, 309-310
 - dubbing, 312
 - editing of, 310
 - equipment for, 310-312
 - cost of, 311
 - high-fidelity, 313
 - length of, 310
 - maintenance of, 313-314
 - plastic tape for, 311
 - reproduction of, 313
 - rewinding, 314
 - speed of, per second, 311
 - stalling of, 314
 - storage of tapes, 314
 - uses of, 313
- Teacher, part of, in school broadcasts, 168-193
- Teacher guides, 175, 183-187
- Teaser, 292
- Technical staff of station, 365-366
- Telephone transmission, 11
- Teletype, 94
- Television, 19, 29-38, 51-52, 97, 115, 124-125, 156, 166, 192, 208-210, 221, 229, 237-245, 266-267
- actors in, 208, 241-245
 - antennas for, 25
 - assignments in, class, 422
 - camera for, 29, 239, 242
 - close up, 241
 - closed-circuit, 32, 33
 - color, 34-37
 - C.B.S., 34-36
 - R.C.A., 34, 37
 - expressions used in, 374-380
 - intrastore, 32, 33
 - memorizing lines in, 243
 - music in, 156
 - opportunities for employment in, 354
 - production pointers in, 282
 - programs for, 51
 - children's, 166
 - commercial, 280-283
 - dramatic, 208-210, 237-245

- Television, programs for, news, 99
 sports, 114
 unwritten, 124, 125
 sample scripts for, 438-449
 scanning, 29-30
 studio setup for, 30, 242
 visual effects in, 266-267
 writing for, 208-210
- Ten commandments for religious broad-
 casts, 140
- Ticker news service, 56
- Tie-in campaign, 277
- Time of broadcasts, 46, 50, 137
- Time designation of stations, 16
- Timing of programs, 227-229
- Traffic director, 360
- Transcriptions, electrical (*see* Disc re-
 cording)
 F.C.C. regulations concerning, 315
 libraries of, 315
- Transit radio, 27
- Transitions, 95, 101, 105
- Transmitter, 11, 12
 low-power, 27, 28
 microwave, 33
 wired-wireless, 385-389
- "Treasures off the Shelf" (script), 450-
 463
- Tricolor (TV) tube, 38
- Tru Sonic mike, 8
- U
- Unity in radio plays, 195, 239
- "Unknown Soldier, The," 55
- Unwritten programs, 116-125, 337
 assignments in, class, 415-416
- University of Chicago Round Table, 118-
 119
- V
- Velocity microphone, 4, 7
- Very high frequencies, 22
 assignments in, class, 411
 facsimile, 38-40
 FM, 22-27
 low-power, 27-29
 TV, 29-38
- Visual aids, Project III, 389-391
- Visual sales appeal of TV, 281
- Vocational guidance by radio, 173-174
- Vocations of radio, advertising depart-
 ment, 273-274, 278, 281-283, 287,
 366-367
 announcer, 59-69, 290, 317-321, 354-
 361, 364
 assignments in, class, 424
 auditions for position, 355-356, 391-
 408
 dramatic staff, 221-235, 363-364
 musical staff, 363
 producer, 363
 program director, 46
 publicity director, 367
 sound operator, 265
 staff turnover, 367
 technical, 307, 321-326, 365-366
 television, 239, 354, 368
 traffic director, 360
 women in radio, 220, 368-370
 writers, 194, 220, 361-363, 370
 humor, 268-272, 362-363
 television, 208, 237-245
- Voice, blasting of, 77
 qualities of, 90, 225, 232-233
 recording of, 93
- Volume unit, 10
- W
- Wagon, sound, 248-249
- Wartime control by government, 329
- Wave length (*see* Frequencies)
- Waves, radio, 17, 22, 23, 31
- WBOE, 177-180
- WBZ, 183-190
- Why Do Living Things Need Air and
 Water?, 175-180
- Wire recording, 302
- Wired wireless, 19, 20, 385-389
- Women in radio, 368-370
 in advertising, 370
 auditions for, 398-404
 plays for all-women casts, 478-479
 positions open for, 368-369
 as writers, 212, 370
- Word grouping, 75
- WRGB, 240, 242