

HANDBOOK OF BROADCASTING

How To Broadcast Effectively

BY

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PREFACE

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 conversa-

tional style the Curator of Lepidoptera of the Insect Division of the Museum of Zoology, and the Curator of Phanerograms 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, MICHIGAN,
May, 1937.

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I dedicate this handbook to Leo J. Fitzpatrick, Vice-President and General Manager of Station WJR, Detroit, and to the staff of "The Good Will Station," particularly Charles Penman, Duncan Moore, Norman White, and Eric Howlett, who have given generously of the knowledge they have gained by experience to this book of instructions designed for future broadcasters. Lewis Allan Weiss, General Manager of the Don Lee Network, was constructive in his criticisms. "Ty" Tyson and Wynne Wright, of Station WWJ, contributed to the chapters on sports announcing and radio dramatics. Russell Neff, of WXYZ, contributed information concerning production and local networks. James Hopkins, of WJBK, explained how the regional station may serve its community. Franklin Dunham, Educational Director of N.B.C., Judith Waller, of the Central Division of N.B.C.; Frederick A. Willis, Assistant to the President, and Walter Pierson, in charge of sound effects, both of the Columbia Broadcasting system, and Pitts Sandborn, Director of the Institute of Audible Arts, have liberally contributed material and criticism. The advice of W. A. P. John, President of the advertising firm of MacManus, John, and Adams, Inc., was valuable to me in writing the chapter on Serving the Sponsor.

I wish to acknowledge the assistance, in technical discussions, of Turrell Uleman, of the Mellon Institute of Industrial Research. Members of my classes in broadcasting, too numerous to name, have contributed by their research, and, I feel certain, enjoyed the opportunity to criticize frankly the effort of their instructor. The manuscript was used for two years in mimeographed form in my classes, which during the summer session were com-

posed largely of superintendents of schools, school principals, and teachers of speech. They aided in the preparation of those chapters dealing with radio in education. Each chapter of the book was read and revised by an experienced broadcaster to whom I extend my appreciation.

Material was gathered during a period of years from newspaper and magazine articles, from lectures, government bulletins, and information supplied by networks and broadcasting stations, at conventions of broadcasters, and through interviews with radio personages.

I take this opportunity to express my gratitude to the authors who have generously permitted me to use their continuity to illustrate different points in this book. Martin Codel and Sol Taishoff, publisher and editor of *Broadcasting*, permitted me to use the bibliography which appeared in their Yearbook as the basis of the one contained herein.

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HANDBOOK OF RADIO BROADCASTING

CHAPTER I

The Networks

Radio Networks.

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. Radio programs are broadcast either from local stations or over networks. If a program is put into the air by a number of transmitters connected by long-distance telephone wires, it is being broadcast by a network. If a single transmitter is used, the program is a local one despite the fact that it may be heard a thousand miles from its source, even invading alien air. Station WLW is heard from the Atlantic to the Rockies, in Mexico, and in Canada.

In the United States we think of the networks principally as the Blue and the Red Networks of the National Broadcasting Company, the Columbia Broadcasting System, and the Mutual Broadcasting System. In reality on Jan. 1, 1937, there were 35 different networks in operation, and many of these offered the sponsor a number of supplementary networks in addition to the basic hookup. Also new networks were being built out of the 689 existing broadcasting stations. The story of the birth and growth of the Columbia Broadcasting System is told by Ted Husing in his book *Ten Years Before the Mike* in an informative as well as entertaining manner.

There are numerous justifications for radio networks or chains. With a centralized organization broadcasters can more efficiently contract and deal with advertisers of products that have a national sale. A single contract for

radio programs is made by the sales department of the network and divided between the chain stations selected by the sponsor. The key station of a network is usually located in some large city where excellent entertainment talent is available which is not easily procured by the local station. New York has been the breeding ground of talent, but recently the large networks have been turning more and more to Hollywood, which resulted in the purchase in 1936 of Station KNX by the Columbia Broadcasting System. Not only is well-publicized talent available to the key station, but the station's staff usually has announcers who have gained a national reputation and who are available to the sponsor. Authors and musical composers are more likely to be found in the cities, ready to turn out weekly programs for the chains. The central publicity department for the network, working in conjunction with the sponsor's advertising agency, can cover the nation with advance publicity concerning the programs and conduct tie-in campaigns. The fact that the key station not only furnishes commercial programs to its members but also sends over the wires sustaining programs enables the local station or "outlet" to exist with a reduced staff of entertainers, which cuts its overhead. The key station also serves as a news-gathering bureau for the local station, arranging for and covering public events and special features that would not be available to the nation were it not for the networks. As every outlet of the network presents the same program and artists, there is created for the advertised product a unified national interest that would not result if different artists were hired in, say, 25 outlet localities. All the advantage, however, does not accrue to the sponsors and broadcasting stations: listeners benefit from the fact that the networks present highly paid and recognized talent which would be prohibitively expensive to individual unaffiliated stations.

The networks, however, have their disadvantages. They take away the local flavor of programs and prevent stations

from completely serving community projects. The networks, as their program sales increase, may reduce employment among artists in the smaller outlet cities. The network contract with an outlet requires the station to turn over to the chain the booking of the great majority of its hours on the air at a rate lower than the station would be able to obtain for the same time from local advertisers. This, of course, is equalized by the proportionately low cost of sustaining programs and also is justified by the prestige gained by being a member of the network. This contract may also prevent the outlet station from giving entirely satisfactory periods to local service such as education, religion, health, and government. The networks have built up such strong organizations that their political power may be a dangerous influence. A strong chain of stations has a greater following to sway than a chain of newspapers. Newspaper owners recognized only recently the power of radio with the result that they acquired ownership of 54 stations in 1936, bringing the total of newspaper-controlled stations to 194.

Of course, the contractual relations between outlets and the networks are different in the 35 chains but the principle is the same. In general, the network enters into a contract with an outlet wherein the outlet agrees that the network shall control many of its daylight broadcasting periods and all evening periods except the two hours between six and eight in the evening. One network demands 35 per cent of the outlet's time; another takes nearly 60 per cent. This contract permits the network to take any period, within its reserved limitations, from a local sponsor or from a sustaining program upon giving 28 days' notice. Probably this contract is the most important factor in causing the shifting of educational features. Furthermore, the outlet station is unable to close any local agreements until the seasonal contract from the network discloses what hours it may expect to have free for its own contracting.

The outlet station receives between 30 and 40 per cent less for a program period that is taken by the network than it would receive if it were sold locally, although the advertiser pays as much to the chain for that period as he would pay to the local station. Telephone tolls, overhead charges, announcers, and continuity writers employed by the station justify this arrangement. While the network pays the outlet for sponsored programs carried by that station, the outlet station pays a monthly fee or gives a stipulated number of sponsored hours free to the network for the sustaining programs that are made available to it.

Studios.

The program that is to be sent by wire from a key station originates in a studio. It is also broadcast from the transmitter of the originating station. Each network must have several studios, for in many instances three or four programs are presented at the same time. There may be a sponsored program for the basic network, a sustaining program for stations not included in the tie-up, and programs arranged for other groups of stations. There are studios for rehearsals and for auditions, studios for a single speaker, studios for large symphony orchestras, as well as live studios and dead studios, all of which have been acoustically treated.

When sound is generated in an enclosure such as a room or studio, the impulse that reaches the ear of a listener in the room comes from several places. Some of it comes directly from the source (50 per cent or less, depending on the distance); 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 for 5 or 6 seconds after it has been sounded. A condition such as this, which engineers call "liveness," is intolerable for broadcasting, and even conversation is difficult in such a room.

To remedy this condition sound-absorbing materials are placed on the surfaces of the room. In the early days this sound-absorbing treatment consisted of cloth drapes hung on the walls and stretched across the ceiling of the studio. This method of "deadening" had several obvious disadvantages (fire hazard, bulkiness, etc.) and soon gave way to the more modern methods of sound-absorbing plaster and Celotex. Celotex is a soft fibrous material made from wood pulp. It can be purchased either with or without holes (the holes help absorb the sound), but in practice both kinds are used to achieve desirable artistic effects. Water-color paints must be used in decorating this material so that the softness of its surface is not impaired. There is, however, one serious disadvantage present in Celotex and similar materials, namely, that they are vegetable substances and, like wood, are subject to rot and decay. One studio several years ago used a material made of sugar-cane fibers and soon found that it was furnishing food for all vermin in the neighborhood. Many modern studios make use of Rockwood, a mineral substance, which is applied to the walls and then covered with perforated sheet metal.

In most of the new studios additional "deadening" has been effected by the elimination of flat surfaces on the walls and ceiling. A "sawtooth" wall breaks up the sound wave reflected from it and helps further to diffuse the wave throughout the room.

It has been found from experience 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 out into the "dead" room and do not come back; the truth is that not enough comes back.

The presence of many people in a studio will tend to deaden it, since each individual absorbs in his clothing

about as much sound as would a square yard of Celotex; therefore it becomes necessary to provide means of varying the amount of sound-absorbing material on the walls in order that the reverberation period of the room may be kept right.

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 path 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, and hence the sound seems to be continuous as its intensity decreases.

A "live end, dead end" studio is one in which one end is highly reflective while the walls at the other end are sound absorbing. The deliberate purpose of this arrangement is to introduce one relatively loud reflection into the microphone and hence add to the naturalness of the pickup.

Microphones.

There are several kinds of microphones in use at present, chief among them being the carbon, the condenser, the ribbon or velocity, the dynamic, the crystal, and the "eight-ball."

In order of time, the carbon microphone was the first to be generally used. It consists of a thin, stretched metal diaphragm, on each side of the center of which are "buttons" containing fine carbon granules. The small electric current that is made to flow through these buttons varies when sound waves are applied to the diaphragm. These slight variations are then amplified and transmitted. The frequency-response range of this type of microphone is not good, and the small current through the buttons causes a slight but ever-present hiss. When very loud sounds are impressed on the diaphragm, a distortion

known as "blasting" takes place and the mike may suffer severe injury. Owing to its portability and ease of installation, however, the carbon microphone is still frequently used on programs that originate outside the studio, such programs being called "remote-control pickups."

The condenser microphone that replaced the carbon for studio pickups has much better fidelity and reproduces sounds within the frequency range of 50 to 10,000 cycles. It consists of a thin, stretched metal diaphragm placed $\frac{1}{1000}$ inch from a solid metal plate and subjected to a potential of 180 volts. The diaphragm and condenser together constitute a condenser whose capacity changes when sound is impressed upon it. These changes are then further amplified by from one to three tubes of amplification built into the instrument. There is no hiss present in this type of microphone. The high voltages used in it tend to keep it from being used to any great extent on remote pickups.

The velocity microphone is a newer development than the condenser and is rapidly replacing it in the more progressive studios. It is sometimes called the "ribbon microphone," and justly so because its operation depends upon the vibration of a narrow duraluminum 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 by two or more tubes. This microphone looks smaller than the condenser type because the associate amplifier can be placed at a considerable distance from it (200 or 300 feet) and it is usually in the control room with the rest of the amplifying equipment. The ribbon mike 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 sides. This makes for greater convenience in placing orchestra and speakers around the microphone.

After many years of engineering development the dynamic microphone has been perfected and is now in

general use throughout the country. In principle it is essentially the same as the dynamic loud-speaker, in that 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 velocity of the diaphragm and hence proportional to the incoming sound impulses. As in the case of most microphones, a pre-amplifier is necessary to amplify these feeble signals before they go to the control board. For this microphone, however, the pre-amplifier may be placed at a considerable distance from the microphone. In addition to its having high fidelity, this type of instrument is rugged in its construction and is ideal for remote pickups where the equipment suffers from considerable shifting about. Like the condenser type, it is sensitive on only one side.

A recent modification of the dynamic microphone is called the "eight ball." In principle it is the same as the dynamic, but it has the advantage of being nondirectional in its sensitivity. The name is derived from the fact that the microphone resembles the number 8 pool ball. A variation of the "eight-ball" type is the salt-"shaker" mike.

The crystal type depends for its operations on a principle entirely different from any of the others so far discussed. It is the peculiar property of Rochelle-salt crystals that, when subjected to pressure, electromotive forces develop on opposite faces. Thus all one needs to do is to attach metal electrodes to the faces of the crystals and wire them to the grid of a tube for further amplification of the small voltages that are generated by the varying sound pressures on the crystals. In commercial practice several crystals are fastened together to gain greater sensitivity. This kind of microphone, being nondirectional, is equally responsive to sounds coming from all directions and therefore has many special uses in the studio, being particularly applicable to round-table discussions. Its fidelity is usually greater than any of the other types of microphones mentioned.

Recently the best features of the ribbon and condenser microphone have been combined into a new unit which picks up sound from only one direction more effectively than any of those previously mentioned. Its outstanding advantages are (1) uniform wide angle response from the front and (2) negligible response at all frequencies from the back.

The Control Room.

The master control room is the nerve center of the broadcasting station. It controls all microphones and blends their outputs in any desired manner; it receives programs from outlying local points and sends each finished program onto the wires that carry it to the outlet stations as well as to its own transmitter. Special instruments, calibrated in decibels, show the loudness of the programs at all times, and it is one of the duties of the control operator to keep that loudness within certain limits, namely, 30 decibels for music and 20 decibels for speech. The operator also checks the quality of the outgoing music and speech by listening to it to see that no distortion is present, and in some instances corrects the pitch of musical selections.

Telephone Transmission.

After the program has been amplified and monitored in the control room, it is sent to the transmitter through special telephone lines. These lines will faithfully transmit musical notes within the range from 40 to 5000 cycles per second, and in some instances special commercial lines have been installed with an extended range up to 10,000 cycles per second. These lines are rented by the network from the telephone company, whose business it is to keep them in perfect condition at all times. Not only are programs sent to network outlets in this manner, but all local programs are sent to the station's transmitter by the same

kind of telephone circuits. It has been estimated that the networks alone annually rent 65,000 miles of telephone wires for the purpose of sending their programs to member stations, and pay between \$8,000,000 and \$10,000,000 annually for telephone transmission.

In view of the huge tolls now received annually by the telephone companies from the various radio networks, it seems strange that the telephone industry should have at first resented the idea of carrying radio programs over its wires. A glance at some of the problems involved in making this new service possible will show that the telephone companies had good reason to be hesitant, and will also cause the layman to marvel at the efficiency and ingenuity of the telephone industry.

The original function of telephone circuits was the transmission of the human voice in an understandable fashion. This involved handling only the audible frequencies between 200 and 2500 cycles per second, or, expressed in terms of the piano keyboard, frequencies ranging from a few keys below middle C to a few keys beyond the third octave above middle C. The minimum requirements for radio work demanded that this range be doubled, that is, that it extend from about 100 cycles per second to 5000 cycles per second. This was accomplished by placing loading coils every 3000 feet along the lines, instead of every 6000 feet as had been the practice, and by making corresponding changes in all the associated equipment to accommodate these higher frequencies.

Another interesting problem arose out of the fact that high-frequency impulses travel faster along a long telephone wire than do the lower ones. Thus it was that new equipment had to be added to keep the notes of a violin from reaching the listener before those of a tuba in the same orchestra. Although electricity in open wires travels at almost the speed of light—186,000 miles per second—it travels much slower in telephone cables—about 30,000 miles per second.

Much of the noise in ordinary telephone circuits had to be removed to make the transmission of radio programs practicable and to make possible the greater volume range of an orchestra as compared with the human voice. To achieve this end, many circuits were isolated and amplifiers were inserted in the lines at intervals of about every 50 miles.

The high quality of present-day network broadcasting is due almost entirely to the efforts of telephone engineers who strive continually to improve their service. In many instances they have even anticipated future wants, and better telephone lines will be ready for broadcasters whenever the additional expense of using them seems warranted.

CHAPTER II

The Broadcasting Station

All broadcasting stations in the United States are licensed by the Federal Communications Commission. This regulatory body is an outgrowth of the Federal Radio Commission, which was authorized by an act of Congress known as the Radio Act of 1927. This act 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. . . .

On June 19, 1934, the Congress of the United States approved the Communications Act of 1934, which broad-

ened the scope of Federal control over communication 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.

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 and it has recently made three high-fidelity channels available for a combined experimental-commercial use. These are 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 channels, 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 designations to stations: (1) unlimited, (2) limited, (3) daytime only, and (4) sharing time with another station.

In order that there might be no interference between Canadian radio stations and those in this country, an agreement has been entered into whereby certain wave lengths are set aside for the exclusive use of stations in Canada. While such an agreement was reached with the Mexican government, unfortunately that government does not enforce it, with the result that a great deal of interference now originates on that side of the Rio Grande. A number of these stations, which seem to operate on any frequency that happens to strike their fancy, are run by former owners of stations in this country who have lost their licenses for one reason or another. One of the best known of these is a doctor whose license to operate a

station in the United States was revoked because he gave medical advice of doubtful value over the air.

Any person, firm, or corporation wishing to establish and operate a radio station in the United States must make application for a license to the Federal Communications Commission, presenting evidence that the station would "serve public interest, necessity, and convenience," and not interfere with stations already licensed. He must also give evidence "as to citizenship, character, financial, technical, and other qualifications to operate the station; and the stations, if any, with which it is proposed to communicate; the frequency and power desired to be used, the hours of the day or other periods of time during which it is proposed to operate the station; the purpose for which the station is to be used; and any other such information as the Commission may require."

As late as 1930 it was comparatively easy to obtain a license to operate a radio station, but at present 689 broadcasting stations are operating in this country, and opportunity is limited for additional ones. All the most desirable channels and hours are in use, so that new stations today are confined to the local or regional classifications.

Even after a license has been secured, it has to be renewed every six months, although the commission is empowered to grant licenses for three years. This six-month franchise has the advantage of keeping the character of programs and the efficiency of equipment at a comparatively high level. Not many broadcasting stations have lost their licenses but enough have been revoked to demonstrate thoroughly that the commission can and will remove from the air those stations which do not serve "public interest, necessity, and convenience" or which otherwise violate the Communications Act of 1934.

The equipment necessary for the broadcasting station, as stated before, must be approved by the Federal Communications Commission and is well standardized. The radio station must have its studios, control boards, and

microphones, much the same as discussed in connection with network key stations, and also its own transmitter, antenna, studio equipment, and staff. Before taking the layman to the radio transmitter, it will be well to clarify the nature of radio transmission as a phenomenon.

The Radio Waves.

Since 1920 the word "broadcast" has been associated almost exclusively with radio despite the fact that the word itself is defined as "the scattering widely of news or information." The original broadcaster, possibly the town crier or the wandering minstrel, was not aided by the artificial amplification of the radio. Many philologists maintain that broadcasting through the medium of the radio should be called "radiocasting" instead of the more inclusive term "broadcasting." The steps in the development of this modern science, from the tom-tom to the town crier, from the wireless telegraph to the radio, have been so easy to accept that the average radio listener does not understand the most elementary principles of broadcasting.

An analogy or two will summarize graphically the principles of radio transmission and reception. A stone dropped into a pool of still water starts waves which spread out equally in all directions from the point where the stone was dropped. This stone is the antenna of the broadcasting station, the pool is the surrounding atmosphere, and the circling and spreading waves are radio waves. A pebble dropped in the pool will create waves that will soon die out; that pebble is a broadcasting station with small power. A larger stone will send its resulting waves much farther, just as a powerful station will send its radio waves to distant shores. The analogy is only slightly exaggerated by comparing the distance between the crests of succeeding waves with the wave length on which the radio station is broadcasting. A rock or a branch lying in the water will deflect the waves caused by the stone, just as high steel buildings near an antenna will deflect the radio waves.

Your receiving set is a cork resting upon the surface of the water. If the waves created by the "stone antenna" reach your "cork set," it will bob up and down and the vibrations will be changed by the amplifier tubes into sounds.

Controllable electric-wave motion is the fundamental principle of radio communication. Switching the analogy from a peaceful pool to a battle: when a cannon is fired some distance from you, you can see the puff of smoke carried to you by light waves and later you hear the boom of the explosion brought to you on sound waves. But the radio would have transformed those sound waves to radio or electric waves and would have brought the sound to you with the speed of light, which is approximately 186,000 miles a second. A microphone, amplifier, transmitter, and antenna were necessary to change the sound waves to electric waves. In the preceding chapter microphones were explained in detail; hence it suffices here to point out that as the air waves, created by the explosion, strike the sensitive diaphragm its fluctuations form electrical vibrations similar to those created by the voice speaking into the mouthpiece of a telephone. As the name implies, the tubes of the amplifier strengthen these vibrations. The amplified vibrations go to the transmitting antenna and create electric waves in the air, which radiate just as the water waves from the stone circle and spread in the pool. The radio transmitter then sends out these amplified sound waves, which travel on "carrier waves." The sound waves vibrate between 16 and approximately 10,000 times a second, which is the range of the human ear; but in order to traverse long distances, these waves are conveyed by the "carrier waves," which vibrate millions of times a second, far too fast for the human ear to detect. When a modulated carrier wave arrives at the receiving set, the sound portion is separated from the carrier and further amplified. The loud-speaker then treats these amplified sound waves

just as the receiver of the telephone changes electrical vibrations back into the original sound vibrations.

Radio Transmitters.

The radio transmitter is essentially a high-frequency oscillator which sends a continuous amount of energy out into space. When the program vibrations are impressed upon this oscillator, they cause the energy from it to be varied, and it is these variations that are picked up by your receiver and converted into musical or speech sounds. More specifically, the transmitter consists of a quartz-crystal oscillator (the quartz crystal to maintain the exact frequency of the station) followed by several stages of radio-frequency amplification upon which the modulation (program vibrations) is impressed. Further amplification follows, and the resulting power is coupled to the antenna and radiated in all directions.

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 of the city where conditions are better for maximum efficiency.

It is impossible here to go into a detailed description of any of these transmitters—that is a subject for the radio engineer—but certain facts, interesting to the layman, can be told. The tubes in a high-powered station range in size from those in the ordinary receiver to great water-cooled ones that stand 6 feet high, and vary in cost from a few cents for the smallest to as much as \$1600 for the largest. The cost of transmitters may be a few hundred dollars or several thousand, depending on the size. It is reported that WLW's 500,000-watt transmitter cost \$500,000, and that figure does not include the antenna or the

building that houses the transmitter. Few people realize the great accuracy with which a station must maintain its frequency; not more than a 50-cycle variation from the assigned value is permitted. For a station operating on 1000 kilocycles this means an accuracy of one part in 20,000 or, in terms of percentage, a variation of not more than $\frac{1}{200}$ of 1 per cent.

Antennas.

In the old days antennas for transmitters were somewhat like the receiving aerials of today. They consisted of nothing more than a horizontal length of wire supported at a convenient distance above the ground by two towers, and connected to the transmitter by a vertical lead wire fastened either to one end or to the middle of the antenna. These were known as the inverted L and the T types, respectively. In recent years engineers have found that a straight vertical antenna with a height equal to 0.58 of the station's wave length gives better results than any of the older types. Some of these have small bases, large middle sections, and then small tops, much resembling two ordinary towers fitted together base to base. Others are straight vertical structures of uniform thickness throughout. In either type the steel structure of the tower is the actual radiating system. Numerous stations throughout the country are now using these new vertical radiators and find that they give a much better local and regional coverage with less bother from static, and that they also reduce fading.

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 station, 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.

Contrary to popular belief, fading is not caused by the transmitter but is the result of factors that enter into the radiated waves after they have left the transmitter and its antenna system. Its true explanation lies in the fact that a listener at a distance from the station is really receiving its waves from two sources. One part of the station's wave reaches his receiving aerial by traveling directly parallel to the ground; the other arrives by reflection from an ionized region of the atmosphere called the Kennelly-Heaviside layer. These two waves, upon reaching the receiver, will either add to or subtract from each other, depending upon their phase relation at that point. The Kennelly-Heaviside layer is not a fixed thing but is constantly shifting in height so that at one instant the two waves may add to each other and a few minutes later may almost cancel each other. The vertical antenna for transmitters overcomes this difficulty to a limited extent by radiating more of its energy along the ground and less of it into the sky where it can be reflected back again, and it is largely for this reason that the vertical type of antenna has recently come into favor among broadcasters.

Directional Antenna.

Under normal circumstances an 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 certain 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. This latter case is well illustrated by the following: WLW found that when it increased its power to 500,000 watts its signal was interfering with a station in Canada on an adjacent wave length. To overcome this difficulty, an antenna arrangement was constructed whereby the power radiated to the north was greatly decreased while at the same time there was no decrease in any other direction. In the next few years we

shall probably see more and more stations turning to this means of eliminating much of the interference that now exists on the airways.

Station Staff.

The mechanics of radio are marvelous but the listener is more concerned with the people he hears as speakers, actors, or musicians. The broadcaster also is less concerned with the transmission of programs than he is with the delivering of a satisfactory program to the microphone. Consequently, in the pages that are to follow, only what is done before the program reaches the control board and the reception of the program by the listener will be discussed. You will note that the listener's and broadcaster's limit to the control board have been extended in order to include the broadcasting of electrical transcriptions, which are recorded programs.

The staff of the station (who are the personalities beyond the control board to the radio listener) may range from three—a technician and two announcer-salesmen—in the small 50-watt station, to approximately 85 employees in a 50,000-watt station. The latter will have the usual officials, general managers, and sales managers, and probably five directors, namely, program, studio, dramatic, music, and public relations. Some of the seven or eight announcers will double as directors; others will be specialists such as sports announcers, news commentators, or announcers of children's programs. As the F.C.C. requires that the transmitter of a 10,000-watt, or stronger, station be located in the rural area, there will be two staffs of technicians, one for the studio control board and one for the transmitter. A musical director will have charge of the orchestra. There will be soloists, a quartet, and probably a chorus. Listeners are well aware that most stations today have a hillbilly orchestra. The dramatic director will have a small permanent staff of actors, and others "on call." In the sales department there will be those in charge of program building and

merchandising and tie-in campaigns, and salesmen. There will be at least two continuity writers, and possibly a dramatic writer who may also announce. The studio will have a hostess and a staff of stenographers and telephone operators. There will be women to write commercial continuity and to present cooking and fashion programs. A librarian will have charge of the music and the checking of the music copyrights. There will be apprentices in the mailing department. The requirements, duties, and salaries of this staff will be considered in a later chapter on broadcasting as a vocation.

CHAPTER III

Electrical Transcriptions

Electrical Pickup.

The radio station uses electrical transcriptions for advertising and also for many sustaining programs. In order to use these recordings, the station must be equipped with electrical pickups and turntables.

An electrical pickup is the device used to convert the mechanical recording of the sound into electrical impulses which can be amplified and broadcast. Its construction is similar to that of a microphone except that the diaphragm is replaced by a needle and a metal arm which causes a small coil of wire to move in a magnetic field in accordance with the recorded vibrations. While slightly different mechanical arrangements are necessary for "horizontal" and "vertical" pickups, the principle of the instruments is the same. In the crystal type of electrical pickup the electric impulses are generated by the pressure of the metal arm on crystals of Rochelle salts.

Electrical Transcriptions.

Transcriptions are like phonograph records in that they are discs upon which sound is recorded. This resemblance is superficial, however, for transcriptions are far superior to records in tone, manufacture, and recording.

The making of discs has gone through a rapid evolution in the past few years from scratchy records, upon which the sound was reproduced by the vibration of a diaphragm directly transferred to the recording stylus—a method producing unsatisfactory broadcasting material—to the

fine, noiseless recordings put out by the leading companies today. Now sensitive microphones have been substituted for the old diaphragms, and the recording stylus vibrates in response to electrical impulses picked up from the mikes.

The term "electrical transcription" is used to describe any disc recording that has been made by electrical means; this includes all modern records. They are most easily divided into two classes according to the speeds at which they must revolve when played. The most common is, of course, the regular phonograph record that turns at 78 revolutions a minute and plays from 3 to 5 minutes. The others turn at $33\frac{1}{3}$ revolutions a minute, and this, with their great size (16 inches in diameter), enables them to play for 15 minutes. (For complete programs, the latter type is used almost exclusively, because an entire 15-minute program can be recorded on one side of a record. Two turntables are used, in order that no time will be lost in going from one record to another.) In addition to this longer playing time, it is, for technical reasons, easier to achieve high fidelity on a larger disc. For these reasons they are now widely used for the recorded programs broadcast by radio stations. In the majority of cases a sponsored or commercial transcription is used once and then destroyed.

"Horizontal cut" and "vertical cut" describe the way in which the sound is impressed upon the disc. Until recent years this was done by causing the recording needle to vibrate horizontally in accordance with the sound to be recorded, thus giving a groove of constant depth but with a snakelike appearance when viewed with a lens. Of late it has been found better to make the impressions on the record by vibrating the recording needle up and down, in order to produce a circular groove of varying depth. This method, which is called "vertical cutting," has the advantage of higher fidelity and a greater volume range than the "horizontal-cut" records. A ruling of the Federal Radio Commission declares:

A mechanical reproduction shall be announced as such except when its use is merely incidental, as for identification or background. The exact form of announcement is not prescribed but the language shall be clear and in terms commonly used and understood. The following are examples of statements sufficient for the purpose:

- a. "This is a phonograph record."
- b. "This is a player-piano record."

In all cases where electrical transcriptions made exclusively for broadcast purposes are so constructed as to record a single continuous program upon more than one mechanical reproduction, rather than a recordation of the entire program upon a single mechanical reproduction, the announcement required hereby shall be made at the commencement of each such program and in no event less than every fifteen minutes. All other announcements required hereby shall immediately precede the use of each separate mechanical reproduction.

The foregoing regulation has been changed so that it is no longer necessary to break into a program every 15 minutes. The announcement now must be made at the beginning and at the end of the program.

Libraries.

There are over 100 companies making electrical transcriptions. It is interesting to note that one company manufactures Greek programs, while another specializes in Jewish transcriptions. Quite a number record newspaper features that are adaptable to broadcasting. At least three companies record sounds to be used in radio plays. Transcriptions are extensively used for advertising programs. The Associated Music Publishers, Langlois and Wentworth, A. & S. Lyons, National Broadcasting Company, Standard Radio, World Broadcasting System, and others put out transcription libraries usually sold to only one station in a 50-mile area. Large filing cases of recorded musical selections, with a comprehensive cross index, were rented to over 325 broadcasting stations in 1936 to be used either upon sustaining programs or for sponsored programs.

Unrecorded spaces upon these transcriptions permit the local announcer to announce the selections. These transcriptions are used to build programs and, by using the twin turntables, the local musical director can choose his program from the entire library.

Transcription libraries are usually rented to a station at a monthly rental, based upon the power of the station. In addition to the file of transcriptions and cross index, the two turntables, pickups, and motors are leased by the transcription manufacturer. In some instances the transcription manufacturer will sell its services and its recordings to an advertiser. In such cases the company must pay the station for the time. If the station uses the transcriptions on a sponsored program, it must pay for this service. The library is increased by new recordings each month, from 15 to 20 new transcriptions being furnished. All worn records are exchanged for fresh discs. The most popular musical selections are added, keeping the library up-to-date. Also special events and holiday programs are arranged, and continuity supplied to members, including full or half-hour programs for Mother's Day, Thanksgiving, Fourth of July, and other holidays or celebrations. The transcription company outlines for the station weekly programs in which the library transcriptions are used and also supplies the continuity for the programs.

Service.

Many of the larger companies have a continuity service that supplies the local station with poetry, weekly news, sports comments, and dramatic skits to be used by the local staff in conjunction with the musical transcriptions. This weekly service makes it possible to use the transcription library and make it sound like a live program. Many smaller stations depend almost entirely upon such transcription libraries for their talent. A librarian in the local station keeps a record of transcriptions used in order that they may not be repeated too frequently.

Transcriptions of radio-play series, such as Jimmy Allen, Chandu, and many others are sold to different advertisers in widely separated sections of the country, the advertising continuity being inserted by the local announcer in a timed period left vacant upon the "platter." Companies maintain staffs for script writing, casting, production supervision, and the delivery of the recordings to the selected stations.

In some instances a live program is presented in the Eastern zone and recorded as it goes on the air. This transcription is played at a later hour and pumped to the far-western time zones, saving the expense of retaining the artists for the later presentation. Such recordings are usually made by direct wire from the studio rather than by being picked up from the air, thus obtaining higher fidelity.

Transcriptions are also made for file copies of programs and for playback purposes, and many artists have their programs recorded in order to observe their faults.

Electrical transcriptions are rapidly losing the aroma of illegitimacy, for the N.B.C. figures show that the use of recordings upon national programs increased 38.5 per cent in 1935, and those for local programs jumped 51.4 per cent over 1934. The transcription business was considered originally to be the natural enemy of the networks, but now the N.B.C. has gone into the business itself. Live programs that are heard today may be heard as transcriptions two years hence. The networks freed themselves of programs advertising laxatives, deodorants, and liquor so that these sponsors had to turn to the "transcription network." Of course, the live-talent programs such as amateur shows, sport announcements, news commentators, and contemporary comedians do not fit into the electrical-transcription program, but there are many advantages to be found by the sponsor in such programs.

"Spot" broadcasting enables the advertiser to select the stations over which his program is to be heard, irrespective of the chain affiliations of those stations; thus his program can cover those sections of the country in which

he does, or is likely to do, the greatest volume of trade. It is obviously an advantage to be able to select that station which has the highest standing in a particular community, because it lends prestige to the program.

Once a transcription is made, copies of it can be heard over and over again. Single programs may be presented on different nights in different cities, providing multiple reception. Also, coverage in large cities can be assured by using several stations in the same cities.

One of the heaviest blows against advertising by means of a chain broadcast is the coast-to-coast time factor. Crossley, Inc., made some surveys in an effort to ascertain what are the peak listening periods for various sections of the country during the day, and the results are most enlightening. The best time for commercial programs is, of course, the evening, about eight o'clock in the Eastern time zone and nine o'clock in the Central, Mountain, and Pacific zones. A chain broadcast, commencing at eight o'clock in New York, reaches the Central zone at seven, the Mountain zone at six, and the Pacific zone at five, or even at four during periods when daylight saving is in effect. Hence, in reaching an Eastern audience, a great many listeners in the other sections of the country are lost.

Obviously a major factor in successful radio advertising is entertainment for the listeners. It is an adamant belief among advertisers that live talent is more effective than the recorded programs; consequently, many an advertiser inflicts upon the public mediocre entertainment, which by its evident cheapness does more harm than good. It is possible to secure the leading artists on transcriptions, for, while they may be under contract for chain programs, they make transcriptions under assumed names. Thus the smallest stations can give to their listeners the best there is in the entertainment world at much less cost than the artists would receive for personal appearances. Furthermore, a transcription broadcast is mechanically perfect; there are no mistakes, for the program is "proofread" before being released.

By using the transcription, sponsors find it possible to book artists and authorities who would refuse to appear weekly before the mike. An entire series can be made in the transcription studio in a single day, thus avoiding a long-time contract for the performer.

In certain small networks which use telephone lines of less than "A" quality, the tone production of transcriptions by members of those networks will have a better tone fidelity than the wired program.

Various sponsors also send out records that are made up of a series of 1-minute announcements which can be played at opportune periods during the day. These transcriptions are made to present a particular voice type or delivery demanded by the sponsor. Such 1-minute transcriptions are broadcast by one 50,000-watt station for \$60 a time in the evening and for \$30 a time in daylight hours. Other transcriptions are broadcast at the regular local rates.

An adverse psychological reaction to the electrically transcribed "canned" program causes stations to adopt methods of making them seem to be live presentations. A brief and hurried announcement at the beginning will comply with the F.C.C. requirement. After that the announcer will talk with another speaker, whom the audience will assume is the orchestra leader. Unless the listener catches the periodic announcement, the program will appear to be presented by an orchestra in the studio if good equipment and the best transcriptions are used. A disadvantage of the sponsored transcriptions is that they are spotted at different hours throughout the country; hence national radio logs cannot definitely announce the hours of such programs. This limits any national tie-in campaign in the advertising of the sponsor.

The electrical transcription is taking the place of the soloist and orchestra in broadcasting, and it is not beyond the realm of possibility that the sound motion picture will become the dramatic staff of the television station. The greatest obstacle at present to television is wire transmission

over a chain. Consequently, the sending of finished dramatic productions in cans may offer the economic and engineering solution. In its infancy radio depended largely upon gramophone records for its programs. Today radio is returning to recorded music for its entertainment. The future of radio may be truly that of the machine age.

CHAPTER IV

Radio Reception

The Antenna.

Radio listeners will spend large sums for excellent sets but will put up makeshift antennas and attach the ground wires to radiators. This is a mistake that does not allow the receiving set to justify its cost. The antenna is really the receiver of the radio program, and unless it is efficiently installed one cannot expect the set to bring in stations satisfactorily. The set merely amplifies what the antenna receives. Not even a high-fidelity set will do justice to a broadcast program picked from the air by a wire thrown from a window or laid along the floor.

There are all sorts of electrical disturbances, caused by atmospheric conditions and by electrical equipment, which are picked up by the badly installed antenna along with the high-frequency waves sent out by broadcasting stations. The receiving set will magnify all these sounds; consequently the antenna must be installed in such a way as to eliminate these disturbing interferences whenever possible. An inside antenna will pick up the electrical disturbances of home equipment to a much greater extent than will an outside antenna. An efficiently installed antenna will pick up more clearly the high-frequency waves and minimize static and other noises.

In order to deliver the strongest signal to the set, a single length of stranded copper wire should be strung in a line running away from the stations most frequently tuned in; that is to say, the lead-in wire should be dropped from the end of the aerial farthest from the station. As a second choice, the lead-in wire may be dropped from the other end. Of course, the layout of the house and grounds will affect the

direction that the antenna will take, but the above arrangement is most effective. Such an antenna may be installed either inside or outside the house, but inside antennas should never be used in a structural-steel building or in one with a metal roof. Large quantities of metal around the antenna will effectively shield it from the desired radio signals. An aerial placed above a metal roof is not efficient. An antenna should not be over 100 feet long; a 40- to 50-foot antenna is long enough for a midget set. If the wire is too long, reception will not be sharp and stations will overlap. Always avoid running the aerial parallel to high-tension, electric, or telephone wires, and do not place it where the limbs of trees will blow against it. The aerial hitting against a limb or against another aerial may cause the program to cut in and out; this is particularly true in wet weather. The antenna should be erected as high above the ground as possible. The greater the distance maintained between wires of all descriptions and the aerial and lead-in, the better the results in maximum reception with minimum interference. Loose electrical connections or loose radio wires to antennas or grounds will cause interference.

The aerial, being exposed to the elements, requires periodic examination. Without this servicing, an aerial is always a potential source of trouble because of corroded connections, weather-beaten insulations, or defective lead-in strips and insulators.

For the protection of your property in case of storm, a lightning arrester should always be used. Other small but very important warnings are: when installing an outside aerial, never allow it to cross a public highway; keep it from going over or under any electric wires; and do not use the poles near your home for the purpose of supporting an aerial, for your wire will surely be taken down.

Lead-in Wire.

The lead-in wire, unless shielded, also acts as an antenna, and therefore may be measured as a part of the aerial.

Shielding the lead-in wire usually helps to reduce interference. The leadin should be supported away from the roof and walls. It should also be carefully soldered to the antenna rather than merely wound around it. The use of flat strips to bring the leadin under the window sash is not satisfactory when metal window strips have been installed on the window.

Ground.

Many sets will work without ground connections but it is usually better to have one. If the ground must be attached to a plumbing pipe, attach it to the cold-water pipe on the street side of the water meter. The connection must be tight and well soldered; it is also wise to file the pipe bright and clean. An iron pipe driven into the ground or a buried copper coil will make a more satisfactory ground.

Operation.

Foreign noises heard from the receiving set come from natural electricity in the air, from electrical equipment, or from the overlapping of broadcasting stations. The first of these is usually called "static" and is difficult to eliminate. The electrical disturbances caused by domestic equipment, telephones, or power lines can be controlled to some extent by shielding and grounding. Local power companies are usually willing to cooperate in eliminating man-made static.

The new optical tuning indicators of the better receiving sets will assist in tuning out the overlapping stations but aeri-als should be of the correct length to assist the equipment. For the best reception the listener must carefully tune into the desired station. With no optical tuning guide, correct station selection may be obtained by listening to the effect of detuning on each side of the desired station. Detune to one side until the background noise reaches a given level. Detune to the other side to an equal level, and then set the dial pointer midway between these two de-

tuned points. With practice and care the correct dial position may be found as accurately by this method as with a tuning indicator, and distortion will be avoided.

Good operating procedure requires that the tone control be used judiciously. Many listeners turn the tone control to full base position and leave it there. This is poor practice since it has the effect of removing the higher frequencies. Speech and particularly music lose their brilliance. By listening day after day to lower musical registers only, your ear comes to accept them as standard. Your appreciation for true musical values is thus impaired.

The presence of a tone control on a radio is justified primarily on the basis of noise reduction. It is particularly useful in removing background noises when receiving distant or foreign stations. In any event, high-fidelity reception of such stations is impossible at the present time.

Another factor that has a bearing on the tone quality of your set is its position in the room. Try it in several different positions until you find the one that gives the best reproduction. No hard and fast rule can be laid down, but, generally speaking, the best results are obtained in a rectangular room when the radio is placed diagonally across one corner against an outside wall.

Maintenance.

Have your tubes checked twice a year. Defective tubes will make the best radio ever built sound like the cheapest. If your tubes check and your radio still sounds below par, call in the serviceman. This is not a boost for the tube manufacturer or the serviceman, but a boost for better radio reception and appreciation.

The modern radio-receiving set is a delicate musical instrument deserving the same care as a fine piano. It should be tuned and overhauled at intervals not too long apart. Its efficiency may be decreased so gradually that you are not aware of it. The fine gradations of tone may be lost or distorted, but your ear will become accustomed to these

imperfections. Usually only when the set refuses to function does the owner call in an expert. Do not wait. Check the aerial for corrosion or wearing of insulation. Have the speaker kept in perfect order. One tube that has reduced emission will spoil the otherwise perfect reception. Replace the volume control and avoid a hum or noise. Lubricate the moving parts. The effect of heat and humidity or the accumulation of house dust will affect the original efficiency. A piano is tuned and an automobile is overhauled before it ceases to function; the owner should be as considerate of his radio, which can bring him so much entertainment if it is also efficiently maintained by periodic inspections.

Noise, Disturbance, Interference.

Even with his radio set in perfect condition and with good manipulation, there are many annoyances that come to disturb the listener. Fading is one of these. Automatic volume control has helped to minimize this defect. But when the signal fades out entirely, as is frequently the case on short waves, no automatic volume control ever devised can possibly bring in the desired station—so do not blame the set if signals fade.

Receiving sets themselves may radiate radio waves. This was particularly true in the early 1920's when radio sets used regenerative detectors or were unstable. The radio set of today is much better designed, but two of them, separated only a short distance, may interfere with each other. Squeals will result when one set is tuned throughout the band.

Code stations frequently produce thumping effects. If these key thumps are heard in the regular broadcast band, they may be caused by a radio amateur in your neighborhood or some other code station. Most radio amateurs are ready and willing to take steps to eliminate such interference if it is called to their attention.

There are, of course, many other sources of trouble, such as electric signs, motors, diathermanous machines, and automobiles. In many cases the noise can be eliminated with

little difficulty by your serviceman. In others, it requires an expert trained in the special field of noise elimination.

There are various things that may be tried to avoid reception noises. When the slamming of a door or walking across the floor causes noise, examine the pipes and wires in the wall or under the floor to see if a pipe hits against a shielded wire. A piece of cardboard, rubber, or linoleum at the point of contact will help to improve reception. Sometimes a background hum can be removed by reversing the plug points of your electric-power plug in the socket, or by the addition of a ground if one is not already being used. If you are near a powerful radio transmitter and are unable to get good quality reception (even though there is an abundance of power), arrange a switch that will disconnect your antenna when you wish to listen to that station.

Choosing a Set.

A question frequently asked is, "I wish to buy a new radio; what make would you recommend?" The procedure followed in purchasing a radio is much the same as that followed in purchasing an automobile. Consider only the sets made by established and reliable manufacturers. Have these sets demonstrated in your own home. Try them in different places about the room. Listen for good tone quality. See which one harmonizes best with the rest of the furniture.

You will note that nothing has been said about circuits. Is one type of circuit better than another? Ten years ago there were any number of different circuits in use. Today practically all sets use the superheterodyne circuit and differ only in minor details. Consequently, if you buy an established make through an honest dealer, you are certain to get value received.

Short Waves.

During recent years the short-wave bands on radio receivers have shown such marked engineering improvement

that today it is advisable to purchase an all-wave model rather than one that will receive the American broadcast band only.

Exploring the short waves furnishes much novel entertainment, but quality of reception does not compare with that obtained in our own broadcast band. Fading and noise are prominent.

The purchase of a doublet antenna with a twisted-wire feeder is recommended if much listening is done in the short-wave bands. Such an antenna, in certain cases, will reduce noise in the order of 100 to 1, and in addition increases strength from one to three times over the conventional single-wire antenna.

Know the Radio Dial.

The majority of radio listeners tune in on only a few near-by stations. They are the type who read the same books from an available library over and over again. The dial of your radio can be turned to a variety of programs to bring in different parts of the country. Why not explore the possibilities in the air? Do not ignore the world that is yours. Certain stations are naturally favorite stations, but other stations have programs that may surprise you with their interest. Local stations broadcasting with power under 500 watts can be heard satisfactorily 15 to 20 miles from the transmitter; regional stations of 1000 to 2500 watts cover a radius of 40 to 50 miles; and thus the coverage increases, but not in proportion to the increased power of a station. Also the coverage distance of a station varies according to atmospheric conditions, the location of the transmitter, and other influences. On January 1, 1937, there were 689 stations in the United States; a large proportion are available to you. California was the most active state in radio with 53 stations, Nevada the quietest with only a single transmitter. Buy and use a logbook.

Modern receiving sets also will bring in foreign stations, police calls, amateur short-wave efforts, and aviation re-

ports. A wise radio owner knows his dial and what it will bring to him.

The modern home requires from 50 to 150 watts of socket power, the average being around 85 to 100 watts. The approximate cost a month, running 8 hours a day, is \$1. The acoustical power delivered varies from 0.05 to 1 watt. It is customary, however, when speaking of the power output of a radio set, to refer to the power supplied to the loud-speaker, rather than the acoustical power delivered by the speaker. This speaker-input power ranges from 0.5 to 10 watts.

Perhaps the most astounding fact about the modern home radio is the small amount of signal power to which it is capable of responding. Only one million-millionth watt from the antenna will produce an appreciable loud-speaker response. If the average person were capable of exerting himself at the rate of one million-millionth watt, it would take him 65,000,000 years to go from the first floor to the second floor of his home.

In conclusion, just a word about metal tubes. The all-metal tube is unquestionably here to stay. It will, probably, eventually replace the glass tube. At present, however, there is little to choose from between a radio set using glass tubes and one using all-metal tubes, other things being equal. For this reason the choice of a radio need not depend on the question of the relative superiority of metal or of glass tubes.

CHAPTER V

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. 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.

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 voice. 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's 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. This 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 puts it, "An announcer's voice must be healthy, well dressed, and cheerful." A continual conscious effort must be made toward that end.

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. 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, 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. If the speaker himself falls mentally asleep, his unseeing audience will do the same. Reading is a tremendous handicap to

spontaneity. Again the difficulty is emphasized in the announcer's case, for, when a man is giving various items continually, day after day, 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 these 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 has said.

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. 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. 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. The speech organs, while reading, 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.

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.

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 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.

While a conversational style is advocated for the longer radio address and for different types of announcements, it would be inaccurate to say that all announcements should be given in this manner. Certain commercial sponsors will require that their announcements be read in a machine-gun manner with a staccato effect. There are different styles of giving different types of announcements. The material that is contained in an announcement will in many instances dictate the style of the delivery.

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, his announcement, or

his description, and know exactly what he intends to convey to his listening public.

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 cryer spake my lines . . . the purpose of playing, at the first and now, was and is, to hold, as 'twere, the mirror up to nature."

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, 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 the different types of microphones, for different voice qualities, for the acoustics of different studios, and, if more than one speaker is upon the program, with the placing of the speakers. However, if you are alone upon the program and have learned to control your volume, stand about 6 or 8 inches away from the carbon microphone and talk to the side of the microphone across the diaphragm. Eighteen inches is about the right distance to be away from the ribbon type of microphone or the other more 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. With the older microphone, a speaker whose voice was explosive, whose sibilants were noticeable, whose voice quality was husky or whining was advised to talk across its face in order to minimize these disadvantages. 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.

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 distance 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 becomes 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 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 danger, encouraged by

reading, that the voice will fall into measured and rhythmic 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 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 speaks 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 permitting the speaker to get 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. 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 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.

In 1931, the Columbia Broadcasting System accepted six new announcers out of 1000 applicants for positions. The requirements were that the voice be natural, a universal voice—one not tied to any locality or sectional dialect; that the announcer have ability to be formal without being stiff, to be informal without gushing; that he be versatile in his ability to handle names, musical terms, and foreign words. The final vague request was for a voice that was “masculine and mature.”

V. R. Sutton, formerly of 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.

To be accepted by the radio listener, the announcer must avoid all forms of affectation such as gushing, evangelical exhortation, pleading sweetness, aggressive overemphasis, spiritual ecstasy, and the overprecise pronunciation that results in an obvious division of a word into its syllables. The three "E's" of the radio announcer have been said to be Egoism, Enthusiasm, and Elocutionary It.

CHAPTER VI

Specialized Radio-speech Programs

The staff of a broadcasting station usually includes announcers with varied interests, different styles of delivery, and diversified voice qualities. From these types are chosen those most suited to announce the specialized program. An announcer for a "kiddie" program will not be assigned to be the master of ceremonies in a nightclub. The dramatic reader will not cover a riot. In every assignment, however, the announcer must comply with the general requirements of radio speaking. Let us consider a few of these specialized programs.

News Commentators and News Announcing.

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 of the Associated Press, the United Press, Trans-Radio, or the International News Service. These reports are read by a station announcer just as they come from the news ticker and usually consist merely of the "narrative news lead" of the newspaper article. Everyone experienced in the field of journalism knows that this news lead is an abstract of a whole news item, answering the questions: what, why, where, when, who, and how. The news bulletins are usually given over the networks or from stations that are equipped with a news-ticker service. These reports are usually read just as they come from the ticker, as follows:

LONDON, MARCH 19—(INS)—GERMANY TODAY HURLED CHARGES OF TREATY VIOLATIONS STRAIGHT BACK AT FRANCE AS JOACHIM VON RIBBENTROP, SPECIAL EMISSARY OF REICHS-

FUEHRER ADOLF HITLER, TOLD THE LEAGUE OF NATIONS COUNCIL, SITTING TO "TRY" GERMANY: "WE CONSIDER THE LOCARNO TREATY AS BEING DEAD—AND THAT NOT BY THE FAULT OF GERMANY."

Many stations edit the press news reports, making them more readable but not adding to their content. In such programs news facts are given with no comments of an editorial character. The local news reporter frequently endeavors to create some connection or transition between the items to make the broadcast more unified.

Then there are the news commentators such as Edwin C. Hill, Lowell Thomas, Boake Carter, and Hans von Kaltenborn, who take the news of the day, relate it to happenings of the past and to those of the probable future, and editorialize on its significance. These are given in a less formal manner by the speaker, who puts a great deal of his personality into such presentation. The news that is presented by a 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 are tuning in on a program, commentators usually save their most important item for second place unless their news is preceded by a lengthy announcement. An item of national or international aspect is considered most important, and, unless the first sentence of the item tells where the news originated, a date line is given. The broadcast will be smoother if date lines can be eliminated by incorporating the information in the news. The commentator attempts to tie up today's story with the news of yesterday, forming a sort of "continued-story" effect which shows how the events of yesterday have led to those of today, and how these events may affect politics or history of the future. During the course of his program the news commentator includes some human-interest stories. It is good practice to insert short, bright, and fast-moving items between long news features. As the editor of the invisible newspaper, the commentator must have a sense of what will appeal to the greatest number of his

listeners; weather is a subject of universal interest, while financial statements will interest only a limited class. 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, feel that he is an eyewitness. 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 mark a change of subject. Frequently the news commentator will bring in a few lines of commercial plug for his sponsor in the midst of his remarks. This, however, is a dangerous practice because the listener will feel that the important news has been completed and will tune off the commercial, losing the balance of the news. The better practice is for an announcer to give the commercial plug at the beginning and at the end. If a plug must be given during the news broadcast, it is better that an announcer's voice be heard so that the commentator may be freed of commercialism. The commentator must not allow his items to cause alarm or anxiety for the safety of friends or relatives of the listeners. The larger broadcasting stations maintain their own ticker service, which is 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. The fundamental principles of radio broadcasting must, of course, be complied with by the news commentator in avoiding all forms of vulgarity, profanity, and items that might be considered libelous. There are news commentators who endeavor to tie their items together regardless of their relationship; to do this sometimes results in monotony.

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. In this category we find Alexander Woolcott, Floyd Gibbons, and Walter Winchell.

There is another type of news commentator—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, for instance, Floyd Gibbons's broadcasts for General Electric.

News is dramatized in some programs, such as *The March of Time*, *Farm and Home Hour*, and others.

Selection of News.

The great problem of the news broadcaster is that his program is a daily feature and in many instances may run as many as three times a day. To be able to find material and new methods of presenting material is a real problem. Most news commentators are former newspaper men who have developed a sense of news values. Many of the news commentators have traveled extensively or acted as war correspondents so that they have a background that is helpful in presenting news in an interesting manner.

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. News should be of interest to a widely separated audience, not merely local in its character. Another element is time interest. 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. 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.

Presentation.

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 "There is important news today" or some other such phrase. A person does not ordinarily walk into another's living room and immediately start to talk. Personally I do not care for the greeting, "Hello, folks," or the use of the word "folks" in a greeting. The greeting must not be too familiar. 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 also are dangerous and 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. Certain regulations have been laid down by the press associations for the broadcasting of news, requiring that the radio stations give the newspapers a brief opportunity to publish the news before it is broadcast. Originally the requirement was for 6 hours but this has been decidedly reduced at the present time. Of course, the news broadcast is very brief, and, in order to create better relation between the broadcasting station

and the newspaper, the broadcaster usually states that the listener should read his local newspaper for a complete report.

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. There are some commentators like Floyd Gibbons who use a very rapid articulation. These news commentators usually develop the personal style that creates for them friends and listeners and makes their programs distinctive. Walter Winchell's style, the use of the telegraph key, and the flash announcements are associated with his program and no other.

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 express their personal bias. Sponsored programs, however, may be influenced.

The speed with which some announcers speak is greater than most people would guess. Lowell Thomas uses a semibullet attack of about 175 words a minute. Floyd Gibbons, with a full-bullet delivery, nears 200 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.

In 1934 only 2 per cent of N.B.C.'s time on the air was devoted to news; in 1935 the time so devoted had jumped to 10 per cent. The news commentator is a one-man show, one man acting as editor, reporter, educator, actor, director, and commentator. He strives to develop a style and a personality that will build for him a public, just as John B. Kennedy is the businessman's favorite and Gabriel Heatter has a following who enjoy his re-creation of events without interpretation. Mr. Kaltenborn recommends that the student read the novels of Defoe, *The Copeland Reader*, and the King James version of the Bible for style. 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.

Sports Announcer.

There has been an idea that the sports announcer should be an athlete who has participated in the sport he is describing. While Bennie Freedman, one of the outstanding professional football players of this day, has expressed a desire for a college-trained football man to announce programs, Harry Kipke, coach of the University of Michigan football team, 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 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. 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. Ted Husing 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 then mingles with the college crowds and blends into the college spirit. 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.

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. According to Coach Harry Kipke of the University of Michigan, the announcer at a football game concerns himself with only four things—who is carry-

ing 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 "Everhardus tried to go around right end," he says, "Everhardus has the ball. He is going around right end." At times the announcer may use the progressive present tense; for instance, a quarterback fades back: "Renner 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 roofer 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. It is embarrassing to mislead the listener even though the dramatic appeal is great.

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 to cause worry to 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. Furthermore, he must restrain his volume for the sake of the microphone. The sports announcer usually works very close to the mike so that he can look over it as he talks and can shield it from the crowd noises and cheering, or else he raises the pitch of his voice. The latter is the better practice. He must turn from the mike in moments of great excitement.

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.

Not only have these sports commentators brought to shut-ins and distant listeners concise and colorful accounts of football contests but they have led radio listeners vicariously to river banks to view collegiate regattas; sailed with

them over the sea to see yacht races; brought them to golf tournaments, polo matches, horse races, and track meets; and given them free ringside seats at prize fights. The sports reporters have increased national interest in sports and have inspired a widespread desire in listeners for active participation in various activities.

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. 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 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. In Cleveland the round table was used very satisfactorily and was an outgrowth of Stewart Sherman's "Conversations" in the *Atlantic Monthly*, which ran many years ago.

The purpose in these spontaneous discussions was to permit the exchange of ideas, to attempt to arrive at some solution of a problem, and to avoid the formality of a lecture through 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 of the points. The leader also may have his summary written out, which is prepared after the rehearsal.

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 the 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.

Each round-table group may adopt its own signals to be used to indicate the procedure of its discussion. At the University of Chicago a raised arm 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

him. Pointing the palm of a hand at 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 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 question 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. 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.

CHAPTER VII

Oral Interpretation and Dramatic Reading

Oral Interpretation.

In order to read and interpret correctly a bit of prose or poetry, the reader must study carefully the manuscript and its author. Study, sound thinking, and a voice commanding resonance and flexibility form the foundation for effective dramatic reading.

As in other forms of broadcast speech, the dramatic reader must sound as if he were speaking extemporaneously. His delivery should have the same spontaneity in thinking and expression that is found in that of the fluent conversationalist. Familiarity with the manuscript will enable the speaker partially to free himself from the printed words which are so stifling to creative thought and delivery. The words may have been written by an author long dead but they must become the words of the speaker and be a part of his natural and easy speech. When the speaker can unchain his eyes from the printed line, he can indulge in creative thought that will result in good oral delivery.

Oral interpretation is far more than oral reading. The ordinary reader may merely recognize the printed symbols that appear before his eyes, but the dramatic reader must interpret the thoughts conveyed by the words. The printed symbols may confuse the reader and distract his thought process if there are errors in spelling or grammar, but that is the only reason for careful punctuation and spelling. The interpretation should be a clear, intense, personal experience set in motion by printed literature and intensified by a vocal delivery in which body and mind coordinate.

The reader forgets his immediate surroundings and settles into his armchair as he reads "Dream Children" by Lamb. Having studied the conditions under which the passage was written, he endeavors to assume the attitude of body and mind that the author had when he conceived the manuscript. The reader loses consciousness of the printed page, the microphone, and the studio. Only when the reader has the power to transport his mind in this way can he project his word picture through the air to his listener. This power means the ability to enter into the life of another and to give expression to that life as if it were one's own. It means the power to understand another person's hopes and fears, joys and sorrows, ideas and ideals, and to take these into one's own behavior. This is not imitation, and there is nothing false or assumed about it.

In the oral interpretation of poetry the need of a thorough understanding of a selection before it is to be read aloud cannot be overemphasized. Before a poem can be read feelingly to others, it must be fully understood by the person who is to do the reading. There is entirely too much empty-headed reading which is merely the mouthing of words with no intelligent thought.

In the thorough silent study of a poem preparatory to reading aloud, learn the meaning of the words—the meaning of the words in the context. All the allusions, whether they are of a historical, literary, or scientific character, must be understood by the reader if he wishes to give an intelligent reading. Biographical material, if it will aid in the understanding of the poem, should be sought and used. The interpretive reader must study the author's feelings and purpose. Let us suppose he is to read a few stanzas from Tennyson's "In Memoriam":

We ranging down this lower track,
The path we came by, thorn and flower,
Is shadowed by the growing hour,
Lest life should fail in looking back.

So be it: there no shade can last
In that deep dawn behind the tomb
But clear from marge to marge shall bloom
The eternal landscape of the past;

A lifelong tract of time revealed;
The fruitful hours of still increase;
Days ordered in a wealthy peace,
And those five years its richest field.

The reader will discover that this poem was written by Tennyson after the death of his closest friend and companion, Arthur Hallam. The two had not only served together in a Spanish insurgent force but Hallam had married Tennyson's sister Emily. Tennyson and Hallam had been boon companions for about five years, hence the final line quoted. Now that the reader knows that Tennyson wrote "In Memoriam" to his dead companion, the reader can place himself in Tennyson's place as a mourner. Referring to "A Commentary on Tennyson's 'In Memoriam'" by Bradley, the reader will find a paraphrase of the selection:

Here on earth our memory is imperfect, because the interest of the present and future overshadows the past. And this must be so, because otherwise our life would be absorbed in the past, and we should not advance. But in the next life this reason for the imperfections of memory will not exist. The past from birth to death will be seen clearly, and those five years of friendship (which Arthur now remembers) will be seen as its richest field.

The reader now understands the conditions under which the poet wrote the stanzas, who Arthur was, and what five years were referred to, and he can better give an interpretive reading.

He must also remember that the poem he is reading becomes, in a truthful sense, his own. He must read it in the light of his own experiences, of his own times, of his own associated ideas, of his likes and dislikes. Thus any literature must go through the individual mind of the reader, through his mental make-up and personality. Literature is not a static thing in meaning; it is enriched by each reader

through its relation to his own ideas, experiences, and feelings. Thoroughly understanding the meanings and having saturated himself with the thought and emotion of the poem, the reader is ready to read aloud to others, to try to awaken in the minds of listeners impressions and reactions similar to his own. He must remember that the listeners are receiving his material in the light of their own associated ideas and experiences.

The first factor to be noted in reading aloud is the re-creation of the thought as it is uttered. The reader must not only understand but must rethink the ideas as he speaks. Only in this way will the voice and body express the meaning. Unless he is thinking the thought, he can hardly expect his listeners to do so.

If the interpretive reader does think the ideas as he reads, his voice and his whole person will reflect those ideas. The voice instantly registers thought and mood. If the mood is one of quietness, then the voice is subdued, the tone level, the rate slow. Note that response is the first essential, then the vocal manifestation. There can be no finer development of the speaking voice, I believe, than that attained through the reading aloud of all types of poetry.

But it is not only the voice that responds; the whole person responds. When, for example, the interpretive reader presents Walt Whitman's "Song of the Open Road," not only is the voice strong and vigorous, but his body straightens up, he stands a bit taller, the muscles are tightened.

Afoot and light-hearted I take to the open road,
Healthy, free, the world before me,
The long brown path before me leading wherever I choose.
Henceforth I ask not good fortune, I myself am good fortune,
Henceforth I whimper no more, postpone no more, need nothing,
Done with indoor complaints, libraries, querulous criticisms,
Strong and content I travel the open road.

Similarly, the reader does not give those heroic lines from "Invictus":

I am the Master of my fate,
I am the Captain of my soul,

standing with the shoulders slouched forward in a hangdog position. No, the head is erect; he must feel the courage and pride of those lines. As in all the speech arts, not only voice but the whole person is involved, and the state of the whole person will be reflected in the voice. This is shown especially in radio speaking, for the speaker is invisible but his voice is affected by his body reactions.

Part of this response is the rhythm of poetry, the swing of it, which helps to bring out the melody and music. All good speech is rhythmical; good prose has rhythm; but poetry has the largest measure of rhythm. At once we think of meter, the metrical arrangements of poetry. Meter is the mechanics of rhythm; it is part of the composition process, the technical disposition of short and long, of light and heavy syllables. Rhythm, rather, is in the reader himself. Rhythm may be determined by the meter but the meter should not dominate the rhythm to such an extent as to submerge the meaning. If I read these two lines from Tennyson's "Guinevere" in this way:

*But when the queen immersed in such a trance
And moving through the past unconsciously*

it is obvious that I am not thinking of the meaning. It is merely an exercise in scansion. Yet, if they are read for sense, there is a strong rhythm in those lines, determined by the meter.

It is the rhythm of poetry that is so often essential to the expression of the mood. Note the long sweeping sounds Shelley chose for his "Dirge":

Rough wind, that moanest loud
Grief too sad for song;
Wild wind, when sullen cloud
Knells all the night long;
Sad storms, whose tears are vain,

Bare woods, whose branches strain,
Deep caves and dreary main,—
Wail, for the world's wrong!

One more principle can be briefly discussed: that of the grouping of words or phrasing. There is an oral punctuation, so to speak, which is not always identical with the grammatical punctuation. Usually the commas, semicolons, dashes, and periods assist in reading aloud. But one can lay down the general principle that there are more pauses needed in reading aloud (in rare cases, fewer pauses) than are indicated by the marks. Such pauses may be needed in order to renew the breath supply or in order to convey the meaning. Readers often read too rapidly for the audience to follow. The reader is very familiar with a well-prepared poem. He forgets that the audience may be hearing it for the first time. He should mete the poem out at such a rate that he can be followed readily and easily by the listeners. This may necessitate more frequent pauses than are shown by the punctuation. The matter of phrasing also involves adjustments in pitch and force and rate to indicate the relative values of ideas and parts of ideas. The main idea must be kept to the fore while the subordinate, coordinate, and sub-subordinate clauses and phrases are inserted.

Musical Background or Introduction.

There is one other thing that is essential in dramatic reading on the radio. That is the use of the musical background. It is unrivaled in its ability to create the desired mood or atmosphere. The main thing to be remembered in connection with this part of the program is that there should always be a logical reason for any music used. The selection should be adapted so that it can be lengthened or curtailed if necessary. Musical background unquestionably aids the spoken word when definite color is wanted as a background to words of sheer beauty. It helps much in conveying the intended mood and creates the atmosphere that is wanted. Whenever it is used, however, it should be

with the utmost discretion and after serious consideration as to the right music. If it is too loud, it will drown out the speaking; if it is too soft, the listener is apt to think he has two stations instead of one. Background music seldom fully synchronizes with both mood and tempo; consequently some authorities maintain that, unless the music is written especially for the program, it should be used only to introduce or connect material. Be careful not to allow the speech rhythm to fall in with that of the music.

Music is the listener's favorite radio entertainment. Poetry approaches music in that it combines its meaning with much melody and rhythm.

Voice.

The most important thing to the dramatic speaker is his voice and the training of it. Vocal training has been found to be very beneficial to the radio speaker, no matter what type of thing he does. It is of prime importance to the dramatic speaker. Vocalists have much healthier and more cultured voices. Their voices are richer, better modulated, more pleasant, and less likely to rise to the sudden peaks that are so injurious to the sensitive ear of the mike. Of vital importance to anyone doing dramatic reading on the radio is his use of tone, volume, and pitch. The tone production must be perfect, the volume properly varied and controlled, and the pitch flexible. He must know how to use correct pause (for breathing, of course), accent, rhythm, inflection, and emphasis. The speed must be watched carefully too. He must read slowly enough to be understood and yet fast enough to hold interest without seeming hurried. Enunciation must be clear and distinct, and the pronunciation exact, with correct accent and sound of letters. There are four rules for pure speech that are helpful to the radio speaker. They are: (1) use the entire mouth in speaking; (2) learn to give diphthongs two shapes of the mouth; (3) learn to make short sounds short and long ones long; and (4) generate all power for speech in the diaphragm.

This last gives the "floating power" with which to create sounds.

The technique in dramatic reading is merely a matter of keeping the voice at the proper level and timing the speaking to a background of music. Reading must utilize special techniques such as the technique of the sigh, the genuine whisper, the catch in the breath, and other sounds that would not be clearly audible if done on the platform. The speaker must be alert about diction, enunciation, inflection of syllables, and voice humor. He must never let bad humor show. He must be as careful of his voice as a prima donna; a cold, too much tobacco, or overindulgence in alcohol will roughen his voice badly. And he must always remember that singing is fine for his speaking voice. The tone produced in the same manner as in singing is the best for the radio because a melodious quality is secured which is very pleasant and particularly desirable in a reading of dramatic literature or oral interpretation.

Do not fix your voice tone to fit the mood. Allow your mood to determine the voice tone. In other words, work from the inside out rather than from the outside in.

Tone is greatly dependent upon the mental attitude and emotional response. Contempt, love, sorrow, anger, pity—these moods demand corresponding tonal qualities in the voice. The actor has a right to use any quality of voice that correctly characterizes the role he is playing. But the speaker on the radio can only portray himself, his reaction. The quality of the voice is self-revealing.

Choral Speaking.

Choral speaking is really a dramatization of poetry by an organized cast of voices of various pitches and qualities chosen to bring out the tones implied by the content. The group must have a director just as a choir or orchestra must have a conductor to bring out harmony, rhythm, contrast, and feeling.

It is necessary that each individual in the verse-speaking choir develop certain abilities and skills. He must be able to

breathe correctly in order to project tone correctly, and to keep in time with the rest of the chorus. For example, in the first verse of "The Night Wind" by Eugene Field there occurs a rather lengthy phrase:

And many and many's the night I've cried
To the darkness brooding far and wide
Over the land and the deep.

This phrase can be read very effectively with no break at all. Therefore the individual must conserve his breath until he has finished the phrase if he would stay with the group. It is this staying together that is very necessary in choral speaking. However, choral speaking is not merely unison reading.

Timing or tempo plays an important part in effective choral reading of verse. "The Pied Piper" by Browning illustrates the opportunities for varied tempo. In the following excerpt the readers should start rather slowly and deliberately and gradually increase their speed.

Rats! They ate the dogs and chased the cats,
And ate the cheese in the vats,
And bit the babies in the cradles,
And licked the soup from the cook's own ladles,
Split open the kegs of salted sprats,
Made nests inside men's Sunday hats,
And even spoiled the women's chats
By drowning their speaking
With shrieking and squeaking
In fifty different sharps and flats.

While rhythm or tempo is an outstanding factor, it is never emphasized at the expense of thought.

Furthermore, the individual in the choral-speaking group must have a feeling for the suitability of certain tone qualities to certain selections. Certain lines are suited to a lighter quality than others, and consequently should be read with a light voice; other lines justify heavy tones. It is wise to remember that, although unison work is demanded in the matter of timing, breathing, attack, etc., there should be no attempt, or at least very little, to make the entire group

conform in the matter of inflection and tone color. The individual is expected to create with his own voice the mental images that the words or lines give him.

The director should select poems that are within the emotional experience of his group. There are a number of lists of suitable selections available. While organized-group vocal activity dates back to the Greek chorus, there seems to be a sudden and recent revival of interest, if one is to judge from current magazine articles. Choral verse speaking will develop in listeners an appreciation for poetry which has not previously existed. In a group that is well trained, choral reading will have all the qualities of music.

Interpretive Reading Programs.

A recent analysis, made by the N.B.C., showed that "literature" occupied 11.2 per cent of the hours on the air, standing second only to music. "Literature" was composed of drama, 60 per cent; comedy, 21 per cent; and readings, 19 per cent. Programs over the networks and over local stations include religious, patriotic, literary, romantic, comic, dramatic, and educational readings to prove that listening to poetry is easier than reading it.

John Erskine predicts that the new opportunity of bringing literary effort to the ear via radio will bring new forms,

. . . or rather a revival of old forms. . . . Literature intended only for the eye comes off badly when we are asked to follow it only with the ear. For that reason most of the verse read on the radio, most of the fiction or the drama, is a disappointment. . . . I believe that a new type of poem will be developed, and especially a new type of short story, packed with interest, and brief enough to recite in ten minutes. Such plays would be addressed to each of us personally; they would no longer seem something which other people elsewhere could look at, but we could only overhear.

Miss Judith Waller, educational director of the National Broadcasting Company, says that the less subtle things are best. Whole programs of various selections should be organized around a central theme for best results. Simplicity and

naturalness are needed in the reader, who "must become the poet when he reads on the air, or his failure is obvious." She also believes that a "one-man show" is seldom successful in the reading program, preferring a variety of voices reading different stanzas or lines successively.

For the uses of poetry, the radio enjoys a tremendous advantage: it returns poetry to its native element, the air. Poetry existed long before books; originally it was an art not of writing, but of speech and song. Many poems are being said and sung over the radio. The quantity is sufficient, the quality will depend chiefly on what the public likes.

CHAPTER VIII

Radio Pronunciation, Articulation, Dialects

Pronunciation.

Any person broadcasting over a medium that penetrates to the four corners of the continent 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."

The correct pronunciation of words is one of those questions which never will be settled. Spelling often gives very little clue to the nature of the vowel sounds, and none whatever to the position of the accent, which will of itself determine in many cases what the vowel sounds must be. The greater the agreement between sound and spelling, the greater the probability of universal acceptance of a single

standard. There is no rigid measurement, but the speaker may well ask, "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 relation 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.

The dictionary does not legislate but merely records what common practice is in the matter of pronunciation. Boards of editors cannot agree on the correct usage. *Webster's New International Dictionary* in 1936 listed 1100 words differently pronounced by different orthoëpists. A brief and handy desk dictionary will give the most common pronunciation, or perhaps the two most commonly heard, the first being the one its editors believe to be the more generally accepted pronunciation. The second choice will sometimes be further subordinated by being marked as local, provincial, or colloquial. The more complete the dictionary, the wider the range of choice in pronunciation. In the *Oxford English Dictionary* (Oxford, Clarendon Press), where space permits the editors to cite the history of the word through six or eight centuries, the range of choice may be so wide as to give an historical backing to almost any conceivable pronunciation. Supplement the Oxford with a good dialect dictionary of current practice, and the resulting range of choice will be such that only a born genius could go entirely wrong.

In pronunciation, as in most fields of knowledge, the only person who can settle the problem easily is the person who

knows little about it; the less he knows, the easier it is to settle. The only person likely to be dogmatic about the correctness of a particular pronunciation is the one who supposes it to be a simple matter of right and wrong. 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, social, or moral differences that separate them.

These general principles of pronunciation are particularly applicable to radio speech. The 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. An announcer at the Harmsworth boat races at Detroit spoke of the "al'-u-min'-i-um" boat. He was right, but according to his listeners and even according to the newspapers he was wrong.

The British Broadcasting Company has an Advisory Committee on Spoken English, which meets twice yearly to draw up lists of correct pronunciations for the benefit of announcers.

All that remains is to teach the listening public what it is correct to expect. And the listening public is being taught by the trained announcers. 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—"because" is not "becuz," "catch" is not "ketch," "nothing" is not "nothin"; and they will not slur words into one another—"don't you" must not be broadcast as "don-chew." 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." "Again" cannot rhyme with "rain" for the

radio listeners; it must be "agĕn." "Eĭther" and "neĭther" give up that long \bar{i} under popular pressure in favor of long \bar{e} and are "ēither" and "nēither." The public likes to hear words its way.

The standard American speech then is what we shall hear over the radio. Dethroned from our ranks of announcers are the Anglicized Rhodes scholar and the devotee of stage diction. Harry von Zell, who speaks admirably, relies on no dictionary, but on his intuition as to what is current usage. He may know the correct pronunciations of "carburetor" and "advertisement" but he will not use them unless he feels they will be accepted by his audience. The same is true of David Ross, who is reputed to be one of the purists of the profession. Kenneth McKean tells you not to be over-precise—not to go "high hat."

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 "sĕm'ent" (as some authorities incline to prefer), such pronunciation will be considered evidence of ignorance or affectation by the average listener.

When the announcer or radio speaker 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. Since the question of correct pronunciation is not easily settled, the announcer must often refer to various authorities and adopt a pronunciation in which he has confidence. He must know how words are spelled and never insert a superfluous vowel or create an additional syllable in a word. On the other hand, essential letters must not be omitted, such as the middle n in "government." Correct pronunciation goes hand in hand with correct spelling and with correct syllable division. This syllable division for pronunciation is different from that used in the division of a word for spelling.

Despite the apparent latitude given to the announcer in matters of pronunciation, he must exercise his privilege with caution, for he is responsible for the future pronunciation of the masses who compose the radio audience. Within limits he must pronounce words as the educated public expects them to be pronounced. Awards are presented to announcers for radio diction, and efforts are constantly being made to raise the caliber of radio pronunciation. The public is becoming more critical, with the result that the announcer must be careful to give to the listener what he expects in the matter of pronunciation.

Broadcasting stations should have one of the following reference books available: *Standard Handbook for Secretaries*, by Lois Hutchinson (McGraw-Hill Book Company, Inc., 1936); *Webster's New International Dictionary*, 2d ed. (G. & C. Merriam Company); *Pronouncing Dictionary* by J. E. Worcester (J. B. Lippincott Company). A small volume like Phyfe's *18,000 Words Often Mispronounced* (G. P. Putnam's Sons) includes many names and may serve for ready reference in most pronunciation questions, provided the announcer is aware of its limitations.

A desk book that combines the virtues of a style book, grammar, almanac, and pronouncing dictionary is invaluable. The *Standard Handbook for Secretaries*, mentioned above, combines these qualities. The section devoted to pronunciation (pages 147-175) gives the correct pronunciation of words commonly mispronounced as well as the correct pronunciation of architectural words, names of artists and composers, words derived from foreign languages, geographic names, and medical and musical terms. These 28 pages furnish accessible and adequate information to the announcer. When in doubt, consult Roget's *International Thesaurus of English Words and Phrases* for a synonym.

Place Names.

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. In 1931 Station WABC felt the announcer's job was so complex that an outstanding lexicographer in this country, Dr. F. H. Vizetelly, was employed to teach the staff the correct pronunciation of such places as Chicago, which has been heard as "Shecawgo." It was decided by the C.B.S. that American place names should be pronounced as they are by people living in the localities mentioned. Even then, such American localities as Chemguasabamticook and Passamaquoddy in Maine, Cuachita and Thibodaux in Louisiana, Snoqualmie in Washington, and even Cheyenne in Wyoming make the announcer wish to stay at home. The C.B.S. has adopted as its standard Dr. Vizetelly's volume *How to Speak English Effectively*. Lloyd James, Advisor on Spoken English to the British Broadcasting Corporation, feels that satisfying the dialecticians of Wales, Scotland, Ireland, and Yorkshire is a problem, but the indigenous Indian names of the United States are just as trying. The dictionaries have their pronouncing gazetteers which should be consulted.

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. 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. Such pronouncing aids as *Elson's Music Dictionary*, by L. C. Elson (Oliver Ditson

Company); *A Pronouncing Pocket Manual of Musical Terms*, edited by Dr. T. Baker (G. Schirmer); *Pronouncing and Defining Dictionary*, by Rupert Hughes; and *American History and Encyclopedia of Music*, by Hubbard, will be helpful.

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 the name is decidedly distasteful. Mawson's *International Book of Names* (Thomas Y. Crowell Company, 1934) gives the “official” pronunciation of names of present-day celebrities and postwar geographical designations, as well as the more difficult names in music, literature, art, and similar fields.

In this connection it is interesting to note that practically every newspaper in the country has a stylebook or style sheet of instructions concerning grammar, spelling, style, material, and policy for the guidance of its reporters. To

date, I have not found a single radio station that issues or claims to have such a stylebook for the guidance of its announcers. There are announcer's handbooks (C.B.S.) but they deal principally with production.

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.

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 relaxed 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. Certain of the vowels, such as those in "way," "eat," "it," and "my," are formed at the front of the mouth. These 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 before the microphone—television is not yet here. Again there are certain sounds that require jaw action, such as those in "father." There is a tendency upon the part of the neophyte before the mike to tighten his jaws, with the result that there is no richness in his articulation.

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. Wiggling 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."

It is true of speech, as of many other social conventions, that 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 drawling (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.

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, which causes the windpipe membranes to cover the vocal chords. 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 micro-

phone and is impressed by the necessity of modulating his volume will often be affected by constraint and tenseness resulting in 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.

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. Pitch your voice low. Any good speech text will supply physical exercises that will be of value to the beginner.

I am very much in favor of social intercourse for radio announcers and speakers. Each must develop a personality and also the ability to project this personality through the air. This is a real project, and those who are successful 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 exhibit it in their speech.

Rhythm.

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 preeminently 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 "expression" 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.

Regional Dialects.

It would be well to preface any discussion of regional accents in announcing with the following excerpt from M. 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 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

¹ *Harper's Magazine*, August, 1934.

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 idiosyncrasies 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

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

few in number that they may almost be said to speak 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 the 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 by the pattern of the dialect 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. Oral speech is a matter of imitation. We speak as we hear it spoken. It is only natural that we shall gradually and perhaps unconsciously evolve a speech imitating some qualities of all the dialects heard over the radio.

CHAPTER IX

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 programs 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 one-minute announcement; the 5-minute commercial program; and the advertising portion of longer entertainment features.

The continuity writer is concerned primarily with writing copy expressly for the purpose of advertising a product. He is not concerned with the writing of skits or with the patter of the master of ceremonies or of the comedian. 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. The reading of advertisements is fine training for such work. 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 only 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, but who unfortunately have little knowledge, at present, of the principles of good broadcasting. Ultimately these agencies will find it advisable to employ in their radio departments experienced broadcasters who are aware of the differences in the requirements for writing auditory 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 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 at 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 wrapping 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. 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. Ordinarily not more than two "price mentions" should be given in a 15-minute program; good broadcasting principles limit the length of the sales talk to about 2 minutes in a program of this kind. Broadcasting stations recently announced that they advised not more than three "price mentions" in a 30-minute program, which should include only 3 minutes of commercial copy; and that the full-hour program should not mention the price more than five times or devote more than 6 minutes to straight sales talk.

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 interpretation 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 climaxes. 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.

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.

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 a 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.

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.

CHAPTER X

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. Milton J. Cross, the noted announcer, describes radio speaking as “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 “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 pocketbook, his everyday realities. The choice of a subject is of primary importance 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 has been set forth by Morse Salisbury, chief of the Radio Service of the United States, Department of Agriculture:

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 point 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 abso-

lutely 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, then, 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 acquire 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 an occasional misdemeanor is inoffensively 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 frequently 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. 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 the speaker 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.

CHAPTER XI

Writing the Radio Play

The radio play is the life of the radio today. The author of radio plays should have a knowledge of play writing, but creating the radio play presents some problems that are not treated in books on dramatic writing. There are plays for adults and plays for children. I intend in this chapter to concern myself principally with the writing of dramas and skits for the adult listener; children's programs will be treated in a later chapter.

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 this 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. Edgar Wallace might have been able to satisfy the production demand of the play a week. Despite the fact that a Radio Guild play contains only 16 minutes of script material, this production demand does not appeal to the artistic temperament nor is it conducive to literary form. 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.

In writing radio script, it is well to remember that a series of connected plays sells much better than a single skit, for many commercial contracts are drawn up in units of 13. The plot, therefore, should be one which will provide some climax in each episode, so that it will stand alone for the listener who tunes in on only one night; yet it must be one which may be amplified so that there will be connection from week to week as the series runs over a period of time. This requires a big plot with incidents and obstacles developing a "continued-story" effect. There must be a link between the characters in the various episodes. You

cannot kill off your principal character without ending your series. Consequently the principal character must be created in such a way that the audience will have a lasting interest in his development and action. The plot must not be too complicated. There should not be too many subplots or too many clues. It is impossible for the listener to turn back to some previous performance to refresh his memory. For when one episode has been broadcast, it is gone. As each individual performance must be a unit in itself, it cannot leave too many threads of plot for the listener to carry on over a period of 13 weeks. Vague recollections cannot be counted on, particularly as the listener may not tune in for every episode. The climax of the individual skit is important, and yet that climax must not be final for it must arouse the interest in the episode that is to follow.

Of course, an easier method of connecting the series of radio plays is to locate them in some imaginary theater of the air and have each one a distinct and separate production. There is no unity of plot development; the series is held together only by the title of the program, such as "20,000 Years in Sing Sing" and "K-7."

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 etherized 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 presents 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, where "Time Marches On" or fades back. 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.

On examination of the plot types that are popular for radio plays, 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. There are dog dramas and adventure stories, tales of Death Valley and Sherlock Holmes dramatizations. 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.

There has been general criticism of the plots used in plays for children. Parents claim that there are too many blood-and-thunder, crime, melodrama, and inaccurate plays, and that many murder the King's English. There is no reason why acceptable plots cannot be developed for children based upon their school reading. Series might be written on Greek mythology, *Grimm's Fairy Tales*, or the *Arabian Nights*. Any one of these would have enough thrill and romance to appeal to the young listener and would be more acceptable to parents and teachers. For instance, a series on the *Arabian Nights* could in its 13 programs present the following adventures: (1) Aladdin and the Wonderful Lamp, (2) Ali Baba and the Forty Thieves, (3) Sinbad the Sailor, (4) The Princess and the Talking Bird, (5) The Fisherman and the Genie, (6) The Young King of the Black Isles, (7) The Magic Horse, (8) The City of Brass, (9) Codadad and His Brothers, (10) Prince Ahmed and the Fairy Periebanou, (11) Gulnare of the Sea, (12) Prince Agib, (13) The Adventures of Hassay of Balsora. The Rimski-Korsakov "Scheherazade" suite could be used for the introduction and close.

The majority of radio plays are sponsored by advertisers, and the commercial sponsor is inclined to select those that will please the buying public, with the result that the plots

are often spineless and hampered by commercial considerations—plays that will offend no purchaser.

According to Arthur Pryor, dramatic director of the "March of Time," the formula for the play is as follows:

Setting of the problem—explanation of factors involved; conflict, and solution. The ideal radio drama would be one in which the action is purely psychological and where the actors would have to do little or no moving about. The drama itself would run on the pure current of emotion and sentiment and passion. These feelings would be registered in the tone color of the voices speaking the lines.

Because of its brevity, the radio play should not contain too many scenes that cause confusing transitions, or have too many acts. 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. 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 and prepare the way for the next program in the series. There should be no change of scene that is not clearly accounted for in the action of the play or in the lines. 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. There is no opportunity for anticlimax in the play itself. Of course, the announcer or narrator who carries the play on to its next week's performance presents something of an anticlimax. However, 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.

NARRATOR

(over music)

We bring another adventure for Betty Graham, lovely Virginia girl spy; another adventure for her two soldier suitors, Gordon Wright, staff captain for General Grant; Randy Claymore, of the Confederate Secret Service. Again Helen Claire, Reed Brown, Jr., and John Griggs portray these well-known characters.

(Pause—new tone)

Our setting is the camp of the Army of the Potomac before Petersburg, the summer of 1864. The armies of Grant and Lee are deadlocked . . . but a new plan is in execution. *(Lower tone—music cue)* Secretly, a mine is being bored under the Confederate defenses of Petersburg. Rumors have reached the fearful town. Spies have been sent into the Union lines to find if the mine exists and where it is. *(Still lower tone—music cue)* Two traveling players gained entrance to Grant's Yankee encampment . . . gave a show. They were arrested as spies . . . because the man,

Professor Valladoso, so-called, carried a map of the Union mine under the Petersburg defenses. On . . . to the play! (*Drum roll*) (*Over drum roll and music*) It is near midnight, July 15, 1864. The scene is the yard of a farmhouse near City Point, Virginia, used by General Grant's Provost Marshal as a field headquarters . . . and a prison. Old Jesse, who is a groom for General Grant's own horses, is busy currying "Cincinnati," the General's favorite charger. He looks up as Phineas Potter, a tall and rather pompous prison guard approaches.¹

The narrator will 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. At the end of the play he will give a forecast of the next one in the series.

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. 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.

¹ *Roses and Drums*, Series III, No. 9, The Union Central Life Insurance Company.

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.

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. 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 Clara, Lou or Em 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 are 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, creating a Mr. Gallagher and Mr. Shean style. Not only does the dialogue introduce the character but it may describe some essential manner or condition of the person. For instance, "Who is that long-bearded old man coming down the road, the one with the tattered clothes who leans so heavily upon a cane?" 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 modern kitchen with all its chromium and porcelain? It is so bright and cheerful."

A comparison of the scripts used for the motion-picture production *One Night of Love* and the radio presentation of the same play will illustrate in an interesting manner many of the foregoing principles. First I quote from the original script used by the motion-picture director:

INTERIOR DRESSING ROOM

77 Medium Close Shot

Mary starts to slip out of her costume. The dressing room is a tiny, ratty-looking chamber, hung with seedy costumes and faded posters. Mary is pulling the costume off her head, as she does so, singing a few scales. The dress comes off and she stands in her scanties, still singing.

MONTEVERDI'S VOICE

Don't close your throat on those high notes.

Mary turns quickly toward the door. She hastily grabs the dress and holds it up to conceal some of her nakedness. Terrified, she speaks as commandingly as she can.

MARY

Will you please get out of here?

78 Medium Shot

To include Monteverdi in doorway. He does not hear her remark; his gaze is concentrated on her.

MONTEVERDI

(in a hushed, awed tone)

Once in a lifetime one hears a voice like that.

(with a gesture of disgust)

And I must come to a place like this to find it.

He comes closer to Mary; something in his manner half hypnotizes her.

MONTEVERDI

Your technique—it is abominable. It takes years to learn to phrase so badly.

- 79 Medium Close Shot
of the two, as Monteverdi stands looking at her. She still holds the dress around her.

MONTEVERDI

(impatiently)

Drop that thing. It makes me nervous. *(Commandingly)*
Drop it.

Half hypnotized, Mary lets the dress fall. Monteverdi pays absolutely no attention to her dishabille.

MONTEVERDI

Now take high C—and hold it.

Nervously, Mary takes a deep breath and attacks. The note comes out clear and perfect. But as she hangs on to the note, he says:

MONTEVERDI

Tone production—not so bad.

He walks around, back of her. She is still hanging on to high C.

- 80 Close Shot Mary
as she holds on for dear life to that high note. Her voice wavers.

MONTEVERDI

(barking a command)

Hold that note, please.

Bravely, Mary recaptures the note, though it is killing her, and hangs on.

- 81 Two Shot
as Monteverdi walks around from in back of her.

MONTEVERDI

I've always wanted to see a Carmen who weighed less than a bull.

Now let me quote from the radio script as it was put out by Columbia Pictures Radio Service. Note that in the radio the sex appeal is minimized; note also how the scene is condensed; and finally observe how few action instructions are given to the radio actors.

ANNOUNCER

Now, we find Mary in her dressing room, having just finished a song. She is changing her costume when the door opens suddenly—

(Door opens and closes)

MONTEVERDI

You shouldn't close your throat on those high notes.

MARY

(startled)

P-pardon me?

MONTEVERDI

Those high notes. You shouldn't close your throat.

MARY

Well! I like that! Will you please get out of here. Can't you see I'm getting dressed . . .

MONTEVERDI

(interrupting; he appears not to have noticed her remark)

Once in a lifetime one hears a voice like that. And I must come to a place like this to find it.

MARY

I . . . I . . .

MONTEVERDI

Your technique—it is abominable. It takes years to learn to phrase so badly. Your attack is not bad. You hit C all right—tone production was fair—could be developed.

MARY

Just what are you gibbering about? Please get out. Can't you see I'm only half dressed?

MONTEVERDI

(absently)

Yes—yes, I see. I've always wanted to see a Carmen who weighed less than a bull.

In the radio script lines predominate; in the motion-picture script the emphasis is upon stage directions. In the screen script we see that she is not dressed; in the radio version she tells us that she is only half dressed and the listener uses his own imagination to create the picture.

In order to make the comparison more vivid, let us take the following few speeches from both versions, omitting stage instructions, to see when the radio lines have been changed in order that the listener may see action.

MOTION PICTURE

MONT: And you are not ugly.
Your diaphragm needs work.
Take a deep breath.

MONT: Now push my hand
away. No. No. I want you to
push it away with your dia-
phragm.

RADIO

MONT: Oh, stand still, will
you! How can I look?

MARY: That's precisely what
I don't want you to do. Shall
I call the manager?

MONT: And you are not ugly.
Your diaphragm needs work.
When I put my hand on
your diaphragm, take a deep
breath.

MARY: Say, what . . .

MONT: A deep breath, please
. . . there, that's fine. Now
push my hand away. No. No.
Not with your hand—with
your diaphragm.

Notice in that last line how those four words "Not with your hand" explain to the unseeing radio listener the action.

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. 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 control operator 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" are absolutely forbidden. As 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.

Sounds.

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.

Length.

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 script. 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.

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 director, 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 and types, ages, voices, and personality.

ACT I, SCENE I

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 a good practice at the beginning of the script to list all the sound effects that will be required according to the scenes and acts.

SOUND EFFECTS

Jingle of harness.	Slow steps on wooden platform.
Marching effects.	Squeak of pulley.
Steps on floor.	Rope straining on pulley.
Currycomb on horse flanks.	Knock on door.
Whinny and pawing of horse.	Door open, close.
Window raised, blinds thrown back.	Slow drum beat.
	Drum roll.

Also the titles of music to be used in the introduction, close, and scene transitions should 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. All right. 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. (Start fading in music as background—something “mysterioso,” preferably)

We see the headlights cut across the house. Then the car stops in front of the 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.

(There is a slight pause)

MARIAN

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.

Conclusion.

Until some real development has occurred in the technique of writing radio plays, stage productions and the dramatization of short stories will have to be adapted for the microphone. One-act plays are particularly good for they speed to a climax, and even longer plays may be cut to the required length without sacrifice. However, the cutting of the longer play is not enough to comply with the unique requirements of the radio.

According to William S. Paley, president of the Columbia Broadcasting System, "dramatics are mounting to a dominant position in broadcasting. They will be of a superior type. They will be original skits, not plays adapted from stage and motion pictures. New writing technique undoubtedly will be developed to fit the needs of radio." The poetic drama, *The Fall of the City*, by Archibald MacLeish, produced in 1937, was evidence of the search for new and artistic methods of dramatic presentation. Radio offers the best method of presenting the sing-song verse style of Biblical drama.

Radio music has improved from the harmonica solos of 1921, through periods of jazz, stringed orchestras, and symphony concerts to the grand opera broadcast from the Metropolitan Opera House. The average broadcasting station, connected with a chain, is presenting six or eight plays or skits a day, ranging from electrical transcriptions of Buck Rogers to the Radio Guild plays. The quantity of radio drama has increased, showing the popularity of this form of entertainment. Educators are using the radio drama in vocational guidance, history, and even mathematics lessons. The daily news is made even more dramatic by *The March of Time*. Commercial sponsors travel with showboats, carnivals, and amateur troupes. It is time to improve the quality of the plays presented in the theater of

the air. High-priced actors such as Helen Hayes, Walter Hampden, Leslie Howard, and John Barrymore are joining the radio cast. Now that sponsors have been educated to pay high salaries for actors, they will realize the necessity of presenting plays that will justify the employment of the talent. The next step will be to offer adequate inducements to capable authors. When the quality of radio drama justifies such an arrangement, the radio play will not have to close after its first night like a poor stage play. There are many who enjoy seeing an excellent play more than a single time on the Great White Way. Shakespearean plays are repeated on the air lanes. On with the play!

CHAPTER XII

The Development of a Plot into a Radio Play

On the following pages is given a radio play based on true facts. These facts are all brought to the listener through the medium of conversation. The following material is given just as it was received by the author, Eric Howlett, from the Detroit Police Department, except that the criminals and their victim have been given fictitious names in the report. The play as presented was a 30-minute sustaining feature of Station WJR.

It can readily be seen that literary style, grammatical and rhetorical rules, and careful punctuation are not vital in radio dramatic copy which is to be interpreted orally. Conversation is seldom literary. The director will insert pauses to create the effects he desires during rehearsals. Realism of speech and the action of the plot are essentials in the script. The style is staccato, because characters are expected to make the copy sound real in their characterizations and because the speech must move rapidly.

MATERIAL FROM POLICE DEPARTMENT ON THE RACE-HORSE CONFIDENCE GAME

Bill Greeley was released from the Federal Penitentiary at Atlanta in 1929 after he had served a term for using the mails to defraud. He became one of the best-known race-horse operators in the country. He operated "con" games throughout the United States, always working some race-horse racket.

In 1931 he contacted Fred Buckman in Detroit, who was at one time a wealthy man but who had lost most of his money in the depression; he still had about \$35,000. Greeley met Buckman at a race track in Baltimore, Maryland. After some carefully planned manipulations Greeley managed to find a way for Buckman to

win on a horse at the Baltimore track. This brought them close together and they became good friends.

One day Greeley mentioned to Buckman that he had a friend in New Orleans who had good connections with a man who operated a "book" there. At New Orleans Greeley divulged his plan. They would contact Charley who was an operator in a telegraph office able to get the results of races before they were delivered to the "bookies." This information would be supplied in advance to Greeley and Buckman and then they would make their bets with the "bookie." They chose a bookie quite near the telegraph office and arranged to have a confederate with a telephone located in an apartment across from the bookie's office. The telegraph operator was to telephone to the confederate the number of the winning horse. He would write this number in large figures upon a card, hold it up in the window where it could be read by the two men in the "bookie's" office across the street and they would place their bets; the race report would be held up by the operator until the bets were placed. They were to do this only once a week so that the bookie would not become suspicious.

They started operations and, while Greeley urged Buckman to make a large bet, he insisted upon being conservative at first, placing a bet of only \$100. The horse, of course, won the race and Buckman collected his profit. This continued for a couple of weeks and then Greeley informed Buckman that their operator was getting cold feet and did not want to continue unless they would give him a large share of the profits. The outcome was that Buckman agreed to bet his entire roll of about \$20,000. They figured on making a good cleanup, leaving New Orleans, and trying the same racket somewhere else.

On the following Monday Buckman was very nervous as he had bet all of his money after reading the number upon the card in the window opposite the bookie's office. The description began to come over the wire in the telegraph office and the horse that B had bet upon was announced as the winner. B was happy. But a moment later the "caller" announced that the horse had been disqualified for a foul and B lost all of his money. Greeley appeared to be disgusted but he urged that they go back to Detroit where he later managed to get rid of Buckman without his becoming suspicious. Later, however, Buckman read in the newspapers of how others had been swindled in the same manner and he reported his story to the police. Before he could finish his story, however, the police finished it for him, and informed him that the whole thing had been a racket arranged by Greeley, that the telegraph operator was a fake, as was the booking office. Even

the caller had been faking the race for his benefit. Buckman was also told that, inasmuch as the swindling had taken place in New Orleans, nothing could be done by the Detroit police except to lock up Greeley for questioning.

Later when racing started in Detroit, Detective Sergeants Graney and Daly were detailed to the race track to look for confidence men. Greeley, operating another of his favorite rackets, was at the track. This time his scheme was different, but nevertheless it took a lot of money from the suckers before Greeley was arrested.

Greeley had a colored man working with him who was dressed as a chauffeur. Greeley drove to the race track in a Lincoln automobile driven by this colored chauffeur named John. Greeley always took a box seat nearly in the middle of the grandstand. When it was time for the first race to start Greeley would summon his chauffeur, whisper to him and hand him a large roll of bills. The chauffeur would leave, apparently to place a bet on the next race. After the race was over the chauffeur would return, congratulate his boss, mention a large sum of money which had been won, and hand a roll of bills back to Greeley. This would be done over and over again until the interest of others in the box and those in near-by boxes had been attracted. Greeley would then say to his chauffeur that he had no horse in the following race but had a sure thing in the final race. Some "sucker" would hear this and would ask if Greeley wouldn't place money for him. Probably a number of people in the neighboring boxes would hand over money to the chauffeur and wait for the race. Greeley's horse would finish far back and Greeley would shake his head and say that he had lost all the money he had made on the other races. Of course the colored chauffeur had never placed any bets but had merely returned money that had been given to him before each race by Greeley. The suckers could do nothing; and Greeley and his chauffeur divided what they had collected. This went on for some time, Greeley taking different positions at the track from day to day so that he would not run the danger of being discovered by those he had fleeced previously. On one occasion the horse named by Greeley came very close to winning, which worried him considerably, but on the following day he induced the suckers who had bet on this horse to double their bets. They, convinced that they had lost by bad luck the day before, more than doubled their money and Greeley made a good haul.

Finally, Graney and Daly discovered Greeley and found that the chauffeur did not make the bets. In "plain clothes" they

placed bets with Greeley. They listened in to Greeley's and John's conversation as they left the track and heard Greeley ask John how much he had got. They arrested them. Greeley and John were found guilty of obtaining money under false pretenses and were sent to Jackson prison.

From this information supplied by the Police Department, Mr. Howlett prepared the following outline:

- 1½ minutes Opening.
- 3 minutes Scene in jail cell with Bill Greeley.
- 3 minutes At race track. Greeley and Fred Buckman. Greeley has given Buckman tips on the races, and Buckman has won on two or three races. Race is on. Buckman wins again. At close of scene Greeley tells Buckman of another idea.
- 2 minutes On train explaining idea.
- 7 minutes In New Orleans.
- 3 minutes Back in Detroit. Greeley working scene at race track.
- 6 minutes Flash to Detective Sergeants Graney and Daly. Graney and Daly spot Greeley. Greeley works them. They follow Greeley's accomplice. Discover he places no bets. Arrest him and wait for Greeley. Arrest Greeley.
- 1 minute Conclusion.

Based upon the information following this outline, Mr. Howlett wrote the following play:

IT'S A RACKET

by E. S. Howlett

OPENING ANNOUNCEMENT

The Mummies, under the direction of Charles Penman, present
"It's a Racket."

MAN

The more you tap a sucker, the more he likes it, seems like.

GIRL

Well, as far as I'm concerned, I say long live the suckers.

ANNOUNCER

It's a racket.

(Sound—race track sounds)

BUCK

Say, Bill, how the devil do you do it?

BILL

All in the way you hold your mouth, I guess.

BUCK

Here you've given me three winners out of five races.

BILL

Yeah . . . and that isn't all.

BUCK

Say, we can clean up at this rate.

BILL

Wait till I tell you about my prize idea.

BUCK

What is it?

BILL

You can make plenty of dough.

BUCK

Let me in on it.

BILL

Well, here's what we'll do . . . *(fading)*

(Sound—fades out)

PENMAN

Ladies and gentlemen, it's a racket. . . . At this time we present another in a series of dramatic programs designed to acquaint you with rackets and racketeers' methods, so that you may be better able to guard yourself against these human buzzards who prey upon housewives and businessmen. During this series of

programs, we hope to be able to bring to you a story of the operation and prosecution of the operators, of each of the different rackets which are being, or have been, perpetrated in the City of Detroit and vicinity. We are indebted to the Detroit Police Department, the Detroit Citizens Committee, and the Detroit Board of Commerce for the material used on these programs. All names used are entirely fictitious. In the studio here with me, I have, as usual, Mr. Louis J. Flint, executive vice-president of the Detroit Citizens Committee. . . . Mr. Flint has spent many years in tracking down the racketeers, and he comes up to our studios each Saturday evening to tell us a story of a true racket case in which the victim lost his money and the racketeer was apprehended and convicted. Let's listen. The victim might just as easily have been you, or me. . . . Good evening, Mr. Flint.

FLINT

Good evening, Mr. Penman.

PENMAN

Well, Lou, are you all ready with the story you promised us last week?

FLINT

Yes, Charles, all set.

PENMAN

One of the rackets in connection with horse racing, wasn't it?

FLINT

That's right. . . . Our season opens here, very shortly, you know.

PENMAN

Yes . . .

FLINT

So I thought right now would be an appropriate time to tell this story.

PENMAN

Is it a racket which is worked quite often?

FLINT

It's worked quite often throughout the country . . . yes . . . but I doubt that it is worked very often at any one particular

spot. . . . However it's something that everyone should watch out for . . . especially those who like to place money on horses. . . . Our story opens as we look into a certain cell in one of our penal institutions.

(Pause—live studio)

JOE

So you get out in about a week, eh, Greeley?

BILL

Yeah, Joe.

JOE

Think you'll make it.

BILL

Sure, why shouldn't I? I haven't had any days tacked on, or nothing, have I?

JOE

No, you've been working hard for that parole. There's no reason why you shouldn't get it.

BILL

Boy, and when I do, you'll never see me in this lousy place again.

JOE

I suppose you've got a nice little nest egg planted.

BILL

As a matter of fact, I haven't got very much.

JOE

I knew it. . . . Why don't you get wise to yourself?

BILL

What do you mean get wise to myself?

JOE

Well, what are you in for?

BILL

Runnin' a racket through the mails.

JOE

Yeah, and how much did it mean to you?

BILL

Oh, I cleaned up about six or seven grand a year.

JOE

Six or seven grand a year . . . chicken feed. . . . Listen, do you know that when I get out, I can put my hands on forty-five grand.

BILL

Where?

JOE

Do you think I'm a fool to tell you?

BILL

No, Joe, I didn't mean that.

JOE

I got it salted away for me. . . . Listen, you look like a right guy.

BILL

Certainly I'm a right guy.

JOE

That's what I said. . . . A lot of the mugs in here are right guys just because they've got to be . . . They know what they'll get if they aren't . . . but when they get on the outside, some of them are regular heels.

BILL

Well I . . .

JOE

I know you're not . . . and I'm going to put you wise to some quick dough.

BILL

Somebody else's nest egg.

JOE

Say, what do you take me for? I wouldn't let a guy down and tell someone else where he had his dough . . . no, this is a chance to make yourself some easy dough.

BILL

I don't do so bad in my own line.

JOE

Listen, are you going to be small time all your life?

BILL

What's the racket you've got?

JOE

Get yourself out of these petty rackets and get in with the gentlemen . . . the big shots.

BILL

How?

JOE

That's what I'm going to tell you about. . . . Did you ever hear of horse racing?

BILL

What are you trying to do . . . pull my leg?

JOE

Well, there's where the real dough is, if it's worked right.

BILL

Ahha . . .

JOE

And you get to travel around the country too.

BILL

Don't worry about traveling. . . . In my line you get to travel too . . . you have to.

JOE

Yeah, well listen. . . . I'm going to put you in line with the right guys and you're going to be able to make yourself about thirty or forty grand a year.

BILL

Thirty or forty grand a year?

JOE

Exactly . . . and as easily as falling off a log.

BILL

Is that what got you here?

JOE

Well, yes and no. . . . I went a little too strong before I blew a certain town.

BILL

I see.

JOE

Now listen and I'll give you the low down. . . . When you get out . . . you get in touch with . . .

(Scene fades. . . . *Sound—low crowd murmur; scene is at race track*)

BUCK

Well, I've spent a lifetime arguing that the only way to make money is to work for it.

BILL

Well, there's a lot of argument in favor of that, I guess. But I never found it too hard to win a good living.

BUCK

Yes, but you've picked two races in a row . . . that I bet on.

BILL

And don't forget that I picked two in a row before, that you didn't bet on.

BUCK

I'll never be able to forget that. . . . Boy, if I had only parleyed those four horses.

BILL

Be a pretty good day's pay, eh?

BUCK

Day's pay! I never made that much money in one day all the time my factory was running . . . before the depression.

BILL

No use cryin' over spilt milk. You haven't done badly as it is.

BUCK

No. . . . I've made over three hundred dollars . . . and as much for you.

BILL

Forget it. . . . There go the horses . . . first race coming up. . . . Are you down on Thunder?

BUCK

Yeah . . . two hundred and fifty dollars worth . . . and a hundred for you.

BILL

He won't pay very heavy . . . But rather win one dollar than lose two.

BUCK

You said it. . . . Let's see the race.

(Sound—murmur down . . . few voices . . . "They're at the post," etc.; then "They're off"; surge of crowd)

BUCK

Come on, Thunder . . . come on, Thunder . . . look at that baby go . . .

BILL

There he comes down the home stretch . . .

(Sound—bring in the horses heavy)

BILL

There's another one in the bag . . . it was his race right from the start.

BUCK

As far as I could see there was never another horse in the race.

BILL

Nothing to do now but wait for the official . . .

BUCK

Wonder what he paid?

BILL

Four or five for two I guess. Let's mosey over to the windows.

BUCK

Probably be quite a few there to collect too.

BILL

Favorites are favorites . . . can't help that you know.

BUCK

Here we are. . . . Now where's that blasted ticket? Ah . . . here it is. Looking for a ticket always gives me heart failure. . . . 'fraid I'd lost that one.

BILL

Might as well lose the money in your pocket as lose that one.

BUCK

Ah . . . here you are, young fellow. . . . What did Thunder pay in the last?

VOICE

Four twenty . . . have him, mister?

BUCK

You betcha . . . two hundred and fifty dollars worth.

VOICE

Well, this is three in a row for you. . . . Who's your picker?

BUCK

Never mind. . . . You can pay me off at any time now.

VOICE

Right. . . . Didn't mean anything by that.

BUCK

OK . . . OK . . . fifty . . . one hundred . . . two hundred . . . three . . . four . . . five . . . ten . . . twenty . . . twenty-five . . . five hundred and twenty-five dollars . . . whew . . .

BILL

Not bad, eh?

BUCK

You said it. . . . Come on, let's eat . . . I'm hungry.

BILL

That's a good idea. . . . You don't really think that this money made today was big, do you?

BUCK

Why, at this rate we can clean up. . . . Certainly it is big . . .

BILL

This was just chicken feed . . . and there is always the possibility of a bad day, you know.

BUCK

Sure, but the bad days are more than offset by the good days.

BILL

Why have the bad days?

(Sound—all crowd murmur out by now)

BUCK

Here's a restaurant . . . let's eat . . .

BILL

OK.

(Sound—door opens and closes)

BUCK

What do you mean by not having any bad days?

BILL

Just that. . . . I've got a little scheme that I used to work once in a while that's good for half a million dollars in less than six months.

BUCK

What?

BILL

A cool half a million . . . if not more . . . but it takes a little capital . . .

BUCK

I've got a little . . . if you're sure it's safe.

BILL

Safe? Sure it's safe. . . . I don't take any chances.

BUCK

Well, the little money I've got left from the depression has got to last me quite a while . . .

BILL

How much have you got?

BUCK

Oh, enough to live on, if I take it easy, for the rest of my life.

BILL

You can trust me. . . . How much have you?

BUCK

The last time I checked up it was a little more than thirty-five thousand.

BILL

That's just the amount we need . . . to be safe . . .

BUCK

Well, if it's not safe I don't want to have anything to do with it.

BILL

Never mind. . . . It's safe. . . . Here comes the waitress, hold it.

BUCK

But what's it all about?

BILL

I'll tell you later . . . sh . . . sh. (*Louder*) Never mind, waitress. We're talking. . . . I'll call you when we're ready to order.

BUCK

Now come on; tell me . . .

BILL

I've got some friends in New Orleans . . . and some connections there that will really take care of my idea. . . . We'll go down there . . . we can leave tonight . . . the sooner the . . .

(Scene fades)

PENMAN

That seems to be all right so far, Lou.

FLINT

Yes. It was all right. The odd part about this fellow Bill Greeley was that he really was a horse handicapper of good ability. But he didn't stick to it.

PENMAN

So far he seems to have made money for this man, Fred Buckman.

FLINT

Once more before he sprung the jaws of his trap he was to make money for him too.

PENMAN

This was just a build up until the real racket came into the plan, eh?

FLINT

That's right. And he really took him for the entire extent of his resources when he did get to him. Let's join the same two men as they prepare to board a train for New Orleans . . .

(Fade in. Sound—slight confusion of railroad depot, train, etc.)

BUCK

I don't know why I'm doing this. You haven't told me anything about this scheme, Bill.

BILL

If you don't trust me, Fred, let's call the whole thing off right now.

BUCK

Oh, now don't get me wrong. Only I never transacted business like this before. I like to know what I'm driving at when I start on something.

BILL

You'll know soon enough. . . . Here's a red cap . . . let him have your bags. Here, boy . . . the southbound train . . . we're going to New Orleans.

RED CAP

New A'Leans. Yas suh . . . yas suh . . . right this way, suh . . . (*fade*) right this way suh . . . (*pause . . . dead*) . . . Yas suh, heah you is. . . . This heah is one ob tha bes' compartments on the train . . . you shu will be conf'ble in heah . . .

BILL

All right, all right . . . that'll be enough, boy.

RED CAP

Yas suh, thank ya, suh. (*Fading*) Thank ya.

BILL

Well, this isn't bad at that. At least we will have a little privacy.

BUCK

Yeah, I used to ride in compartments like this before the depression and I was in the money.

BILL

After we get to New Orleans the depression will be over for both of us. Don't worry about that.

BUCK

Oh I'm not worrying. But what is this scheme. I . . . I never went in much for schemes . . . just straight honest business.

BILL

What have you got now to show for it?

BUCK

Oh, I could have less.

BILL

Let it go. Here I'll explain the whole thing to you.

BUCK

That's what I been waiting for.

BILL

I know a telegraph operator in New Orleans that handles all the direct wire communications from the tracks.

BUCK

A telegraph operator!

BILL

Yeah, and they are in on plenty of private stuff. They get the results on the races before the bookies.

BUCK

So what?

BILL

Don't ya see? If we give him a part of the profits, he can let us know who the winner is in any race. . . . Then at the last minute we lay a bet on the winner. . . . We can't lose.

BUCK

Gosh.

BILL

There you are. Plain as the nose on your face. We play it about once a week to hold down suspicion . . . and cash in heavy.

BUCK

How are we going to get the dope if we're in the bookie's?

BILL

The operator will call up a man we'll place in a window . . . Tell him and he'll flash the number . . . in big numbers . . . to us from a window.

BUCK

And we see it and lay a bet before the bookie gets his flash . . .
(*Scene fades. Sound—bring in train . . . bring to stop*)

BILL

Well here we are. This is where we really make some money.

BUCK

Seems almost too good to be true.

BILL

That's it, Fred, too good to be true. But you and I cash in.

BUCK

It's so simple. . . . Wonder why no one ever thought of it before.

BILL

Because it's so simple . . . it's too obvious.

BUCK

That's what they always tell us . . . you never see what's right before your eyes.

BILL

You hit the nail on the head that time; let's go and get a room. I'm plenty tired of this train.

BUCK

(*calling*)

Hey boy, get these bags, and follow us; we're in a hurry.

2D VOICE

(*off*)

Comin' right up, suh.

BUCK

Come on. I'd like to look this town over anyway. Never been here before.

BILL

Don't worry about seeing the town. We'll be here about six weeks before we go to another town.

BUCK

You're planning on doing this somewhere else?

BILL

Why not? It's a good racket, isn't it?

BUCK

Sure it's good, but what about the connections?

BILL

We'll make them. Here, here's a cab. Take us to the Palaise, driver.

DRIVER

Yes sir.

(Sound—car door opens . . . bags flop on floor)

2D VOICE

They's yeoah bags. . . . Ahh thank yo suh.

(Sound—start car and drive off . . . hold for transition . . . stop . . . car door)

BILL

This is the best hotel in New Orleans. And it'll be none too good for us in a couple of days.

BUCK

I hope you're right.

BILL

Still doubtful, eh? But I'll show you.

CLERK

Yes, sir.

BILL

Two rooms . . . with bath . . . connecting.

CLERK

Three-, four-, five-, or seven-dollar rooms?

BILL

The seven-dollar rooms.

CLERK

Yes, sir. If you'll register here. (*Pause*) Take these gentlemen to 729 and 731.

3D VOICE

Yes, sir. . . . The elevator's this way, gentlemen.

(*Sound—few footsteps . . . clang of elevator door . . . hum of motor*)

3D VOICE

Seven.

(*Sound—hum of motor till . . . clang of door*)

3D VOICE

To the right, please. (*Pause*) 729 . . . here we are.

(*Sound—key in lock . . . door opens*)

BUCK

You needn't bother any more, boy, here you are. We'll open the windows. . . . You needn't stay any longer.

3D VOICE

Thank you, sir. Ring if you want anything else.

BILL

We will.

(*Sound—door closes*)

BUCK

There's no reason why we shouldn't get started right away. Let's leave the bags as they are and get the wheels rolling.

BILL

In a hurry, eh? Well I can't blame you. I need a little more money myself.

BUCK

That's not the idea. . . . I just don't like to stick around here unless I have something to do.

BILL

I'll call him right away.

(Sound—phone business . . . then dial)

BILL

Hello . . . hello . . . Charley. This is Bill Greeley. Bill Greeley from Detroit . . . just got in. . . . I have a friend with me. You're right downtown, why don't you drop up to the Palaise and see us? I've got a real proposition for you.

BILL

We'll go into it when you get here. . . . Be here in about five minutes? Swell . . . so long.

BUCK

Who's that, the operator?

BILL

Yeah, the telegraph operator. . . . Be here any minute now. . . . Let's unpack and get settled while we wait. . . . That's your room through the door there.

BUCK

(fading)

O.K.

(Sound—slight bustle as suitcases being opened . . . fade out and pause, then knock on door)

BILL

Come in.

(Sound—door open and close)

CHARLEY

Well, well . . . Bill: How are you?

BILL

Howdy, boy? I'm fine. . . . Hey, Fred . . . here he is, come on in . . . How's the world been treatin' you?

CHARLEY

Could be better.

BUCK

Well how are you? I don't think we need any introduction. I don't. You're Charley, the telegraph operator, and I'm really glad to know you. My name's Fred Buckman.

CHARLEY

This is a real pleasure. I'm in favor of getting ready for business right away. I know what you're here for . . . and I've got the plan all set. You remember Wish Eagan's place, don't you, Bill?

BILL

Could never forget it. One swell bookie.

CHARLEY

Well that's the place that we are going to take for plenty of dough in the next few days.

BILL

Who's going to take care of the number from the window?

CHARLEY

That's all set too. My son will be there. Now if you want to, we'll wait till tomorrow and hit it on say the third race at New York. How's that?

BILL

That's swell with me. How about you, Fred? Think you can wait that long.

BUCK

Oh sure. I'm not in that big a hurry.

BILL

Right. Then you'd better scram, Charley. Wouldn't do us any good for you to be seen around here too much . . . no use in taking too many chances.

CHARLEY

I'm practically on my way now. Third race at New York. You be watching and I'll see that the Kid gets the number up a few minutes before Eagan gets his flash.

BILL

That's it. So long.

FRED

Goodbye, Charley. Glad to have met you.

CHARLEY

Same here, Old Man. See you later. Don't forget . . . twenty-five per cent of the profits for me.

BILL

O.K., O.K. . . . you'll get yours . . . beat it now.

CHARLEY

I'm off.

(Sound—door closes)

BILL

That's that in the bag. . . . All we have to do is kill time till tomorrow. . . . We'll get up there about time for the first race and wait around till we get the flash.

BUCK

Are you sure we can see the window he meant from this Eagan's place?

BILL

Sure. . . . Did you think we'd overlook that?

BUCK

Well, you never can tell.

(Fade . . . hold pause for transition. Sound—bring in low room murmur)

VOICE ON P.A.

Get your bets in, gents. . . . Don't be caught at post time with your money in your hands. . . . Get your bets in, gents. . . . They'll soon be off at New York in the second. . . . Get your bets in, gents.

BUCK

Nuts. . . . I'm getting nervous. . . . They'd shoot us if they caught us.

BILL

How are they going to catch us?

BUCK

These fellows can't be so awfully dumb. They run this bookie . .

BILL

They aren't dumb . . . they're smart. . . . We're just smarter, that's all.

BUCK

I hope so.

VOICE ON P.A.

Last call for bets, gents . . . last chance to bet on the second at New York. . . . Get your bets in now . . . nope . . . hold it . . . no more bets. . . . They're at the post . . . they're off! They're off in the second at New York . . . it's Come Quickly at the quarter by a nose . . . it's Never Tarry by a length at the half . . . at the three-quarters it's Come Quickly by a length. . . . Never Tarry is coming . . . here's the finish . . . Come Quickly by a length and a half. . . . Never Tarry . . . placed . . . Let 'Em Have It . . . showed. The rest of the field ran out of the money. . . . Get your bets in for the third at Pimlico, gents . . . (*fade*)

BUCK

All right, all right, let's get over by the window . . . I can't stand this much longer.

BILL

Not getting nervous are you?

BUCK

Sure I'm getting nervous. . . . I can't get over thinking what will happen if they catch us.

BILL

Forget it. . . . Come on, we'll take a look. . . . Yep, there he is in the window . . . so we needn't be afraid on that score. . . .

Be a few minutes now till post time at New York . . . just be nonchalant.

BUCK

Yeah, try and be. . . . I've got twenty thousand dollars with me to bet on today's go.

BILL

Twenty thousand! You said you had over thirty-five thousand dollars. . . . How come only twenty thousand dollars?

BUCK

I want to see how it goes . . .

BILL

Didn't I tell you it was a sure thing?

BUCK

Yeah . . . but I just want to find out for myself.

BILL

Cautious, eh? Well, don't blame you.

BUCK

We can get it next week. . . . I won't bet more than that . . .

BILL

Let it go like that the . . . listen . . . there's the P.A. coming on . . .

VOICE ON P.A.

Last call for bets on the third at New York . . . soon be at the post. . . . Get your bets in, gents, for the third at New York . . .

BUCK

What's the matter with that guy? Can't he put that number up?

BILL

Don't get in a hurry . . . there it is . . . see . . . number 10 . . . go on now, bet.

BUCK

Number 10 . . . let me see . . . that's What-A-Gal.

BILL

Hurry up, it'll be too late in a minute . . .

BUCK

Be back in a minute (*fading*).

VOICE ON P.A.

Last chance for bets on the third at New York, gents. Don't miss it . . . you'll wish you'd made a bet in another couple a minutes. . . . Last chance to get your bets in on the third at New York . . . that's all . . . no more bets on the third. . . . They're at the post . . . waiting for a start. . . . There it is . . . they're off. . . . At the quarter it's Runnin' Mate by a length . . . it's Runnin' Mate by a neck at the half . . . at the three quarters it's What-A-Gal . . . by a length . . . at the stretch it's What-A-Gal by two lengths . . . she won it. . . . What-A-Gal wins by two lengths . . . Runnin' Mate placed . . . and Trouble showed. . . . Have the odds in a minute . . . get your bets in now for the fifth at Swans Lane, gents . . . (*fades*)

BILL

Well, you made it, didn't you?

BUCK

And how! . . . Oh boy, if I just had bet the whole bankroll . . .

BILL

If you had, you'd collect two hundred and forty-five thousand dollars—instead of only a hundred and forty thousand . . .

BUCK

That still isn't bad . . .

BILL

No, it isn't bad but then you could have had all. . . . Wait a minute, there's the P.A. Couldn't be another race this quick.

VOICE ON P.A.

Correction on the third at New York, gents. . . . What-A-Gal came home in front . . . but they disqualified her for rough tactics. . . . That puts Runnin' Mate in the win spot . . . Trouble in the place . . . and Quantity in the show money.

BUCK

My God . . . I knew that was too good to be true.

BILL

Say that was the only thing that could have gone wrong with this racket . . . and it had to happen to us on the very first attempt . . . a hundred and forty thousand dollars gone up the rainspout.

BUCK

Never mind about the hundred and forty . . . I'm thinking about my original twenty thousand dollars . . .

BILL

You don't blame me, do you?

BUCK

Noooo . . . but I can't afford to lose that money.

BILL

Well, forget it . . . we'll get it back next week . . .

BUCK

Not me . . . I've had enough. . . . I couldn't stand that again. . . . I'm going back home to Detroit. . . . I've only got a little left. . . . You coming with me?

BILL

Me? leave here broke? No sir, . . . you go on back . . . I'll stay here and get a stake somehow. . . . You leavin' now?

BUCK

Right now . . . back to the hotel and on the train for me. . . .
Look me up when you get to Detroit . . . (*fades*)
(*Scene fades*)

PENMAN

Well, Lou, I admit that there is quite a bit of dishonesty in the scheme you've just told us about, but . . . the so-called victim was in on it as much as this fellow Greeley.

FLINT

That's the way it looked on the surface . . . and that's the way it looked to Mr. Buckman. But when he saw the race results in the paper that night on the train, he knew better.

PENMAN

You mean there was something wrong.

FLINT

Yes . . . the horse they bet on was not even in the race . . . and the whole thing had been fixed just to get his money.

PENMAN

Then What-A-Gal had not won and been disqualified.

FLINT

No. Buckman never had a chance to win. If he had tried again, he would have lost the rest of his little nest egg too. But let's join Bill Greeley again at the Detroit race track. He figured that the danger of Buckman pointing him out had vanished and returned with another race-track racket. . . . He is seated in a box at the track.

(Sound—crowd noise, light)

BILL

That's fine, John.

JOHN

(negro)

Boss, yo sho can pick 'em. I'd almost work for yo for nothin' jist to make a coupla bets on yo hosses.

BILL

That's all right with me . . . but I'll still pay you your salary. . . . Hang around, I'll have another bet for the next race in a minute . . .

JOHN

Yas, suh . . .

(Sound—rattle of paper)

JOHN

Yo got him picked out yet, Boss?

BILL

I believe so, John. . . . Here . . . (*whisper*) pull the old stuff again . . .

JOHN

Yas, suh. . . . I be right back.

LADY

Pardon me, but I couldn't help but notice that you seem to be winning quite a lot of money.

BILL

Well, thank you, ma'am, I do right well. Pretty lucky.

LADY

It isn't luck when you win on every race. And I've seen you send your man down to bet on every race . . . and he's come back with the winnings every time.

BILL

Didn't mean to attract any attention . . .

LADY

You couldn't help it. . . . We see those things at the track, you know. I wonder would you mind telling me who you're playing in this race?

BILL

I don't do that ordinarily . . . cuts down the odds you know . . .

MAN

You might do it this one time. . . . We've all seen you win . . . wouldn't hurt to share a little. . . . Let us all in on it.

BILL

All right then. . . . I'm playing Wonderous.

SEVERAL

Wonderous. . . . why he's sixty to one.

BILL

Just so. You needn't play him if you don't want to . . . you asked me. . . . Go ahead, John, get that bet down.

LADY

Well, if Wonderous is good enough for you, I'll take a chance. . . . I'm going to put fifty dollars on him . . . are you playing him on the nose?

BILL

Of course.

LADY

Then I'm going to make a bet . . .

MAN

By golly, if she's game, so'm I. I'll put a hundred on him . . . let's go . . .

BILL

There's no need of you people going to the windows yourself. I'll have my man place your bets for you. . . . If you go you might miss some of the race. . . . Here, John . . . get a list of these people's bets.

MAN

Are you sure you can trust him to come back?

BILL

He's got five hundred of my money.

LADY

I'll certainly let him place my bet for me. . . . Here, here's my fifty dollars. . . . Put it on the nose.

MAN

All right . . . here's a hundred for me.

SEVERAL

Put this ten spot on his nose for me will you. . . . Make mine 75.

BILL

Now remember who gave you what, John. . . . Don't want any mistakes.

JOHN

Oh no, suh. No mistakes. . . . I'd better go now.

BILL

All right, hurry.

LADY

Oh, I do hope you're going to pick another winner. . . . I've lost ever so much . . . too much today.

MAN

It won't be long now . . . They ought to get a start soon. . . . Hope he makes it . . .

BILL

He'll make it all right . . . and wait for the pay-off.

LADY

You sound optimistic. . . . I only hope . . . oh . . . they're off!

(Sound—horse-race business . . . hoofs up and down . . . up again on cue)

LADY

Wonderous is off with the rest . . . come on Wonderous . . . run.

MAN

Run you big long-legged . . . *(etc.)*

LADY

They're in the stretch. . . . Where's Wonderous?. . . . I don't see him. . . . Ohhhh, he won't even be in the money.

MAN

You said it. . . . There's the finish . . . and he's just an also ran.

BILL

That's the way it goes . . . pick them right all day . . . and on the last race lose it all. You never can tell. *(Fading)* Well I've got to be going.

(Fade out and in)

PENMAN

Bill Greeley must be up to his old tricks . . . but again I don't see just what he's doing, Lou.

FLINT

But there detectives Graney and Daly had one on you, Charles. They had him spotted from Buckman's complaint . . . and they were watching as the transaction we heard took place. . . . Graney is talking.

GRAN

Did you get all that, Daly?

DALY

Yes, and I've spotted that negro too.

GRAN

Good. Watch him and collar him. I'll keep an eye on this tout. He looks like he might be the one who took Mr. Buckman down at New Orleans.

DALY

I was just thinking that. There goes my man toward that big car. . . . See you later (*fading*).

GRAN

Wait for me at the car. . . . I'll be along in a minute . . . Oh, ah . . . are you leaving? There's one more race yet.

BILL

Yes, I'm leaving. Why?

GRAN

Thought maybe I could get you to pick a horse for me in this last race. I noticed you'd been winning pretty well all day.

BILL

Oh, I see. I didn't do badly today. Though my horse in the race just over didn't even run in the money.

GRAN

If we could pick them all . . . no one would be working. . . . They'd all be playing the horses . . . and winning.

BILL

You're right there. . . . If you want to bet on this race I'll take your bet for you. My man is over at the car . . . and won't be back. I'm picking Charley Boy.

GRAN

Charley Boy! That's a long shot if one ever ran. You're playing on the nose?

BILL

Right on the old schnozzle. . . . If you'll wait here I'll place a bet for you. . . . I'm just going down to the windows now.

GRAN

If you don't mind. Here's twenty dollars. . . . Place it for me on Charley Boy to win. I'll wait here.

BILL

I'll be right back (*fading*).

GRAN

Sure, sure . . . go ahead . . . (*sotto*) and I'll be following you. . . . (*aside*) Tom, Tom.

TOM

Yes, sir.

GRAN

After this race drift over to the big Cadillac we spotted and tell me how it comes out.

TOM

Right, sir. I'll be waiting there.

GRAN

(*thoughtful*)

Ah, I thought so. He's going over to the car without even going near the Pari-mutuel windows. . . . (*Louder*) Don't wait too long after the race is over. . . . (*Fading*) I'll be needing you.

TOM

Be there right after the race.

(*Pause*)

DALY

So you're John?

JOHN

That's me.

DALY

What do you do for a living?

JOHN

I drives this here car for Mr. Greeley.

DALY

Where's he?

JOHN

Over to the races. That's what we come out here for.

DALY

Well, you're under arrest.

JOHN

Huh? What for?

DALY

Never mind the charge. I'll tell you in detail when we get to headquarters. Just get in the car and we'll wait for your boss.

(Sound—car door)

JOHN

But wait a minute, now. I ain't done nothin'.

DALY

Nothing but help rob about five or six people a day since the meet started. We've had a line on you for several days . . . now shut up . . . here comes Greeley.

BILL

(Coming up)

Hey, John . . . where are you?

DALY

Answer him . . . but don't get out.

JOHN

Heah I is, Boss. Ah . . . ah . . . run, Boss, the cops is got me.

BILL

What, the cops? Moses!

(Sound—flurry of running footsteps, two pair, one up, the other off)

GRAN

Hey . . . wait a minute.

BILL

I've no time to fool with you. . . . That horse lost.

GRAN

Stop where you are. I'm an officer.

(Sound—running steps)

BILL

So you're a copper, eh? I might have known.

GRAN

It wouldn't have made any difference . . . we had you spotted anyway.

BILL

You had us spotted? Who tipped you off?

GRAN

Nobody tipped us off. . . . A man by the name of Buckman entered a complaint . . . and we just figured you'd be out here during the meet.

BILL

Of all the dumb luck.

GRAN

Forget the post mortems . . . let's get back to your car. . . . Your helper is there.

BILL

Well, John tried to keep me from getting caught.

GRAN

There should be some reward for such loyalty.

BILL

There will be. I've got enough salted away to take care of us both after we get out.

GRAN

We'll see if we can't take care of you too long for that to do you any good.

BILL

That begins to be funny. Don't make me laugh. . . . I've got a cracked lip.

GRAN

Here's your car . . . get in and wait.
(*Sound—car door, open only*)

GRAN

Here's the man we've been wanting.

DALY

Good, this makes it a happy occasion. We've got one less rat to worry about and he'll have a chance to rejoin old friends at Marquette.

BILL

You guys think of everything, don't you?

JOHN

Boss, Ah sho is sorry they got ya. Ah tried to warn ya.

BILL

I know you did. It was no go though. This flatfoot was right on me before I got fifty feet.

JOHN

What we gonna do now boss?

BILL

Beat this rap . . . they can't prove a thing. They forgot to get the suckers we fleeced . . . hahahaha.

GRAN

Maybe you're right. You didn't forget that you took some of my money too, did you?

BILL

Damn. That is right. No wonder you were so easy to take.

DALY

Here comes Tom . . . and he seems to have some friends in tow.

GRAN

Wouldn't be surprised if Greeley here knew them.

BILL

Sure I know them . . . they're the suckers we worked today.

LADY

That's him . . . he got my fifty dollars. And didn't place the bet. I didn't think any man could sink so low.

MAN

I oughta take a poke at him. Come on, guy, give me my hundred.

SEVERAL

Yeah, come on, cough up . . . or we'll beat you to a pulp.

DALY

Now take it easy, you people. No one's going to hurt anybody. We're the law . . . and we'll see that you get your money back.

LADY

Well, come on, give it to us. I've got to get home. Frank didn't know I came to the track today.

MAN

Hurry up . . . I've got to be going too.

GRAN

Mr. Daly told you you'd get your money, didn't he? Well, you'll have to wait till we can clear it up at Headquarters. Tom, you get all the names and addresses of these people and report to Mr. Daly and myself at Headquarters. We'll take these men down and book them.

TOM

Yes, sir, you want me to bring this car . . . or shall I bring the scout car in?

DALY

We'll go in Mr. Greeley's car. After you finish, bring in the car we came in.

TOM

Right. I'll be in in a little while. Now lady, what's your name?
(*Fade*)

(*Scene fades. Sound—Start up car and drive off*)

GRAN

It's an open and shut case, Greeley.

DALY

Nothing to it. You're the same as on your way to jail now, both of you.

JOHN

Ah sho wishes ah nevah got in this business.

BILL

Quit your belly achin'. We've got enough to live on the rest of our lives . . . once we get out of the jig.

(*Scene fades. Sound—marching feet in prison . . . door opens . . . fade feet for:*)

GUARD

(*slow and solemn*)

William Greeley, called "Bill," five years, no recommendation for parole, for obtaining money under false pretenses. John Miller, colored, three to five years for obtaining money under false pretenses. O.K.

(*Sound—prison door closes . . . feet up to swell and fade for police siren*)

VOICE

Warning. . . . Henry Piel, Chief of Detectives of the Detroit Police, says:

PIEL

When you are at the race track this coming season, be careful of friendly strangers. The race track will be open soon. With its pleasures and enjoyment come the petty grafters of the tout

fraternity. Do not allow a stranger to place a bet for you. Do not fall for the tipster who gets a different person to bet on each horse in a race. Selling his so-called information for a bet placed for him. He then shows up at the elbow of the man who had the winner, to get his cut. He has a bet out of someone's pocket for every horse in the race. Don't be a sucker . . . make your own bets and be sure. The police at the track do all they can to protect you. If a suspicious character approaches you . . . call an officer.

(Sound—feet up to full and fade for:)

ANNOUNCER

The Mummers under the direction of Charles Penman will bring you another story in the racket series next Saturday at ten-thirty. These programs are presented through the cooperation of the Detroit Police Department, the Detroit Citizens Committee, and the Detroit Board of Commerce. Their purpose is to inform you of the nature of as many rackets as possible so that you may be better able to defend yourself from these human buzzards who prey on the business man and housewife. This is, etc.

CHAPTER XIII

Radio Dramatics

The Radio Dramatic Director.

A dramatic director in a broadcasting studio may be compared to one in the theater; however, he has a more difficult task to perform because of the speed at which he must work. He should have had stage experience—an excellent base upon which to build broadcasting experience. Unfortunately, the dramatic director who has not had stage experience gives only two types of advice: how to stand in front of the microphone and how to keep from rattling the script. Broadcasters have not realized that acting is an art; until it reaches the artistic plane, it is a craft, and as a craft it is bad.

Dramatic Director's Duties.

The director's task is to make certain that the correct dramatic feeling and impression are conveyed to the unseeing audience. To accomplish this, he must have sufficient technical knowledge of the radio medium so that the presentation of the drama can be made without visual aids. His direction must not be influenced by his vision, only by his ear. The function of the radio drama director is to establish the meaning of the play. He is the final judge in matters of conflict, characterization, motivation, and technique. He is both the critic and the listener. The selection of the play, editing the play for radio casting, choosing the actors, directing the presentation, setting the scene by sounds, and prompting the cast in the final production are among his many duties.

The director decides on the best arrangement of the microphone to pick up the words of the actors and the

sound effects. If he has six characters in conversation, he may place them on both sides of a bidirectional microphone, although the new "eight-ball," which is non-directional, will permit the entire cast to surround the mike. It is best to use a single microphone for the cast, although there may be additional pickups for the orchestra and for the sound effects. But using more than one microphone for the cast is liable to produce distortion, and the microphones may interfere with each other rather than assist. The director discusses the presentation with the musicians, the sound-effects man, and the announcer, who may be the narrator of the drama, and then works all their cues into the drama. The director, as the guiding hand, must be both efficient and artistic. He must make the actor in this lonely art feel comfortable and at ease by impressing him with the fact that there is no mysterious mumbo jumbo about the radio; that the art required of him differs but little in its essentials from that of the stage or screen.

Before the microphone, the actor has no opportunity to gauge the effect of the words he speaks; he must be guided by the director. The director can better judge the presentation from the viewpoint of the audience if he hears his actors rather than if he sees them rehearse. The director often stays in another room and listens to his cast as one would listen to the receiving set, or he may have a few assistants to listen "blind" to the rehearsal while he works with the actors in front of the microphone. If the director watches his cast, he does not get the ear concentration that he should. If he sees the actors, he is apt to be noticing things that he sees and not things that he hears. If he is listening to the rehearsal from a loud-speaker in another studio, he can give his directions and criticism through a public-address return system. If the sound is not balanced well, he can stop the rehearsal and correct it.

The director 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.

The director is also a censor watching carefully that nothing creeps into the words or delivery that will be offensive to any age in the home circle. It is easy enough for the stage director to point his presentation toward an audience that will buy its way into the theater, but the radio director introduces his play into every home. He cannot offend race, creed, sex, or the physically deformed.

Selecting the Radio Play.

The first problem is the choice of a play. In many cases the director will have to arrange to clear the copyright and procure the air rights so that the play may be presented. If a director of a little-theater organization is choosing a play, and his success depends upon commercial receipts, he will select a play that seems to have the greatest audience appeal. Read the list of the longest running plays, and you will find that the most popular plays are not the ones with the most intricate plots or the direst of tragedies; they are the plays with the most emotional appeal and the best plot complication.

In selecting the play the radio director must choose one that does not depend for the major part of its entertainment upon characterization. Plot is the important part of the radio play. The diversified interests of the audience, as well as the range of its intelligence, make the characterization play a difficult type to present. The play should not run over an hour in length, although the production of tabloid versions of Shakespeare by the B.B.C. that have run much longer have been effective. The radio play should be selected with a view to the necessity of oral scene setting. Plays that depend upon the use of properties for complete explanation are not desirable. Satire should be avoided since the audience cannot easily follow its clever innuendoes. Comedy, tragedy, melodrama, and farce are always good.

A play with a number of scenes can be done as easily as a play with one scene if the announcer can intrude without destroying the continuity. (If lines of the play make the transitions from one scene to another, the announcer will not be needed.) Among dialect plays, Irish, Scotch, and Chinese are the most difficult. As dialect is difficult for the unseeing listener to follow, it should never be substituted for standard English and should be used only when its effect is essential. Plays with more than six principal characters in the cast are difficult for the listener to follow; too many characters ruin the radio play. Plays about historical subjects are good because they can be visualized more effectively, being aided by the memories of the listener. Inasmuch as radio at present is sponsored commercially, and we have to abide by this major premise, the director of radio dramatics must choose a play with wide appeal.

All directors face the problem of cutting the play or "air-conditioning" it for the sake of speed, tempo, and audience attention. Often the cutting of a radio play is done after the cast is chosen. Lines that can be interpreted readily by one actor fail many times to be fluent or natural when given by another actor. It is better to omit them entirely than to ruin an actor's general interpretation of the part.

Casting the Play.

The director should keep a catalogue of available actors, a "log" of voices. The N.B.C. has a regular chart which is checked by the casting committee, and out of the multitude of voice types the right ones must be chosen for the 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. Audiences often depend upon a characteristic voice for the identification of a character. In order that listeners may easily follow the progress of

the play, the voices must be contrasting, easily distinguishable. Voices should be selected on the basis of flexibility and characterization. They must express personality and character; the individual must be able to read into a part the feeling that it demands. Actors should never be required to take more than one part. The voice, however, is not all-important; the individual must be an actor by nature and training.

Directors must be keen observers of the abilities of people for particular parts. If a voice is a miscast, it often will ruin the radio play. Clear diction, enunciation, and even volume in delivery are necessary requirements of the actor. Every word spoken must be saturated with meaning, and a voice should etch the personality of the actor in the listener's mind. In short, the casting should be by ear and not by eye.

The controversy in regard to picking "naturals" for parts, as against choosing the actor for art's sake, is, and probably always will be, a debatable question. Broadway producers do choose naturals, and the director of radio drama concurs. He has neither time nor money to devote to training a person into a type, even though the applicant has dramatic potentialities and might with arduous practice build the part into something very fine. Thus, keeping a list of people who can interpret various roles is a good system in radio work. Ordinarily when the radio director wants an old man's voice he employs an old man; when he wishes an Italian dialect, he casts an Italian whose dialect will sound authentic to the Italian listener.

The Rehearsals.

Directors for radio drama have been recruited from the theater, and many seem to have drifted into radio by accident. But whatever their background or enthusiasm for a new, strange medium, they still have many obstacles to overcome. One is that they have insufficient rehearsal time, for there is an unceasing pressure to get programs on

the air. The handicap of short rehearsal time and the number of radio dramas the director is required to produce each week are responsible for several bad points of the radio drama. In radio the first rehearsal should be a round-table reading of the play. At this reading the director should be able to give the cast his interpretation of the play, its mood, and a picture of the play as a whole. The rehearsal should be spent in discussing the motivation.

During the first mike rehearsal the director will stay in the room with the actors, building up the tempo, and establishing and working out the characterizations until the correct idea is felt by the actors. 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.

The second rehearsal should finish any motivation and characterizations that are not clear, and work should then be done on establishing the final tempo of the play. Cues should be closely watched. The director listening at the loud-speaker will criticize enunciation, intonation, and pronunciation, and inspire the actors to instill more feeling into the reading of the parts. In the control room he listens to the rehearsal over the amplifying system, assuming the critical attitude of the radio listener.

Before making a radio debut or even taking an audition, the actor is warned many times about what is called "microphone technique." Relative microphone positions will vary with the acoustics of each studio, but the placing of actors will be taken care of during rehearsal. It is the job of the director to find the positions suitable to voices and to characterization. He will have to make frequent changes in the position of his cast, move one voice nearer the microphone, one farther away, possibly bring two voices close to one another; the placing of characters is important. The "eight-ball" or nondirectional microphone has made

possible a revolutionary change in dramatic technique, for it is no longer necessary for actors to form a huddle over the microphone while presenting the play. They can move about, gesture, and talk at the microphone from any angle within a 4-foot radius.

While the director is listening, he must carefully time the play, for the curtain must be run down within 15 seconds of the closing time. This necessity for correct timing is apt to make the characters speak with a rapid tempo at first; then, finding that they have adequate time, they tend to slow down, or, if the play has dragged, to speed up. The director must avoid this tendency and average the tempo; he usually does this by marking at the end of every page of the script the time limit when the page should be finished.

The director must fit the sound effects to the action. Cuing in the effects should be arranged. A final "dress rehearsal" is held with the announcer, orchestra, sound effects, and all the paraphernalia of production. It should be a rehearsal of the play as it will be given when the production goes on the air. Once this rehearsal is completed, no changes of any sort should be made.

Guthrie McClintic, 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 on the stage.

The director of a radio play continues to direct right through the production on the air, for he acts as a prompter. With the manuscript before him he follows the dialogue and behaves much like the conductor of an orchestra as he first points to the speaker who is to speak the lines and then creates the desired tempo with gestures. He will silently urge the actors to act their parts with gestures and facial expressions.

Realizing the handicap that the microphone and deadened studio impose upon the actors, some dramatic directors have endeavored to bring theatrical aids to their casts. Costumes are frequently used; guns and properties are carried by the unseen actors; and the plays of the Columbia Broadcasting System are not only rehearsed and presented from the stages of two New York theaters, set with scenery, but are also witnessed by an audience. The director may build a small stage of boards upon which the actors can walk both to create the sound effect of a stage and to show them the limits of the microphone's sensitivity. The microphone can be suspended above the stage to free the actors from the restraint imposed by the metal box, ribbon, or ball.

When the program is made as smooth and perfect as the program director can make it, the sponsor is invited to hear an audition. The fate of the director's work is entirely in the hands of the sponsor. In radio, art meets industry. Industry pays the bill for art. Art seldom fully appreciates the problems of industry, and industry all too frequently does not understand art. The problem of the radio worker is to combine the oil of industry with the water of art, and by some hocus-pocus or magic to produce a good mixture.

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. The queen of The Royal Family tried radio, failed, studied the requirements of the new medium, and led the Barrymore family to success in its third dramatic medium. At last the radio has been able to hitch its microphone to a star, thus becoming a swift dramatic interpreter of a new world of reality and emotional intensity.

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 monologists. 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, has an antipathy for schools but, despite this, a high percentage of radio actors are college trained because such teaching usually results in good speech.

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. Few radio dramatic directors require their casts to memorize their parts, because of the time limitation placed upon production. One wonders what effect television will have upon reading from a script. If the actors have been drafted from stock or stage, they might memorize their parts and gain an effectiveness not resulting ordinarily from reading. 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. 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.

Tests have shown that the listener can accurately visualize the personality of the speaker; hence the radio player should be cast as a type or an individual rather than be required to do characterizations. If he puts sincerity into his part and individualizes his delivery, he becomes a living personality entering the living room through the loudspeaker. 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. 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 the recording is accurate.

Blair Walliser of WGN, accounted one of the outstanding dramatic directors in radio, 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 below the peak of 20; 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 non-directional crystal microphones or of an "eight ball" permits action by the characters.

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

horses' 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 are made from about 8 feet away. The actor speaks low at first and raises his voice as he approaches the mike until the volume is natural and casual. 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 greater 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.

Scene Transitions.

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.

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 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 are ordinarily sold at \$2 each, are manufactured by the Masque, Starr (Genett

records), Victor, Standard Radio, Brunswick, and other companies. Practically every sound is 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, and milking a cow. 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. It is interesting to note that the recording of applause most frequently used was made at an address given by President Herbert Hoover. 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, for quarrels, and for 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.

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. The better practice seems to be to use the recorded sound effects in such a way that they will be heard by the actors and be picked up by the same microphone that picks up their voices. 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 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. One manufacturer of sound recordings has suggested, as an experiment, the combining of recordings in order to create new sounds and the playing of existing recordings at different speeds in order to create desired effects. The sound of frying bacon and popping corn has been combined to create the effect of the breaking up of a glacier. The playing of a recording of artillery fire at a slow speed has been used for thunder.

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. As a foundation he undoubtedly will have a boxlike cabinet about 4 feet high, one side of which will be a door jam and door with hinges, doorknob, lock, and key all arranged to give the correct sound of closing the door and locking it. On another side of this cabinet will be a miniature window which will slide up and down to create the desired effect. The third side will be a sliding door on bearings or with pulleys on a track to create the sound of the opening of an elevator door. On top of the cabinet will be a series of electric push buttons wired to various types of automobile horns, doorbells, telephone bells, and buzzers. Inside this cabinet the casual observer will see 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, whiskbroom, soda-fountain straws, and other things that have been 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.

Hitting a leather pillow with a long rod or wooden spatula, or snapping closed a spectacle case, will give the sound of a pistol shot. The use of ordinary blank cartridges gave a sharp, short explosion; consequently the sound-effects department of C.B.S. evolved a special cartridge for the radio revolver. The radio warrior selects his swords by ear; and every 6-foot length of chain carries a different sound picture to the listener.

The gentle crumpling of Cellophane, the twisting and breaking of the stems of a bundle of broom straw, or the crushing of a pile of 2-inch strips of wrapping paper will give a variety of fire-crackling effects. A ball of crumpled Cellophane loosely wrapped in tissue paper and lightly rolled between the hands is excellent for rain. There are rain machines that consist of a drum of $\frac{1}{4}$ -inch mesh wire partially filled with dried peas and revolved. The C.B.S. obtains special large hides from the stockyards and builds large boxes like square drums for thunder effects. The rubber bladder of a basketball inflated and containing 30 or 40 small shot will give the sound of thunder when agitated very close to the microphone. This same article can be used for the rumble of an earthquake and the distant roar of falling buildings. The bladder can be used for a train effect, or when moved gently in a swaying motion will bring the surf to the inland radio. A surf drum consists of half of a base drum in which shot or dried peas are rolled around, or the drum head may be brushed with a scrubbing brush.

If you must stab a man during the summer, do it by driving a knife into a watermelon; a grapefruit gives a juicy death in the winter. A man's head can be bashed in by hitting a cantaloupe with a hammer. Nearly every sound-effects engineer has a troop of marching men. This device

consists of a wooden frame about 2-feet square. Twelve strong cords are strung about 2 inches apart from one side to the other across the front of the frame opening and twelve across the other way at the back of the frame. Twelve wooden pegs are threaded to each top cord and also to each bottom cord; thus the 144 pegs (which are about 5 inches long) are hung perpendicular when the frame is parallel to a table. As these pegs are pushed back and forth upon a large sheet of sandpaper, the sound of marching feet is produced. It is wise to break in the shoes of the troop before using the effect on the air.

Some sound-effects men use rubber plungers for horses, but the better practice is to use halves of coconuts. The studio should have a number of flats, such as are used by greenhouses, filled with sand, with gravel, with dirt, and with a combination of dirt and gravel. Using the coconuts in these flats will give the sound of horses' hoofs on different kinds of roads. Twisting the balls of the thumbs in a bowl of cornstarch will sound like walking in heavy snow; some operators merely tape a box of cornstarch and press upon its sides. Twisting a child's balloon which is inflated will give the creaking of an ice jam.

A well-equipped studio has various types of doors to be opened and closed. As the frame of the door creates the sound, the frame should be heavy. There should be a reflecting wall behind the door for a good effect; this may be built to the door frame. Hinges may squeak or different squeak boxes may be made by inserting round wooden pegs, much like those used for tightening the strings of a bass viol, in a block split so that the friction may be increased. Squeezing a leather billfold will give a good squeaky-door effect.

The actual clinking of coins contains a high thin note which is lost in transmission; lead washers are much better. If water is to be used in a metal tank, line the tank with canvas; otherwise the metal sides will spoil the effect.

The list of successful sound effects is too lengthy to catalogue, but the ingenious operator will be able to create any desired sound. An article by Walter Pierson, of the Columbia Broadcasting System, in the 1937 issue of *Education on the Air*, will interest those seeking information concerning sound effects. 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. I recall in the early days of broadcasting when Jesse Lynch Williams, Pulitzer Prize playwright, was presenting a radio drama over WOR. He used a couple of pennies in a cocktail shaker to create the sound of ice. The control operator some distance away did not recognize the sound and faded it out.

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.

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. In some instances sound effects are produced for the benefit of the actors and are hardly heard by the listener; they tend to get the actor into

the right mood. The sound-effects man is sometimes called upon to assist in creating the right vocal effect for the actors. For instance, in order to create the effect of an echo, or speech in a tunnel, the microphone is placed with its diaphragm facing a long tubular waste-paper basket suspended horizontally, and the voice of the actor, who is behind the microphone, goes into the waste-paper basket and comes back to the microphone, creating the hollow tone desired. All these effects are the result of lengthy and discriminating experimentation on the part of the sound-effects operator in conjunction with the dramatic director.

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. 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.

CHAPTER XIV

Musical Mike

Radio Singer.

Richness, smoothness, flexibility, expression, mellowness—these are some of the adjectives that may be applied to a good radio voice. Such qualities may be inherent or they may be acquired. These same adjectives may be applied to an operatic voice, yet that operatic voice may not be at all suitable to radio work. Experimentation is necessary. Lanny Ross has always had a good radio voice. It has always transmitted well and has always been received well because he sings almost entirely in the middle register. Lawrence Tibbett's voice, on his first broadcast, was conspicuous because of its metallic, brittle, and harsh quality. His voice is heavier, more powerful, and not so mellow. Yet after that first broadcast his voice came over the air perfectly. None of its richness and quality was lost. The technicians had placed him in a different position before the microphone and had him behave in a different manner. This method of experimenting with the individual singer's delivery prevails today as it did in 1928.

Microphone Position.

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. I shall take into consideration only the two most popular types of microphone, the unidirectional and the bidirectional. The average voice, whether it is bass, baritone, or tenor, can usually

be placed with comparative ease. 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. One foot should be placed in advance of the other, in order to allow a gentle and easy rocking motion toward and away from the instrument. When gradations in volume are necessary, the singer may move closer 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 diaphragm. This has the same effect as drawing away—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, but this is not necessary. If a bidirectional microphone is used, the difficulties are decreased.

In group singing, in a quartet, for instance, the object is to place each singer at the same distance from the microphone. If it is found that one voice stands out when this is done, then that voice is moved farther from the microphone than the others. If one member of the quartet is to have a solo, that member usually should step forward, closer to the instrument than the rest. This is true with all types of microphones. Even when a larger group is singing, one microphone should be enough. The glee club should be placed so that the voices will blend well, no one voice being more pronounced than another. The reader can see that this necessitates a trial-and-error method. Each singer or musical group has its own characteristics, and the placing

must be tested until proper relations between voice and instruments are established.

In the case of an exceptionally powerful voice, the remedy is simply 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. He must be able to increase the distance from the instrument with ease and rapidity. It is true that the ribbon microphone has greatly reduced the necessity for this movement on the part of the singer. Its increased sensitivity makes it possible to pick up clearly sounds that would be distorted by the condenser type. 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 when in front of the microphone is of great importance. On the concert or operatic stage it is possible for a singer to shout and gain his dramatic effect. In front of the microphone shouting is forbidden. If a radio singer wants to shout "Hallelujah," he must do it with increased intensity—*not volume*. The greatest bugaboo in regard to the voice-control problem is the singer who has acquired a tremolo. It is often an advantage on the concert or operatic stage, but to a radio performer it is a death warrant if not controlled.

Control of the voice reaches farther than the limits just mentioned. Control means also the maintaining of the correct pitch, with or without tremolo, and the acquisition and retention of a good tone, quality, and general technique. Expression, which is a further mode of control, I have already mentioned as 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. Lawrence Tibbett is famous for his expression or 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 action. Wilfred Pelletier, the conductor of the Metropolitan Opera, who listens to 50 or 60 singers each week, points out, “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.”

Radio, while creating new problems for the vocal soloist, also has brought about new methods for training voices. It is now possible to attend schools which teach those who are desirous of becoming radio singers. Some of the methods employed are as old as singing itself; others are new. The old methods include training in the placing of the voice, proper breathing, vocal exercises. However, with new problems new methods have been devised. Primarily the training of the radio singer is in the hands of his vocal teacher, but before he can hope for success on the air he must apply to the control operator for additional instruction. Both of these teachers will tell him his faults and how he may correct them, but, if he will make a series of recordings, he will be able to hear for himself how he sounds to the radio listener. As these records are made from the same microphone that he will use for broadcasting, he will be able to experiment with his voice delivery and in the placing of himself before the microphone. Some soloists try to hear their own voices as they sing to the musical microphone by placing a hand over one ear. It is good practice in the development of a voice level to sing to the microphone and watch a volume indicator. This will train the soloist to maintain a volume smoothness between the minimum and maximum

levels that can be broadcast. The best voice for radio is one that is soft, true, and clear. While a soft voice may be amplified, the cutting down of volume of a powerful delivery is not always satisfactory.

This desire for light voices and the appeal of the lullaby melody led to the development of the crooner. The crooner's vocal training has developed a flexible and well-controlled voice. He sings across a microphone only a few inches away from his mouth. As the result of such intimacy with the diaphragm, every breath intake, gasp, and pitch variation is carried clearly to the listener. The sibilant sound, or hissing, is difficult to avoid; but opening the mouth slightly wider than usual to produce the sound and chopping off the sibilant sound sharply is an experiment, among others, to be tried.

One of the essentials of the radio soloist is clean-cut enunciation that will carry words clearly to the listener. Proper speech and vocal training are vital. The vocal organs must be relaxed, 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.

Notwithstanding these new methods and principles, the guesswork has not yet been entirely eliminated from radio performance. The acquisition of a good voice for the radio is a tedious job. It involves hours of lessons and practice. When one has acquired the attributes of the good radio singer, 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. This changing of the song from the score is called a "lick." Nearly all crooners "pep up" their renditions in this manner. 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 small voice 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 usually need the amplification offered by the radio. Because of this tendency to "lick" a tune, radio does not encourage listeners to sing along with the broadcaster. The singer is influenced by the fact that the radio theater has many exits that are easily accessible. Only fresh unsophisticated entertainment will hold the listener.

Song Selection.

In the early days of radio it was important to select songs with a limited range. Notes that were too high or too low were not transmitted correctly. The mechanical difficulties leading to this state of affairs have been largely overcome. The advances in microphones, receivers, and other apparatus no longer impose this limitation in selection. The reasons for selecting certain songs for the radio lie in the whims of the advertiser, the singer, or the studio manager. It is now safe to say that any song suited to the singer's voice is appropriate. The large networks are encouraging, by contests, the writing of musical selections which will meet the requirements of the microphone and studio. In the case of "Lenox Avenue," the composer prepared even the musical backgrounds for the announcements. The composer includes in his score complete directions as to how the engineers shall mix the voices and orchestra.

The choice of songs, however, presents some interesting limitations displaying the desire of the networks and most stations to broadcast clean programs. The music of certain selections may be presented instrumentally, but the lyrics must not be sung. In such a list are songs whose lyrics are suggestive, such as "Come Up and See Me Sometime," "Fooling with Another Woman's Man," and "I'm No Angel." It is amusing to note that the song "Let's Have Breakfast in Bed" can be announced only as "Breakfast in Bed." Lyrics of certain selections must be revised for radio

ears. For instance, in the song "I Get a Kick Out of You," the cocaine line must be changed to "Some like perfume from Spain." On the air belonging to the networks, no lyrics are allowed which refer to "reefers," "hop," "coon," "dago," or "Chink." However, the lyrics of a copyrighted song cannot be changed without written permission from the copyright holder. Broadcasting stations are to be commended for their refusal to allow works of a religious nature to be played in dance time or to permit the vocal "jazzing" of spirituals. Many of the lyrics of the "swing tunes" are forbidden on the air. In addition to these limitations are those imposed by copyrights and by the restrictions of foreign-owned numbers.

Orchestral Setup.

If we remember that any 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 unwanted 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.

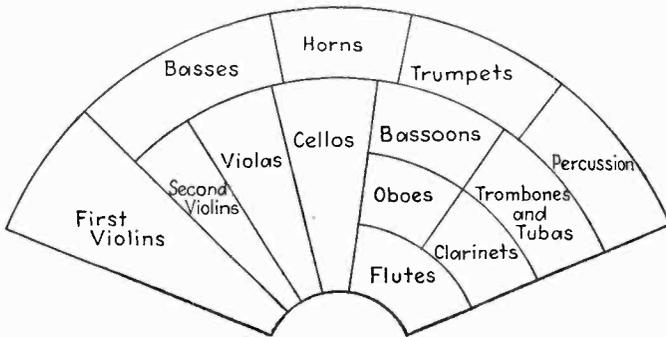
The loudness of any instrument, as picked up by the microphone, depends upon three things: (1) its distance from the microphone, (2) its position relative to the sensitive face of the microphone, and (3) the loudness and directionality of the instrument itself. By directionality I mean that all instruments 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, bi-directional, or nondirectional. Carbons, condensers, and most dynamics fall into the first classification. In the second are ribbons (or velocities) and certain crystal types. The new "eight-ball" dynamic and certain crystal 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.

In view of this directional quality of the microphone, it is good practice to seat a fairly large orchestra in an area of about one-third of a circle. Seated thus, the instruments are located so that the line between the instrument and the sensitive face of the microphone does not make an angle of less than 30 degrees. Dividing the pie-shaped area, the string instruments should be located in the left section while the brasses, wood winds, and percussion instruments are all to the right in the rear. The microphone should be slightly turned toward the strings to give them a slight benefit. In the back row, directly in front of the microphone,

place the bass viols; the horns, trumpets, and percussion instruments are located in succession on the outer edge of the circle as it runs to the right. Nearer the microphone and in the center should be the violas and cellos. The violins will be at the extreme left; somewhat back and to the right are the trombones, tubas, and bassoons. Nearer the microphone will be placed the oboes and clarinets. The flutes will be in the front row of the right sector.

If a harp is used by the orchestra, it should be located outside the radius lines nearly parallel with the face of the



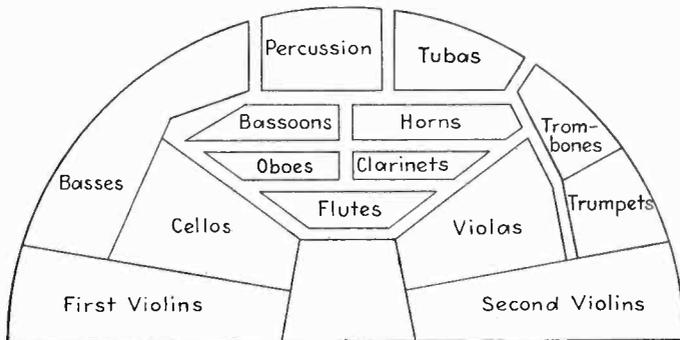
☐ Microphone

Preferred seating arrangement.

microphone. The first violins, at the extreme right, are clearly picked up because of their penetrating tone. Violas and cellos, in the center of this seating arrangement, will give a rich middle tone to the broadcast music. In this plan the horns and wood winds are favored next to the stringed instruments, and the trumpets, percussion instruments, trombones, and tubas are relegated to the background. The microphone can be turned from right to left to gain emphasis upon strings or wind instruments.

An alternate setup for a fairly large orchestra is a fan-shaped pattern with the flutes directly in front of the microphone at a distance of from 6 to 10 feet, the oboes and

clarinets immediately behind the flutes, and behind them the bassoons and horns. Tubas, trombones, and trumpets are placed in the extreme rear. Cellos and violas flank the flutes and may be placed a little nearer to the microphone. Bases and percussions are set at angles of about 30 degrees with the perpendicular to the microphone's face and should be well back. Violins should be in front of the cellos and violas and at an angle between 15 and 60 degrees with the perpendicular. Pianos are frequently placed between the cellos and basses, or between the violas and trumpets.



□ Microphone
Alternate seating arrangement.

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.

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. A separate microphone is provided if there is to be a piano solo. The piano, when used with an orchestra, is located either far to one side or behind the musicians. If it is a grand piano, the sounding lid is closed.

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 the placing of instruments is that of distance, and this will, of course, depend upon the instruments and the acoustics of the room.

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 to 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.

CHAPTER XV

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 station, in applying for its license to operate, states that it will serve as a public convenience, necessity, and entertainment. 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, banks, and outstanding public citizens of the city. 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. Coöperation with the local chamber of commerce in promoting local celebrations and "bargain days" will advertise the city, obtain commercial announce-

¹ From a speech delivered by Edgar L. Bill, president of the Peoria Broadcasting Company, before the initial meeting of the Federal Radio Education Committee (1936).

ments 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 far-fetched, 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 subject matter of health broadcasts should embrace all phases of health, written in the 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 neurasthenics or people who feel that they have the disease symptoms that are being discussed. Careful attention is necessary here 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. 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.

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 scientific 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.

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.

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. 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 sanitary 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 radio continuity. 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 entertaining 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 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 prayer. Such announcements should be brief and in good taste. Full information concerning the speaker and services may follow the talk but should not precede it.

There are two types of religious programs: those broadcast from the pulpit to 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 the talk for his visual audience, with a possible reference to his unseen congregation.

For a specially prepared radio sermon, the preacher may prepare 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 air-way sermon is not of the ritualistic type but is nondenominational and nonsectarian, condemning no faith.

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 pre-arranged 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 both 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 "spell-binder" 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 flowery 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 result 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. The unfortunate statement of one candidate for presidency that grass would grow in the streets of every village and town if the opposition were elected resulted in ridicule, which is the most potent form of assailing a public

speaker. A mispronunciation of the word "radio" (ră'-dī-ō) by another candidate did much to convince the electorate that a man evidencing a limited education should not be placed at the head of the nation. 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 nonexistent 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 understanding 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 unfaltering tones. It is wise to adopt the "you and I" attitude, which was foreign to the stump speaker.

In the campaign of 1936 one political party desired to dramatize its political broadcasts. This was frowned on 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. 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 also invited to send their bulletins to be used upon this local program.

These types of programs 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.

CHAPTER XVI

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. The kind of program to be broadcast will be determined by the children themselves. If they want blood and thunder, they will probably get it, for the advertisers do know their business even though they are a little weak on the child psychology. What I wish to do is to point out certain principles and techniques for the preparation and presentation of all kinds of programs directed toward an audience of children.

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. Short sentences that leave out any words not necessary to the meaning are always best.

Quite obviously, 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, omitting all complicated details. In addition to action, children demand something to see. The facts should be accurate in historical dramatizations. So vivid and uninhibited are the imaginations of most of the young listeners that by concrete picture words they can be lifted out of the realm of the present and from their homes to any place or era to which one may wish to take them. Once an audience of children has been won, it is more satisfying than an adult audience because it is so willing to believe; when children give their attention, they give it completely. Sound effects are more vital to a children's program than in a drama for adults. 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.

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. The instinct for hero worship can also be utilized to good advantage in the preparation of material to interest them. If they can identify themselves with an Abraham Lincoln or a Babe Ruth and hear the praises of those heroes, their interest is assured.

Of course, the whole problem of clarity and interest is not solved when the material has been written. The same ideals must be carried over into the presentation of it. The requisite of clarity is satisfied by correct enunciation, careful grouping, and significant emphasis. But the question of interest involves the matter of personality.

In a consideration of the type of personality best adapted to the presentation of 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 have infinite patience; otherwise he will become bored with his material and with his audience. In short, 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. The voice of the Kellogg "Singing Lady" is probably the best example of the projection through the

microphone of a personality that inspires confidence and a feeling of security because of its patience and interest.

The matter of personality is of less importance in a program that is strictly a dramatic presentation. Acting ability is the important thing here, although it is a type of acting that requires an unusual amount of imagination.

There are certain specific techniques that may be used to advantage in material presented for a juvenile audience. The first of these is a wider use of variety both in rate and in pitch. Changes in scene can be more obvious when the audience is made up of children, and indeed they may be missed unless they are quite plainly evident. Inflections can be more pronounced without danger of artificiality.

A second and very important technique is the 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. Unlike ordinary interpretative reading, children's stories also permit the use of impersonation or near-impersonation in straight narrative. Such impersonation is accomplished in the main by variety in pitch and rate, and occasionally by a change in quality of the voice. Only a voice that has great flexibility can manage the sudden changes and wide ranges that make a story or poem interesting to children.

Much that is considered to be poor taste in oral interpretation for adults can be used and should be used in reading for children. The slight subtle changes in voice are missed by children. Things can be exaggerated and made obvious for them. Because they do not see the reader in a radio presentation, stories can be made more vivid and real than through any other medium, provided the reader can adapt his voice to fit every situation that arises.

CHAPTER XVII

Broadcasts to Schools

Nearly every nation has experimented with radio education; there are institutes, commissions, and committees on education by radio; hearings have been held by the F.C.C., city and state departments of education have studied the use of radio in and to the schools, with the result that there are over 600 articles, bulletins, and books that can be consulted by anyone who wishes to make a thorough study of broadcasting to schools. 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 interest of the student, to demonstrate methods of teaching, or to provide a useful tool of instruction for school talent.

The boards of education of a number of cities and the broadcasting services of many universities have demonstrated the potential value of radio in public-school education. When one considers that invisible teachers have successfully taught penmanship in California, typewriting in Wisconsin, violin playing in Michigan, and creative art in Ohio, the curriculum of the school of the air seems unlimited.

After outlining general principles for the preparation and presentation of school broadcasts, we shall consider the broadcasting technique used in various courses, from which methods may be evolved for other topics.

Program Types.

Roughly classified, radio broadcasts can be grouped under the general headings: talk, 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 retained.

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 court room 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 inter-viewer 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 students' 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, must be simple. Characters should be limited to three, and the contrast in voices should be marked. Special lines should be used to introduce each voice. Study the requirements set forth in the chapter on *Writing the Radio Play*.

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 double windows. In one studio I have a studio band, orchestra,

or choir of professional musicians, university students, or high-school students. This group demonstrates for the pupils by sounding tones and chords and by singing or playing phrases 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 old familiar maxim "Teach less so the pupils can learn more" applies with particular emphasis to radio teaching. My radio pupils are teaching me to keep my mouth shut and let them play throughout the entire lesson period, even if they are left with several unsolved problems at the end of the lesson. The purpose of every lesson, radio or otherwise, should be to increase the students' power to solve their own problems.

Radio classes in schools are in charge of a teacher, school janitor, town minister, or other adult whose duty it is to see that the pupils are ready to receive the lessons and that they pay attention to the directions.

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.

Do I expect the pupils to practice the exercises? Of course not. You wouldn't practice exercises if you could play tunes would you? Neither will any other normal person. The first exercises are for classwork during the first lesson, for the purpose of developing tonal range—then to be forgotten.

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. Two, three, and four-part songs are introduced as the lessons progress. Most of the songs are in the singing key, so that the instrumentalists may join with the singing class for school assemblies and for school and community festivals.

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 paper.

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.

SUGGESTIONS FOR UTILIZING THE BROADCAST

What Do You Know About Occupations?

Friday, Oct. 26, 1934
American School of the Air

2:45 P.M. E.S.T.
Columbia Broadcasting
System

PURPOSE OF BROADCAST. The object of this broadcast is to show the need for studying occupational conditions and for mapping out plans for one's lifework. It is designed primarily to

show the difference between the person who has a lifework plan and the one who drifts aimlessly.

WHO SHALL LISTEN IN. Pupils in high schools, particularly those enrolled in classes in occupations.

Send a note home asking parents and older brothers and sisters who are staying at home to listen in.

Put a special notice in the local newspaper calling the attention of parents and service-club leaders to the broadcasts.

HOW TO LISTEN IN. Allow the class actually to answer the questions as Dr. Kitson asks them. For instance, when he says, "How many are going to be lawyers, aviators, engineers, teachers, etc.," let pupils raise their hands and count.

After the broadcast, at the next meeting of the class, discuss the actual decisions registered in answer to these questions.

QUESTIONS FOR CLASS DISCUSSION. In what way did Hobey miss his goal?

What more should he have done?

Who used his head most: Hobey, Sparky, Art, or Jim? How many agree? Why?

How do you suggest that we start to chart our lifework plans?

NOTEBOOK. Have each pupil make a notebook. Any loose-leaf book will be satisfactory. Call it "My Lifework Notebook." Or use one of the work books listed in the printed announcement of the American School of the Air.

SEEK THE HELP OF THE LOCAL LIBRARY. The local librarian will probably help you get some of the needed reference books. Your state library will also be glad to lend them.

TALK IT OVER AT HOME. Have pupils discuss the broadcast with their parents at home in order to find out what they think of the idea of working out a lifework plan. Ask parents to listen in next week to find out how to follow a plan.

TEACHERS' PERSONAL REACTION. This series of broadcasts is an attempt to serve the vocational needs of pupils. Teachers can assist the committee preparing these broadcasts by keeping notes on the following points and forwarding their comments to the broadcasting station:

1. What phases were most helpful to the pupils?
2. Wherein was the broadcast uninteresting or ineffective?
3. On which phases did the pupils seem to want more help?
4. How valuable were the reading assignments?
5. Were the lesson plans of value?
6. Are there other phases of vocational guidance that ought to be included?

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. A small pamphlet of such dramatizations may be obtained by sending 25 cents to the National Advisory Council on Radio in Education, 60 East 42d Street, New York.

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 first-hand 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.

ELEMENTARY-SCIENCE RADIO LESSONS¹**Specific Directions for Each Lesson****RADIO LESSON No. 7—STEAM****Material Required:**

1. Electric hot plate or canned heat with rack.
(Matches, if canned heat is used.)
2. A teakettle or pan of boiling water—with cover to fit. Have this boiling on the hot plate or canned heat.
3. A test tube.
4. A cork that fits the mouth of the test tube.
5. A test-tube clamp. If you do not have a clamp, wrap a wire firmly around the test tube, leaving the ends of sufficient length that will permit you to hold the test tube over the flame.
6. Warm water in a small pitcher or pan. (Also a cup if pan is used.)
7. A bicycle pump or automobile tire pump which has been taken apart.
8. Drawing on board to show a cloud of partially condensed water vapor a few inches from the spout of a teakettle.

RADIO LESSON—STEAM

Good morning, boys and girls. You remember the rhyme, "Polly put the kettle on and we'll all have tea." Well, you see, the kettle is on, but I must tell you that we are going to have something better than tea, today. See if you don't agree with me when the lesson is ended.

You have heard the story of James Watt, a Scottish boy, just about your age, who sat in his mother's kitchen watching a kettle of boiling water. He noticed the same things that you must have noticed many times and can see now. The story goes on to tell that for the rest of his life Mr. Watt was influenced by the thoughts that came to him as he watched water boil. As a

¹ Cleveland Public Schools, Apr. 2, 1934.

result of his interest, he did many things of value in the development of engines that work for us today.

The water in the kettle in your room is boiling. We have already learned that when water reaches the boiling point it changes to vapor under different conditions. Today we shall talk about water vapor that is made by boiling water. It is called steam. Will the teacher please write the word "steam" on the blackboard: s-t-e-a-m.

Shall we, like the Scottish boy, look at this kettle of water to see what we can learn about steam? If you are using a pan instead of a teakettle, push the lid slightly to one side so the steam will have a small outlet. Notice the spout of the kettle. Do you see a cloud of partially condensed water vapor near it? (5 sec.) When the hot steam came in contact with the colder air, what happened? (5 sec.) Yes, it partially condensed. So it really is a cloud, isn't it?

Now, will you look carefully to see if this cloud of partially condensed water vapor is at the very tip of the spout. (5 sec.) No, there is a space between the cloud and the spout. Yet, if this cloud has been formed from steam the steam must have passed through the space before it became visible as partially condensed water vapor. Then what must be in the space between the partially condensed vapor and the spout? (10 sec.) Steam must be there, but we cannot see it.

Even though we cannot see it, we know steam must be there.

The drawing on the blackboard will help make this clear. Let us look at it. The partially condensed vapor is shown a short distance from the spout of the kettle. The steam formed within the kettle by the boiling water escaped through the spout and partly condensed when it reached the colder air. We see this small cloud of partly condensed vapor but steam itself cannot be seen.

Now you have discovered an important fact about steam. The teacher will write it on the board.

No. 1. "Steam is invisible." (15 sec.)

We have another experiment to perform. First, will the teacher remove the kettle or pan of boiling water from the heat. (10 sec.) Will a girl and a boy please come to the table. (7 sec.) As I name these articles, show them to the class: A test tube fastened in a clamp (3 sec.); a cork that fits the mouth of the test tube (3 sec.); water (3 sec.). Follow these directions carefully. Put about one-half inch of water in the test tube. Be sure there is only a little water. Just about one-half inch. (10 sec.)

Now fit the cork into the mouth of the tube, but not too tightly. (10 sec.) Hand the corked test tube to your teacher so that she can see whether or not it is satisfactory. The teacher will then hold the test tube over the heat, tilting it so that the cork is pointed away from everyone, including herself. The pupils may be seated. (5 sec.) I have been preparing a test tube with just a little water in it, and now I am holding it over the flame. The water in the test tube is a liquid. How will it change when it reaches the boiling point? (5 sec.) It will become a gas, or water vapor called steam. Will we see it? (3 sec.) Why not? (5 sec.) Has the water in your test tube started to boil? (10 sec.) (*Sound effect, cork popping.*) (5 sec.) What happened? (5 sec.) Did your cork pop out too? If not, hold it over the heat until it does. Let us talk about the reason for the popping of the cork.

What was in the tube to begin with? (5 sec.) Water.

Into what did this water change? (3 sec.) Steam.

What pushed the cork out? (3 sec.)

Steam pushed the cork out. As the steam was formed, it needed more room and kept pushing about in all directions. This is one of the very interesting and wonderful things about steam—its power to push. It pushes, or exerts pressure, while expanding.

You know how you can expand your chest by taking a deep breath. Do this with me. Put your hands on your chest. Take a deep breath. Do you feel your chest expanding or growing larger? Steam can expand to fill a space almost 1700 times as great as the volume of water boiled. In other words, if you boil one pint of water, it will change into nearly 1700 pints of steam. You can imagine how much power it has when expanding or pushing about to find more room.

You will want to continue the list of the things you have discovered about steam. The teacher will write them under the first fact on the board. Statement No. 2 will be—"Steam expands." (15 sec.)

And while it expands, it pushes. So, for statement No. 3, the teacher will write—"Steam pushes while expanding." (20 sec.)

You have seen a little steam do a little work but every day steam is being used to do great tasks. How many of you have ever traveled by train? Did you notice the large locomotive that pulled the cars? The power that turned the wheels of the locomotive was steam—the same power that pushed the cork out of the test tube.

It took men a long time to figure out how to make a steam engine but today one steam engine can do the work that was

formerly done by many men. When you hear the word "engine," perhaps you think, "Oh, that is something for men to know about and understand," but the steam engine is something which not only men, but you too, can understand.

On the work table is a bicycle pump or automobile tire pump which has been taken apart. Your teacher will show you the part called the cylinder. (5 sec.) Now she will show you the part that fits inside the cylinder. This part is called the piston. (5 sec.) She will put the pump together by putting the piston inside the cylinder. (10 sec.)

Will a boy go up to the table and operate the pump. (10 sec.) Do you notice how the boy is pushing the piston back and forth in the cylinder? Cylinder and piston are also the names of important parts of a steam engine. Men knew that, because steam pushes, they must give it something to push. So in a steam engine the steam is let into a cylinder where it pushes a piston back and forth. This moving piston is connected to machines in such a way that, as the piston moves, it works the machine. For instance, in some school buildings, a steam engine works the fans that send fresh air to all the rooms in the building.

During the week look up some interesting facts about the history of the development of the steam engine. You will want to learn about the first steam engine made by Hero and used only as a toy. Then, too, you will want to know who invented the first steamboat, and how the steam engine affected transportation. But best of all, try to see a steam engine at work.

And now, we are going to have a contest, so listen carefully. I know that some of you have little boats that you bought at the ten-cent store. Perhaps your class will want to get one, too. One type of boat is called the Pop-Pop boat—p-o-p, p-o-p, and another is named the Pon-Pon boat—p-o-n, p-o-n. I am wondering which class will send in the best answer to the question: What makes this toy boat run? Please write this question on the board: "What makes this toy boat run?" (15 sec.) I hope you will use an expression that I used in the lesson today.

Teaching History.

Perhaps the most successful method for holding the attention of the student and giving to him facts in history is the dramalogue. 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 such 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 author 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 aspect 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 these courses must 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. All these types of programs vitalize the study of government through the introduction of speakers who are in the day's news. The local station may cooperate with such 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 such programs 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 quite 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 school teachers 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.

The following specimen of advance information supplied to classes in elementary geography was prepared by Villa B. Smith, assistant professor of geography and radio geography broadcaster of the School of Education at Western Reserve University. Professor Smith says that the success of the Cleveland radio geography lessons has been largely due to their close integration with the course of the study of geography, and to the fact that they have been a functioning part of regular classroom activities. All lessons have been prepared a semester in advance of their broadcast. All visual material is furnished to the classes receiving the lessons at the beginning of each semester. The selection, preparation, and distribution of this lantern-slide material is no small task. The lantern slides provided by the museum are made up in sets of 50. They are designated as "radio-unit slide sets." Each slide is numbered and bears a title. The numbers and titles correspond to those that appear in the lesson-guide sheets provided to each teacher receiving the lessons.

Since radio geography lessons tie in with the Cleveland course of study in geography, the lesson-guide sheets refer to the basal and cobasal geography texts in use. The guide sheets present each radio lesson as part of the work of the week, and have been prepared by the teacher in charge of the classes receiving the lessons at the experimental school.

RADIO GEOGRAPHY LESSON

Cleveland Public Schools—For 5A Grade

RADIO LESSON NO. 1—FARMING IN NEW ENGLAND

This lesson shows that New England is primarily a country of trees and grass, and that its agricultural activities are adjusted

to short, cool summers, long, cold winters, and thin, rocky soils. The lesson calls attention to New England as a land of general farming, part-time farming, and specialized farming.

Materials Required for the Radio Lesson.

Basal Text. *United States and Canada*, Barrows-Parker.

Map. Page 171, Figure 207.

Slides from "5A Radio Geography Unit Set" are provided by the Educational Museum. The slides are listed in the order used during the broadcast.

1. A New England Landscape.
2. A New England Orchard.
3. A New England Dairy Herd.
4. A Maine Potato Field.
5. A Cape Cod Cranberry Bog.
6. A Connecticut Tobacco Field.

Summary of Radio Lesson. Write the following questions on the blackboard and keep covered until the broadcaster calls attention to them. In the period following the broadcast, pupils and teacher should discuss the summarizing questions.

1. Why is much land in New England more suitable for grass and trees than for crops?
2. Why is dairying an important farming activity?
3. *a.* What is the cash crop of the Aroostook Valley?
b. For what three purposes is this crop raised?
c. Where is it marketed?
4. *a.* What is the cash crop of the peat soils of eastern Massachusetts?
b. When is it harvested? How?
c. Where is it marketed?
d. Why is this crop flooded?
5. *a.* What is the cash crop of the Connecticut Valley?
b. In what two ways is this crop grown?
6. *a.* What is meant by part-time farming?
b. Why is part-time farming practiced in New England?

Follow-up Work. Cover the textual materials from "Regions of the Northeast" through "Farming Changes," pages 172-179.

The work-region exercises on pages 172-173 are very important, for they emphasize the fact that one work region merges into another. Consult directions for work-region exercises on pages 88-91 as to the procedure to be followed for work-region exercises on pages 172-173.

Consult *Teachers Book*, page 36.

Vocabulary. Ability to use and spell correctly the following terms used in the broadcast:

New England	ensilage
Maine	seed potatoes
New Hampshire	potato barn
Vermont	starch factory
Massachusetts	cranberry bog
Connecticut	peat soils
Rhode Island	tobacco
area	shade-grown crop
hilly land	sun-grown crop
rocky soil	general farming
short cool summer	specialized farming
pastures	part-time farming
	cash crop

The foregoing list should be added to as new terms are developed in connection with the human activities and natural conditions studied in the follow-up work.

Map Work. Ability to locate on a map the following places mentioned in the broadcast:

- New England—locate each state
- Appalachian Mountains
- Atlantic Coastal Plain
- Aroostook County
- Connecticut Valley

This list should be added to as other places of importance are studied in the follow-up work.

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, and there are a number of commercial broadcasts, such as one given by the Better Speech Institute of America. 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 would 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 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. Walter Damrosch undoubtedly has done more to educate the school children in music appreciation than any other individual. Small textbooks are distributed to the classes that listen to his programs, which

are broadcast nationally. 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 to tell about the life of the youth in that country. Such programs must present speakers whose enunciation is precise and not rapid.

The Radio Examination.

In giving a test to students who are enrolled in a radio course, the test questions should be read slowly and repeated. If interpretive explanations are necessary, they should be given. During the broadcast a number of students should take the test in the studio where the broadcaster can observe the length of time that should be allowed for his listeners to answer the questions. After all questions have been read, listeners are instructed to exchange papers with their neighbors and the correct answers are then given by the instructor. As the phraseology of the students' answers may differ, the instructor should give various ways in which the questions may be answered correctly. Questions should be so phrased as to be satisfied with brief answers. The plus and minus form is excellent for radio tests. The following test, including the reading of the answers (which are given in italics), required 11 minutes.

7A RADIO SCIENCE LESSON NO. 24

Harry A. Carpenter

SPECIALIST IN SCIENCE

Wednesday

April 17, 1935

If you have your papers and pencils ready, I shall now read the questions to you. Answer each question quickly, using two or three words. Then answer the next question as I read it. If

you cannot answer a question, let it go and answer the next one so as to keep up with me and with the class. Are you ready?

1. Which increases the evaporation of moisture, gently moving air or still air? *Gently moving air.*

2. What effect has gently moving air on the perspiration of the body? *Causes evaporation of perspiration.*

3. What effect on the temperature has evaporation of liquids? *Lowers the temperature.*

4. Is it possible to state a suitable indoor temperature without stating other necessary conditions? *No.*

5. At a temperature of 68 degrees room temperature, how much lower must a wet-bulb thermometer read in order to indicate a satisfactory amount of moisture? *10 to 14 degrees.*

6. What is the name of an instrument used to measure relative humidity? *Hygrometer.*

7. What is a desirable percentage of relative humidity? *Between 40 and 50%.*

8. Will warm air or cold air absorb more moisture? *Warm air.*

9. When cool air with a certain relative humidity is warmed, is the amount of moisture it contains *more* or *less* or the *same*? *The same.*

10. When cool air containing a certain relative humidity is warmed, is the percentage of relative humidity *increased*, *lowered*, or does it remain the *same*? *It is lowered.*

11. Why does the wet-bulb thermometer show a lower temperature than a dry bulb at the same time in the same place? *Because of the evaporation of water from the thermometer.*

12. If a room is supplied with clean air at a desirable temperature and a desirable amount of relative humidity, what other factor should be considered? *Air should be in motion.*

13. Does the percentage of relative humidity change from time to time or is it always the same? *It changes.*

14. About how many times per minute does a person breathe under normal conditions when he is not exercising? *17 or 18 times.*

15. Is nose breathing or mouth breathing more healthful? *Nose breathing.*

16. Give one reason for your answer to the above question. *The air is cleaned and warmed.*

17. What happens to the air pressure in your chest cavity when you contract the muscles of your chest between the ribs and your diaphragm? *Air pressure is decreased.*

18. Why does air go into your lungs? *To balance the air pressure from outside.*

19. What is the name of the poisonous substance in tobacco? *Nicotine.*

20. Is alcohol a stimulant or a narcotic? *A narcotic.*

Now, if you will exchange papers, I will read the answers. You may mark as correct any answer if it means the same as the one I give, even though the words are different.

Please send me the papers with the highest and lowest scores from each grade.

Teacher Training.

A number of institutions are now offering instruction for preparing the teacher to receive radio programs. In the chapter entitled *The Listener*, some of the methods that may be used by the teacher in the reception of the program have been outlined. 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.

An educational program has been defined by Franklin Dunham of the N.B.C. 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. Commercial 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. Quoting from a paper by Cline M. Koon of the United States Department of Education, "The future development and success of radio in education lies largely in the hands of local teachers:

Class room help can come through the air,
But the teacher in person must be there,
No program fine, no voice from space,
Can ever take the teacher's place."

British School Broadcasts.

Because the schools and broadcasting are both operated by the government in England, the extent and efficiency of teaching by radio are far greater there than in the United States. Programs are broadcast at hours arranged to conform to school schedules. There is a Central Council for School Broadcasting, which not only arranges suitable programs, but advises teachers, dispatches B.B.C. Education Officers to visit schools, purchases and maintains equipment, and publishes illustrated pamphlets to be used by teachers and students in conjunction with the broadcast.

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.

The British educational broadcaster uses sound effects when possible, refers to illustrations in the pamphlets, and in frequent instances will request the listening teacher to call upon some pupil for a recitation; motion pictures are now being sent to schools to be used in connection with the talk. In order to time the speech with the picture, the speaker has a film shown upon a screen in the studio as he points out features.

Recent tests conducted in England, in which classes in pronunciation and speech were recorded at the beginning of a series of broadcasts and again at the end, showed that the wireless class made twice as great an improvement as the control class. The method used in comparing the before-and-after records consisted of a pair of electrical turntables coupled with mixing unit and connected with headphones. This made possible an almost instantaneous comparison. In addition, a microphone included in the circuit allowed the examiner to hear his own pronunciation through the same headphones.¹

The Central Council for School Broadcasting issues a pamphlet for every course taught by radio, and it is assumed that all school pupils listening will purchase and refer to the pamphlet. Space does not permit me to quote to the extent I would like from one of these pamphlets, but the one on Speech Training starts by impressing upon pupils that learning to choose good words, to use them properly, and to speak them beautifully is a game, a word game. The pamphlet contains photographs of mouth positions and the student is asked to provide himself with a small mirror. The first lesson is on breathing and phrasing:

Read the following passage, paying special attention to phrasing. Try to use your breath so that your phrasing will be smooth and so help to make your meaning clear. Take breath after the guiding lines—/ “Even our little friend the glow-worm

¹ The Evidence Regarding Broadcast Speech Training, Inquiry Pamphlet 3, Central Council for School Broadcasting, 12 Portland Place, W. I., London, England, price 6d. (12 cents).

helped to win the war./ When the tanks were going into action/
they were moved up to the front the night before the battle,
a rather terrible journey, as it had to be made in utter darkness,
and the drivers had to be careful of telephone cables./”¹

The second lesson teaches the pupil to change his voice
and intonation to express feeling:

Oh! how happy I am!

Oh! how sad I am!

Oh! how excited I am!

Oh! how angry I am!

Those who are about to broadcast an educational pro-
gram to the schools would be wise to write to Broadcasting
House, London, for the pamphlet showing how the same
subject is taught in England. These pamphlets sell for 2d.

¹ Arthur Mee's *Story Book*.

CHAPTER XVIII

The Use of Radio Equipment in the School

The use of radio in bringing educational programs to the school classroom has been discussed, but radio equipment also has value as a teaching device within the school. While such equipment was originally devised for broadcasting purposes, it can be used to transmit programs picked up by the receiving set, or information originating within the school itself, to various parts of the educational unit. The installation of such equipment has a double appeal—to the school administration and the faculty, and to the students and their organizations.

By installing a public-address system, with a control panel and output circuits to all class and assembly rooms, the office of the principal becomes a broadcasting studio from which he can send instructions or information to any or all teachers, to every class, or to a single classroom. This is efficient in the large school where the writing of information and its delivery to individuals is a lengthy process. If an emergency telephone call is received in the school office for a teacher or student, the principal or his secretary can plug into the classroom in which the individual is and call him or her to the office phone. The public-address system can also be used for fire drills and in case of fire.

Many large schools do not have assembly halls large enough to hold their entire enrollment, but, through the use of public-address equipment, assembly programs can be transmitted to classrooms, study halls, and the library. Assembly programs are always a school problem, but, if they are piped to the various classrooms from the school broadcasting studio, they can be made to have a program

interest that they do not have when given from the platform. The best in music, from recordings, can open the assembly; the speaker should be brief; an overture can introduce a skit; and, after such announcements as the principal desires to make, the broadcast assembly may be concluded with another musical selection. A small acoustically treated room adjoining the office of the principal, from which dramatic skits can be presented, is suggested.

The school executives have difficulty in inducing parents to attend parent-teacher meetings, but the school microphone can easily be hooked into a telephone line and a parent-teacher program piped to a local broadcasting station. In this way the parent meeting would be sent to every parent and taxpayer.

By the use of centrally controlled public-address equipment, school plays, debates, contests, and other activities can be advertised to all pupils as they are moving from class to class. The school librarian may use the service to announce new books, reading lists for special courses, and reviews. Student-council reports also can be made in this way at appropriate periods. Nearly all equipment is built so that certain switches may be reversed, so that the principal can listen in on any classroom equipped with a loud-speaker. This saves inspection visits, which embarrass both teacher and pupils.

The value of such public-address equipment is even greater for the student than for the school administration. Educational programs picked up from the air by a receiving set in the school control room can be piped to the class desiring that program. This saves the necessity of having a large number of radio sets in the school or of moving them from room to room. A broadcast from the United States Senate, for example, could be piped to a civics class, an excellent dramatic production sent to the loud-speaker in a dramatic class. A university debate broadcast would appeal to the school team. Any classroom acoustically satisfactory for speech is equally satisfactory for reception.

The wise administration or control of the use of the school public-address equipment is vital to its effectiveness and value to the school as a whole. Some one member of the school administration should be in charge and responsible for its use. If the equipment is overworked, if it interferes with classroom work, it will be a nuisance and will be generally condemned. Announcements should be piped only to those rooms for which they are intended. School information should be broadcast at the beginnings of the class period. The announcements should be terse. In order to avoid the excessive use of the public-address system to disseminate school bulletins, 5-minute periods, one in the morning and one in the afternoon, could be set aside for this purpose. The equipment would be used only for emergency calls at other periods. If a teacher or a pupil is wanted in the office during the class period, the public-address administrator should first find out from the school files where that teacher or student is located and then call that classroom only.

Not taking full advantage of the opportunities offered by the public-address equipment is just as bad as excessive use of the equipment. To use it only to replace the intercommunicating telephone system or messenger is neglecting the educational purpose of the equipment. While assembly programs will be sent over the public-address system to all classrooms, those radio programs which have been requested by an individual teacher should be piped only to that teacher's classroom. Furthermore, such program requests by teachers should be investigated by the administrator before the request is granted. Programs generally are broadcast in series, so that a program in the series can be heard and evaluated before a future one is accepted for use in the schoolroom. The individual in charge of the school public-address equipment should write to near-by radio stations, asking to be placed upon the weekly mailing list for program releases and also for information concerning the educational programs. Nearly all stations supply such infor-

mation willingly to increase their listening audience. A week in advance of the programs a mimeographed list of acceptable programs should be sent to teachers, so that they may select any they desire for classroom reception.

The "teacher's-aid" administrator should read items in magazines and newspapers concerning programs and be alert to request teachers' manuals, classroom guides, supplementary discussion suggestions and reading lists, and suggestions for utilizing the broadcasts. These aids were discussed in the preceding chapter.

Having made up a schedule of the programs desired, the administrator will tune in the receiving set well in advance of the time of a program, warn the receiving class 30 seconds before the program, and then plug in the radio to the line that goes to that classroom only. The administrator must return to his control board to turn off the program promptly as it ends.

Such a plan would not require an operator on duty at all times, but only according to a definite schedule. The equipment does not require a technically trained operator; it is as simple to operate as a telephone switchboard. Any secretary or stenographer in the principal's office can operate the control board, or students from the school radio club can take entire charge.

If the public-address equipment is not desired for the entire school, portable equipment may be purchased. Such equipment will improve the reception of assembly programs in the assembly hall. It may be used to announce athletic contests upon the school field and may be used extensively for the teaching of speech courses. In the latter case a small booth or studio can easily be constructed of Cellotex in the corner of the speech classroom, and training can be given in microphone technique as well as in analysis in speech. The objection has been made that the use of such equipment transforms the speech class into a vocational class for broadcasting. To quote Dr. H. L. Ewbank of the University of Wisconsin: "We do not regard this course (broadcasting)

as a vocational course. We consider it rather as an advanced course in voice training that will also acquaint the student with problems in the field of broadcasting." Such high-school training creates a more discriminating, appreciative, and understanding audience for radio programs. It is a mistake to think that the use of a microphone turns a speech course into a radio vocational course.

The public-address system offers an excellent teaching tool in speech and dramatics. By a critical analysis of the best radio speakers the pupils can learn much concerning pronunciation, enunciation, intonation, and cadence. A student from a speech class may be sent from the room to speak over the public-address system. His classmates will be more critical of his delivery if he is dissociated from the voice they hear. As the microphone is very sensitive, any defect will be clearly heard and brought to the attention of the speech teacher. Public-speaking classes of the past were designed to train platform speakers, politicians, lawyers, ministers; today, however, the radio is the platform of the public speaker, and he needs the modernized training offered by the microphone of the public-address system. Finally, as radio speech comes into the ears of every student, microphone training is an excellent incentive to better speech by the student.

Such equipment in the public schools is an incentive and tool, not only for the speech student, but also for students in other courses. A student in English composition will strive for perfection if his essay, his play, or his story is accepted for an intraschool assembly broadcast. The civics class will endeavor to emulate *The March of Time* or the best news commentators in the preparation of copy. Dramatic classes will gain their technique as they rehearse a play for a school broadcast. This creating and participating in local programs will create interest in many classrooms.

The tendency in the modern educational systems is to make the curriculum as practical as possible. The intro-

duction of radio equipment into the school is in keeping with this trend. A course in broadcasting should enlist the cooperation of classes in writing, civics, journalism, speech, dramatics, and physics. In many schools the class in physics has installed the public-address equipment for the entire school. These students also maintain the equipment and act as control operators in the school studio. Their training is practical and generally extensive enough to prepare them for a position in a broadcasting station. Students in speech will act as the school announcers as well as give radio talks. Only by practice can the student overcome "mike fright" and improve his delivery. Consequently, the faculty should allow students to make all possible announcements and to read school bulletins over the public-address system. With the aid of the other classes the teacher of broadcasting can build a weekly program that will be accepted by the local station as a sustaining program. Such a program, after being rehearsed over the school equipment, will show parents what their sons and daughters are doing in school and will advertise the activities of the school. When a father hears his son in a school broadcast reviewing a book, interviewing a teacher, or taking part in a radio play, he is more appreciative of the teacher who has given his boy this training and opportunity. The person in charge of such programs and of all intraschool broadcasts should first be possessed of a sense of showmanship; second, have an interest in radio broadcasting; third, have had some speech training; and finally, have sufficient common sense to follow mechanical instructions.

The experience of teachers seems to indicate that the appearance of boys and girls before the microphone contributes to their educational development. First, it develops greater interest on the part of pupils, . . . chiefly, perhaps, because the activity is so far removed from the usual academic school experience. Second, . . . radio brings the pupil in touch with the modern world, . . . placing the youth in touch with modern methods of communication. Third, . . . it is difficult to persuade a

student of the necessity for good speech; when at home and among friends he is able to get along satisfactorily without it. But with his first trial over the microphone and the criticism of his fellow students, which follows, the need for effective speech is brought home to him in a forceful fashion. The case of turning out a dull program also teaches much to the student whose writing has turned to the radio field. . . .

Drama can be produced over the microphone when the lack of costumes and stage settings makes it impossible for the students to appear in regular theatrical surroundings. Since scripts can be used, attention can be centered on the interpretation instead of the memorizing of lines. Straight talks and discussion groups provide opportunity for instruction in effective public speaking in the modern manner and discourage bombastic utterance. . . . Such broadcasting is possible in any school having radio sound installation. . . .¹

Every school system has some teacher who is outstanding in his or her field but who cannot conduct more than one class in a term. Such a teacher can become a master teacher for a number of classes by conducting them from the school studio. The unique or outstanding method may thus be observed by other teachers while their pupils are receiving instruction.

Those students who have the opportunities offered by the public-address equipment receive excellent training in (1) correction of speech defects and improved diction, (2) self-control under tension, (3) poise, (4) naturalness, (5) joy of achievement, and (6) punctuality.

Those schools which have installed public-address systems report that these systems have been paid for by boards of education, student-body organizations, or parent-teacher organizations. In every instance the officials believe that the expenditure was justified. They report an average maintenance charge of only \$21 a year. In a survey on the "Effectiveness of Sound Distributing Systems," conducted by G. N. Kefauver and H. C. Hand, 97 per cent of the 324 school administrators reported that such equipment was more than satisfactory.

¹I. Keith Tyler.

It is difficult to advise the installation of any particular type of equipment because such systems are being improved from year to year, but certain recommendations can be made.

All claims of the salesman should be investigated by someone who understands the technical end of sound transmission and reproduction. The controls must be simple and durable. Maximum flexibility in output is desirable in order to give the greatest service to all parts of the building. The amplifier should have an undistorted and uniform output from 50 to 8000 cycles per second. Arrangements should be made so that volume can be controlled to a limited extent at the listening points. There should be visual indication of volume on the control panel. Buzzer systems should be installed in classrooms to silence the class for the forthcoming program. The main panel should include a monitoring loud-speaker. Provision should be made to transmit phonograph recordings by a turntable, with both speeds, and an electrical pickup, also for telephone connections. The acoustics of rooms in which speakers are located should be considered in the placing of such speakers. The microphones should be of a high quality. Studios to be used by speakers may need to be acoustically treated or may be satisfactory as they are.

More information can be obtained concerning the use of public-address equipment in the schools and its cost by writing to the following addresses: U.S. Naval Institute, Annapolis, Maryland (request reprint from the *U.S. Naval Institute Proceedings*, vol. 61, no. 5, whole number 387, May, 1935); RCA Manufacturing Co., Inc., Camden, New Jersey (Commercial Sound Section), a pamphlet on RCA Victor School Sound System; United States Office of Education, Washington, D. C. (ask for *Radio-sound Motion Picture Installations for Schools* by Cline M. Koon, P.W. 19831); Western Electric Sound System, 250 West 57th St., New York; Blue Seal Sound Devices, Inc., 723 Seventh Ave., New York; Canady Sound Appliance Co.,

1776 Broadway, New York; Weber Machine Co., 59 Rutter St., Rochester, New York; Crown Amplifier Co., Los Angeles, California.

Sound-recording Equipment.

In many instances a school will not desire a public-address system serving all classrooms but will use such equipment only in its speech department. In such an instance the playback of a sound-recording machine may be used, thus combining two useful aids to the teaching of speech. Only the microphone, pre-amplifier, and loud-speaker units would be used for a schoolroom public-address system. There are a number of very satisfactory sound-recording machines upon the market; the purchaser should examine the business reputation and the financial responsibility of the manufacturer as well as the technical excellence of his product before purchasing.

Sound is recorded upon film, upon metal tape, upon soft cylinders, upon metal discs, and upon discs of acetate or other like material. The recordings upon film and upon tape are excellent in some respects; when sound film is used in connection with a picture, the posture and mouth action of the speaker can be observed, and in the case of recording on tape the sound can be instantly erased for other recordings. However, these methods and equipment are expensive and not generally used in the schools. The recording upon cylinders is economical because the soft wax may be shaved after recording. However, such recordings are not permanent and can be played only upon a machine similar to the recorder. The recording upon discs is most generally accepted because such recordings may be played upon any ordinary phonograph or may be used as electrical transcriptions for broadcasting. The metal or aluminum discs are much cheaper to use, but they are more inclined to scratch and require the use of fiber needles. Acetate, celluloid, or treated discs give better reproductions but are more expensive. There are various discs which are quite perma-

ment and which may be played many times before they become worn. Some equipments have small ovens for baking such discs, while other discs are chemically treated to make them more lasting. Such recordings may be played with steel, thorn, cactus, or fiber needles and are comparatively free from surface noise. Discs come in sizes ranging from 6 inches, which records $1\frac{1}{2}$ minutes of material at 78 revolutions per minute, to 16 inches, which will record a 15-minute program at $33\frac{1}{3}$ revolutions per minute.

There are a number of general requirements of recording equipment which should be considered by the prospective purchaser. It is advisable to seek the advice of some technically trained physicist or electrical engineer in the selection of equipment. The instrument must contain the latest developments, and it is advantageous to demand an agreement that the company keep it in repair for at least six months after purchase. New developments are constantly being added to the equipment. While the best practice is to install the recording equipment in an acoustically treated studio and to make all recordings under the best possible conditions, still it is advisable to select portable equipment when purchasing. This portability permits the recording of assembly talks and musical programs, and a single outfit may serve a number of schools. The various parts of the equipment should not weigh more than a man can carry easily and should have comfortable handles; the lids should be hinged so that they can be removed and laid to one side when the equipment is in use. The average sound-recording equipment consists of four units. The first unit contains the motor, the turntable, the cutting head, and the pickup for playing back the recordings; in the second unit is the loud-speaker with its amplifier and the control equipment with its meters and dials; the third unit, which is comparatively small, is the pre-amplifier; the fourth unit is the microphone.

Let us examine the general requirements of the first unit. The motor must be very quiet so that no noise will be picked

up from it. It must have a constant speed, for a variation in speed will distort the sound as recorded. The motor should be well insulated and hung to avoid vibration that will jar the needle. It should be regulated so that it can be run at either $33\frac{1}{3}$ revolutions per minute or at 78 revolutions per minute. As a noiseless and accurate motor is vital for good recording, no expense should be spared in obtaining the best. The use of belts to drive the turntable is not satisfactory since they stretch and must be replaced. The most satisfactory method is to transmit the power by a shaft to a small rubber wheel, which revolves the turntable by a constantly controlled friction. The turntable should not be less than 12 inches in diameter. If the school funds permit, a double turntable should be purchased so that there may be continuous recording of long programs, such as plays, addresses, or musical selections. The turntable should be accurately balanced and mounted to assure constant speed and nonwearing operation. No turntable should ever be accepted with a variation of more than 0.5 per cent in its peripheral speed while operating under load.

The cutting device should be constructed so as to assure overhead, straight-line, positive feed; it should be of rigid rather than swinging construction and should contain a removable drivescrew. The drive should be removed during transportation to prevent injury. Definite specifications for the cutting head and stylus are too technical for this handbook, but the cutting stylus should have the power and free action to record at high volume. In many machines the cutting is done from the inside to the outside of the record, an easier method for the operator because he is not handicapped by the cuttings. However, such recordings cannot be played upon many ordinary phonographs. The companies will provide equipment that will make it possible to record from the outside to the center. Manufacturers also provide, upon demand, separate cutting heads to be used upon metal discs and upon acetate discs.

There are various types of cutting needles. The diamond and the sapphire have the highest initial cost but give long service and can be reground by the manufacturer of the equipment. Steel needles, which cost about 10 cents each, are seldom used more than once for perfect cutting.

Also in this first unit of the portable equipment is the electrical pickup for playing back recordings. It should ride lightly in the grooves. In order to lengthen the life of the recording, it is advisable to use cactus or thorn needles. These may be resharpened many times in a small device made for that purpose. The fiber needle is also good but does not have so sharp a point as the cactus or thorn. Steel needles may cut into the surface of the record and wear it out. They cannot be used upon aluminum records.

The second unit contains the loud-speaker, amplifier, and controls. Any dials and meters should be within easy reach of the operator. A high-quality loud-speaker is essential.

It is usually possible to secure one's choice of microphones to be used in connection with the recording equipment. The carbon microphone is very sturdy and the cheapest, but does not reproduce so faithfully as more modern types. The carbon microphone is unidirectional and, as the speaker must be quite close to the diaphragm, it does not record well more than a single speaker. All other types of microphone require a pre-amplifier, and this adds to the cost of the equipment. The ribbon or velocity microphone is bidirectional and will permit the recording of groups. The crystal microphone is practically nondirectional, requires preamplification, and is thought by some engineers to be best for recording use. The purchaser should try out the various types and select the one best suited to his work.

The operator should demand a blueprint of the construction of the entire equipment, to which he can refer in an emergency, but ordinarily repairs should be made by the manufacturer. Anyone using ordinary care can learn quickly

to make good recordings even though it is a highly technical operation. The teacher operator must study carefully all instructions, avoid haste, and be methodical in the operation of the equipment. Repair bills for the equipment are low. Tubes should be tested after every 1000 hours of use but generally are good for longer periods. Briefly, the requirements for such equipment are fidelity of reproduction of all speaking-voice frequencies, sturdy construction, dependability of operation, portability, and simplicity of operation.

Sound-recording equipment can be used for exercises in voice. At the outset the student is better off if he confines his work to the interpretation of the works of accepted writers. The reading of a selection of prose or easy poetry, with special attention to thought groups, will be the first test. After a brief rehearsal, before he can commit to memory the interpretation of his instructor, his voice should be recorded. It is possible to have a student make two or three recordings upon each side of the disc. The second may be made two weeks later to show progress in the recognition of word or thought grouping. In neither of these first two recordings should any attempt be made to work with other aspects of the voice. The third recording may concern itself with a demonstration of clarity of enunciation. A student with "breathy" speech can be placed close to the microphone and his defect amplified for his own hearing. The results of the difficulty are so apparent that renewed effort will be made upon the part of the student to practice prescribed relaxation exercises. Not only is the use of amplifying and recording apparatus an excellent aid to analysis, but it may also serve to record deliveries for other students to emulate.

Recording apparatus is most valuable in work in enunciation. Failure of the student in speech work in this field is sometimes due to structural difficulties, but more often it is due to lack of interest in good performance. The hurried chewed-up type of speech that comes from nervousness and the slower type that comes from habitual

oral inactivity are seldom apparent to the speaker himself. His friends learn to lip-read or to piece together the intelligible parts into a reconstructed whole. The speaker can be made to recognize his fault by listening to a recording long after he has forgotten what he originally attempted to say. In this connection I quote from an article by Charles O'Donnell Bennett which appeared in the *Chicago Tribune* on March 8, 1936:

The most pitiless critique of o'er-confident notables coming newly to radio is a phonograph recording of them as they speak into the microphone. The sensible ones, who can bear the shock, say: "Good heavens, am I as bad as that!" "Not as bad," the patient director replies, "but the microphone makes you sound that bad. It is as cruel as an enlargement of a poor photograph." Those not so sensible say: "That's an atrocious recording." "Possibly," the director grants, "but the atrocity is fundamentally your doing and not the record's." Dudley Crafts Watson, art critic and lecturer, was shocked by what a record made of his somewhat overprecise diction. But he did not sulk. He modified.

Recording equipment has many other uses in the school besides its service in speech classes. It may be used for research in phonetics and linguistics. Recordings may be made of the correct pronunciation of foreign languages, which the student can use in study periods when the teacher is not available. A debate coach in a Michigan high school, who was training his team for a state-wide contest, tuned in on a university team debating the same question. He recorded the university debate as it was picked up by the recording-equipment microphone and used the record to demonstrate points to his local group. Radio programs, such as Shakespearean plays, which conflict with school schedules, can be recorded for future use. Musical organizations may make records for analysis.

I found that it was difficult to obtain funds for the purchase of equipment at the University of Michigan until I convinced the authorities that recordings could be made of the University Band and Glee Club and of talks by the president and other members of the faculty, all of which could be sent to distant alumni groups as complete programs

for their meetings. In every instance the president addressed his recorded talk to the group receiving the disc, which created a favorable impression. Thus the sound-recording equipment can be made self-supporting. Students make records and own them at the end of the semester. The student pays for the cost of the disc, for the cost of the cutting needle, and a small charge for overhead. Members of the faculty make records to be used in research at the retail cost of such records, which allows the recording fund a 10 per cent profit inasmuch as it orders records in large quantities.

There are other sources of income to make the recording equipment pay for itself. At Christmas and Mother's Day and upon birthdays, students who are away from home make records of their voices to be mailed to distant parents to be used upon the home phonograph. Local singers and musical groups make recordings to demonstrate their ability when seeking a job. Students who intend to teach speech or dramatics frequently send such recordings with their letters of application. Members of the faculty find it advisable to check up on their lecture delivery. Parents frequently record the voices of their children to bring back memories in future years. Some merchants who were in the habit of using barkers to bring customers into their stores have made records instead, which they play over a loud-speaker either in front of their shops or on sound trucks on the streets. Among the better known companies manufacturing sound-recording equipment which uses disc records are the following:

Presto Recording Corp., 139 West 19th St., New York.

Universal Microphone Co., Ltd., Inglewood, California.

Fairchild Aerial Camera Corp., Woodside, Long Island, New York.

Sound Apparatus Co., 150 West 46th St., New York.

Walter C. Garwick, Rye, New York.

Recording Equipment Manufacturing Co., 6611 Sunset Boulevard, Hollywood, California.

CHAPTER XIX

Building the Radio Program

In the early days of broadcasting, when the Red Apple Club and the Merry Old Chief were features received by the marveling listener, the arrangement of a daily schedule of radio programs was a job to tax the ingenuity of the most versatile of variety-house impresarios. Today 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 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 selections. 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. A soloist and pianist may present songs which may, from day to day, offer new versions and lyrics submitted by the radio audience.

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 program director will be careful to vary the programs and avoid putting two dramatic skits together. An organ program 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 stations 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 dress-making. However, the program schedule must not be allowed to become monotonous, and consequently the

musical, the dramatic, the conversational, and the straight radio address must give variety to the hours of listening.

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 worker as well. Of course, during this period there are sports broadcasts.

Evening Programs.

The networks generally release the period between six and seven-thirty o'clock to the outlet station for its own local 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. The program designed for children and the one designed for the feminine listener give way to a type designed to entertain the entire family. 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

jazz orchestra to the symphony orchestra, from crooning to operatic selections, from the Red Apple Club to the amateur show, from radio dialogue to the theater of the air, and from the Merry Old Chief to the popular comedian. 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.

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 must 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 main-

taining 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 attract 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.

It is a fact that famous people are received with much enthusiasm in spite of radio disabilities. That is, a famous flier may have an unsatisfactory voice over the air and yet be a drawing feature on the radio entertainment bill. In the radio play, or in any presentation in which the content is more important than the personalities, the trained radio performer is more valuable than the individual who has only a name or reputation to offer. When the program builder has people on his program who are not famous, he must see that their diction is perfect, that their personalities are pleasing, and that their performances will be a drawing card to the sponsor. Standard radio generalship demands carry-over value in the program; that is to say, some popular fundamental feature must remain the nucleus of the program from week to week.

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. While piano music is not the most popular of musical programs, short piano programs of 15 minutes are often well received. 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 jazz in most cases is disliked.

It is difficult for a program director to say how long a successful program should be. This is a problem for which no rule can be laid down but the rule of common sense. 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. Every program is based upon the advertising program and upon the product of the sponsor. The program builder should know all

about the product before building his program: what it is used for; who uses it; its distinctive package; trade-mark; slogan; price; how frequently it is purchased; to what class of society it is sold; is it of interest to men, women, or children; does it appeal to urban or rural purchasers; is the article a necessity or a luxury; and what are its competitors? When all these questions have been answered, the program builder may formulate his idea and work it into a program. When this program is roughly worked out, the idea is submitted to the sponsor for his approval. The program is then finished; musical selections are chosen; actors, announcers, and artists are selected. The program is rehearsed and timed, and, when satisfactory from the broadcaster's standpoint, it is audited by the sponsor. He may discard it entirely, suggest changes, or approve of the performance.

The preparation of the radio program has been discussed somewhat in preceding chapters, particularly Writing Commercial Continuity. As in all forms of advertising, novel and exceptional ideas are required of the advertising expert. According to Frank A. Arnold, who prepared a pamphlet upon *The Technique of Broadcast Advertising* for the National Broadcasting Company, "out of sixty or more national accounts on the air there are no two exactly alike and in this number there are represented a dozen or more entirely distinct and separate methods of approach." All these programs must be nicely balanced, and it is advisable to have the content in some way associated with the product that is being advertised. The idea of using setting-up exercises for an insurance program, or sparkling musical selections to advertise ginger ale, is an instance of the effort to make the presentation truly represent the sponsor's product. The program builder seeks features whereby radio can tie in with the other media being used by the sponsor. Sponsors have found that straight announcements have greater advertising value in their commercial plugs than statements or testimonials by actors or artists upon the program.

The handling of commercial announcements requires a knowledge of sales psychology. Such announcements must not be too lengthy or too frequent. It has been found that the brief and skillful handling of the commercial announcement rather than excessive and incessant sales talk creates effective response and approval. Consequently, advertisers are condensing their sales announcements. The announcer, however, should not be forced to an unpleasantly rapid delivery of the sales message in order to effect a crowding of excessive material into the period allowed for the commercial announcement.

Surveys.

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 telephoned 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.

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. These radio measurements also disclose a tendency to select programs rather than to remain tuned to a single station, but only 70 per cent of the time does the listener realize to what station he is tuned, and only about 35 per cent of the time can he identify the sponsor. Hence it is the program that is important. In 1936 it was estimated by the Joint Committee on Radio Research that there were 22,869,000 radio families in the United States, and that these sets are turned on an average of 5 hours a day. *Measurement in Radio* by F. H. Lumley¹ is the most comprehensive evaluation of the types and findings of broadcasting surveys. Probably the best known of the surveys is the continuous Crossley, Inc., survey made for the Association of National Advertising, which concerns only network programs of national interest.

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.

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

¹ Ohio State University, April, 1934.

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 also 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 station. 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 particular 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. According to Franklin Dunham of the N.B.C., 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."

CHAPTER XX

Serving the Sponsor

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 Powder 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 the same period will cost the sponsor \$334. It was estimated that sponsors in the United States paid broadcasting stations \$117,781,686 in 1936 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 student in broadcasting is interested in the opportunities offered to him by radio advertising and how best to take advantage of these opportunities. The student may enter the radio advertising field as a free lance or as a member of the staff either of the advertising agency or of the sales department of the station. Incidentally sex is no barrier in the advertising side of radio, but again experience is a prerequisite for employment in an agency.

There are those who have the knack of writing conversation or the ingenuity to create attractive characters and plots. In many instances a housewife in a rural community has a sense of humor, a nose for human interest, and the ability to recreate local incidents, characters, and talk into a series of short dramatic sketches. From these free-lance writers come the domestic bits of real life that appeal to the radio listener and sponsor. The free-lance writer must have an original idea capable of being developed into a long series of daily 15-minute programs. In order that dialogue may sound like the conversation of two distinct persons and in order that situations may be developed, free-lance writers frequently hunt in pairs for ideas. The author must keep six weeks ahead of the program but be capable of revising any sketch to make the conversation of his characters timely. The writer must by all means study the radio and its successful presentations, bearing in mind, however, that mere imitations have little sales appeal to the sponsor. A sketch must emulate the most popular series on the air and at the same time evidence a new appeal.

The sketches written by the free-lance writer contain no commercial angle; thus they can be sponsored by soap or cereal, dentifrice or gasoline. When they are completed, the author will submit them to an advertising agency. It is unwise for the author to attempt to sell his idea or his skits directly to the sponsor. The advertising agency is jealous of its relation to the advertiser and will frown on any suggestions that come from outside its office. Consequently such free-lance efforts must go to the agency. As these agencies receive bales of skits and sketches, the free-lance writer must have some "in" or contact with the agency to get his efforts read. There are agents for radio authors just as there are agents for the writer of short stories and novels. The chances for success of the writer without a "friend at court" are decidedly slight. The writer should select a certain account in an agency, build up specific reasons why his idea might be applicable to that

account, and then endeavor to see the account executive. If the account executive cannot be reached, he should see the head of the radio department. It is futile merely to deliver manuscripts in person to the agency because many important papers are lost in the shuffle when they are dropped on the desk. If the writer himself is enthusiastic about his material, he will get an audience.

The demand for such sketches is decidedly seasonal inasmuch as new advertising contracts are made with radio stations during the late summer. The best time to submit a series of skits is in May, June, and July. If the free lance's efforts are submitted earlier, they are filed away and not sought for unless the "friend at court" is active. If the programs come in after the new contracts are made, they will have no market until the following summer, and by that time they will be buried deep in the pile. Most radio contracts come in cycles of 13 weeks and, as a rule, if a "going" program goes sour, the agency and the advertiser endeavor to pick up a substitute. Also, good program ideas are frequently used to obtain new business. A fair price for five skits weekly is from \$250 to \$400. One network pays a minimum of \$75 for a 30-minute sketch.

The free-lance writer will do well to listen to radio programs, to study the style preferred by different agencies and by sponsors in their radio advertising and in other media, and to endeavor to improve upon the commercial plugs of a chosen program. If the free-lance writer can evolve slogans, catch phrases, and vivid announcements that are an improvement upon those being used, he should submit them to the agency. If he shows decided ability and originality, he will probably be in line for a position as a continuity writer. It is unwise, however, for him to condemn the continuity being used.

The advertising agencies producing outstanding radio shows at the time of the publication of this handbook are:

F. Wallace Armstrong, Philadelphia.

Aubrey, Moore & Wallace, Inc., Chicago.

N. W. Ayer & Son, Inc., Washington Square, Philadelphia.
Batten, Barton, Durstine & Osborne, New York.
Benton & Bowles, New York.
Blackett-Sample-Hummert, Chicago.
Blackman Advertising Agency, New York.
Brooke, Smith & French, Inc., Detroit.
Campbell-Ewald, Detroit.
Cecil, Warwick & Cecil, Inc., New York.
William Esty, Inc., New York.
Erwin, Wassey, & Co., New York.
Geyer, Cornell & Newell, Inc., New York.
Hanff-Metzger, Inc., New York.
F. W. Hellwig & Co., Inc., New York.
Joseph Katz, Co., Baltimore.
Kenyon & Eckhardt, Inc., New York.
Lennon & Mitchell, Inc., New York.
Lord & Thomas, New York.
MacManus, John & Adams, Inc., Detroit.
Marschalk & Pratt, Inc., New York.
McCann-Erickson, Inc., New York.
Newell-Emmett Co., Inc., New York.
Ruthrauff & Ryan, Inc., New York.
Stack-Goble Advertising Agency, Chicago.
J. Walter Thompson Co., New York.
Young & Rubicam, Inc., New York.

In its Anniversary Number, published each year on January 1, the magazine *Variety* lists the radio programs and plays produced by the leading agencies. By studying this list and analyzing the type of radio programs that each agency prefers, the listener can determine which agency will receive his effort most favorably. The annual *Yearbook of Broadcasting* contains a list of all advertising agencies using radio, together with addresses and names of executives in charge of radio. Seven hundred and twenty-four such agencies were listed in 1936.

There are other opportunities in radio advertising for the individual who is not connected with an advertising agency or with a broadcasting station. Foremost among these is the opportunity offered in the advertising department of the department store or other large retail establishment.

Department-store Advertising.

Most department stores agree that, regardless of the type of advertising program, "good will" is the keynote. Good will is defined as "The disposition of a satisfied customer to return to the place where he has been well treated." This means that the programs must aspire to some degree of culture and education as a measure for good production. The keen advertising producer blends the humorous with the serious to present a colorful "real-life" broadcast. A program has to be sold to the public just as much as the commercial product and the merchant presenting it must be sold. If the program producer is successful in this, he is successful in the publicity of the product presented. There are six vital steps in cultivating the listener's good will or acceptance:¹ (1) to educate, (2) to assert, (3) to iterate, (4) to inform, (5) to stimulate, and (6) to persuade.

Good merchandising in conjunction with a well-planned program will translate good will into action. It is such merchandising that often stimulates the actual purchase. For this reason successful radio advertising should be backed up by window displays, counter displays, novelties, booklets, showcards, direct-mail leaflets, and newspaper advertisements. Most department stores use the newspaper advertisements as a supplement to their radio advertising. Large stores, however, rarely use the window display to substantiate the radio announcement. Occasionally counter displays are shown. Other methods of merchandising a program should be seriously considered in planning the advertising by radio.

There are three types of programs that a department-store management might consider: general merchandise-information program, department or department-group advertising, and institutional or good-will advertising program.

The first type of presentation is the most economical, since it needs only one person to conduct it. It may consist

¹ Orrin E. Dunlap, Jr., *Radio in Advertising*, Harper & Brothers, 1931.

of musical transcriptions interspersed with special sales tips for the day, or brief descriptions of store services available to the customer.

The second advertising scheme should make a very interesting, fast-moving program with plenty of opportunity for "punch." A store could be divided into department groups. One group might include the accessory departments, such as gloves, jewelry, purses, and neckwear, with an interesting fashion story prepared to attract and hold the attention of milady. The fashion expert could be interviewed, and she in turn could show how to make varied costumes by accessory changes. Put the customer at the bridge table if necessary, in the cocktail lounge, or in the dinner group. Show her how to use her own cleverness in making these changes. To incite an activity is one of the best ways of making sales.

Another group of departments might include the children's divisions. Children themselves make wonderful talent for such programs. A talk on suggested play direction for children could be given, linked with specific activities found through browsing in the toy department. Such a program, properly merchandised, would be certain to create parental interest.

Hobby day would be fun and would be greatly anticipated by all ages of listeners. This might take place in the book department with a snappy short review of a current book or an interview with an author, or in the photography division with someone narrating the thrills in using a popular-selling movie camera or some points to be remembered in good film developing.

Sports day offers an appeal to the men, with an oral golf lesson linked with a special brand of golf clubs. It may also include tennis rackets and an interview with some famous star of the game.

Most department stores have services that they offer their customers. Such a service program might be built around a "Day with the Bride-to-be," planning the style of the

bride's veil and describing its history, telling her how to order her invitations, planning the color scheme for the bridal party, and even designing the dresses. Actually do something for the radio listener when possible or have her do it with you.

These are a few of the numerous examples of divisional store advertising that could be broadcast. The programs should be seasonal and planned far enough in advance so that a circular listing the following month's program subjects and their dates can be mailed along with the customer's monthly statement. It is essential that programs of this second group be well merchandised.

The third type of radio publicity to be considered by a store management, the institutional advertising program, is one of the best methods of creating and holding good will. It is the most expensive plan because it inevitably demands more outstanding talent. Such a program is more profitably presented in the evening since, because of its make-up, it appeals to all classes of listeners.

A number of large department stores located in outlet cities of one of the networks could band together with a program originating in New York. A popular dance orchestra, possibly a fashion talk by an authority from *Vogue* or *Harper's Bazaar*, and a society sketch could be broadcast from the New York studio, and the commercial plugs for the local stores could be given at the quarter-hour breaks by the announcer in each outlet city in which the stores are located. It is necessary in making such a contract to sign up an entire basic network, but only those affiliated stations need be purchased which would serve the stores in the joint advertising campaign. An excellent program presented during the morning hours would attract wide attention, and the expense to each store would not be excessive.

Where only the local station is used, the tendency has been toward 1-minute plugs, but these do not create good will. Those stores which are more interested in seeing the

dollar walk directly into the store than in building good will by institutional advertising tend toward the plugs. One store features radio days, with plugs for different floors each hour. Early in the morning, sales on the top floor are broadcast with an invitation to meet the performers on that floor during the hour. The radio listener descends from floor to floor as the day progresses. On each floor the items plugged over the radio are marked as radio bargains.

There remains one more type of spot broadcast valuable for direct advertising. The local store can, at the break for station announcements in a network program, insert an announcement to the effect that the product being advertised upon the program can be purchased at a local store. From such announcements the local retailer can derive benefit from a high-priced national program.

The radio program is another display window for the department store or retailer. It should be built with that aim. The radio window must have color, unity, a definite theme, climactic development, and a sales drive. Change the procedure, bring in the unexpected, but always appeal to human interests. The public does not like to be forced to buy. Therefore the merchandise story must be embellished and then flavored with advertising. It is unwise to talk only about merchandise. A program that is well designed for a department store will sell more than the specific goods mentioned in the commercial copy. Radio is an excellent selling medium because it presents life and action not present in newsprint.

As the majority of department-store programs are written and presented by the advertising department of the store with the active cooperation of the station staff, those who wish to break into radio should consider this entrance.

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.

In the early days of radio the agency endeavored to steer the sponsor to other publicity media, but, since the establishment of a commission of 15 per cent to the agency, this medium of advertising is receiving its just attention in the advertising program. The discount is allowed by the broadcasting station to the agency, not to any sponsor; consequently the services of the agency cost the sponsor no more than it would pay for radio service without the professional advice and aid of the 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. Certain media may be used for direct selling, others for education, and another 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 methods of merchandising are considered, even the distinctive package, its size, its shape, and the color of the container. 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.¹

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 interest parties. 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

¹ Refer to Chap. III, Electrical Transcriptions.

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.

Sooner or later the sponsor will wish to check up on results. There is the telephone method, the questionnaire method, the free-offer method; none of them have proved absolutely successful. One thing toward which the agency must begin to plan is the advent of television, which is already in use noncommercially in England. The United States is ahead of England in technical development of television, but the size of this country and the conservatism of our broadcasting companies have delayed its being given to the public.

The Advertiser's Service of the Local Station.

The sales department of the broadcasting station in the medium-sized town becomes the advertising agency for the

¹ Refer to Chap. IX, Writing Commercial Continuity.

local merchant and endeavors to coordinate radio and other media of advertising. The sales department conducts local surveys for merchandising, assists in distribution, and conducts the tie-in campaign. In many instances the station will put on merchandise displays. Its sales department will design window posters and display cards. The student who enters the local station will serve a diversified apprenticeship.

Local advertising has been growing throughout the country. The reasons for the growth have been summarized as follows: (1) the local retailer, having seen the success of the national advertiser, has decided to follow his example and at least try the new medium; (2) the satisfactory result attained by the early pioneers in the field has caused the others to follow them; (3) stations have started to offer intelligent service to the broadcaster, both in preparation of the campaign and in the actual presentation over the air; (4) broadcast advertising has attracted the better type of retailer.

A survey of a number of stations demonstrated the fact that the following types of firms are rapidly adopting the radio as a part of their publicity: local department stores; speciality shops, such as those selling shoes, clothing, jewelry, and furs; retail establishments such as restaurants, hotels, and, in some few cases, banks and brokerage houses; local manufacturer distributors, including bakeries, meat producers, ice companies, lumber dealers, dairies, public utilities, and wholesale grocery distributors, selling their own brands; and, finally, local distributors of nationally advertised products, placing their programs in cooperation with the national advertisers or on their own initiative. While retail trade is attracted primarily to stations of 1000 watts or less in power in the smaller and average cities, in large metropolitan areas much of the business goes to the big non-chain-owned stations. The best results are obtained through the larger stations because the listening audience of the smaller stations in a metropolis is not

commensurate with the relative cost involved. The most powerful stations attract the largest share of national business.

Types of programs for the local retailer are varied, ranging from spot announcements to live-talent broadcasts. The spot announcement has become a very important part of the revenue of local stations. Electrically transcribed programs have been very widely used. The live-talent program is becoming more and more a favorite with advertisers where sufficient talent is available. This type of program assists the sponsor in building up a distinctive personality. Moreover, its personal touch assists in attracting good will, on which store patronage is to a large extent predicated. A new type of live-talent program is the "group" program, sponsored by several advertisers who have spot announcements during the period.

An important factor in the sale of local advertising is the proper servicing of accounts by the station. A knowledge of merchandising methods is necessary on the part of the broadcaster so that he may inform the advertiser as to the best method of coordinating his radio publicity with the rest of his sales program. To this end, the station must analyze the important factors of the customer's location, organization, inventory, and general methods so as to adapt the entire broadcasting policy to suit his particular needs. Moreover, programs should be checked every few weeks to evaluate the sales appeal of the presentation.

The sales policy of the local station is equally broad. The first approach is to sell advertising in general; the next is to sell radio; the final aim to sell the station. Attention is focused on a long-term program, beginning with a 13-week contract. The customer is told that results depend on steady radio use and will not come to him overnight. He is told that the radio is not a panacea for all the ills of a concern. His entire layout is looked over, and any worth-while suggestions that can be made concerning his methods are forthcoming from the salesman.

National advertisers are turning to local stations to supplement their network campaigns. The two campaigns are distinctly different: the national campaign is purely advertising; the local combines merchandising and the creation of good will among retailers. The merchandising staff of the local station is personally acquainted with all merchants in the area, knows their problems and their sales possibilities. The staff of the sales department of the station can notify all merchants of a forthcoming campaign, outline the plan, demonstrate the product, suggest window and counter displays, and act as a distributor for the national jobber. In conducting such a campaign for the national sponsor, the local station accomplishes four things; it creates a closer working alliance between the manufacturer and the retailer, vindicates the station's worth as an advertising medium, creates a satisfied client, and establishes local contacts that may result in other local contacts.

The Sales Appeal of Radio Advertising.

Radio advertising is important to business because it reaches the ear of the public while every other form of advertising addresses itself to the eye. Thus it acts on the prospective purchaser in a subconscious manner and supplements all other advertising addressed to him. Its chief value lies in the fact that it familiarizes the audience with the name of the sponsor and his product so that the sight of the name in written advertising produces a friendly reaction. Radio advertising is important because it can send forth a message addressed to the listener during hours of relaxation and receptivity. It is of vital importance that this impression by ear appeal be in complete harmony with various other printed advertising of the sponsor. It is important because it enables the advertiser to reach a great mass of listening audience with an even more powerful, direct, and specific selling message, than he can use through any other medium. Generally speaking, the sponsor

receives the greatest benefit from the use of direct-selling commercials because they move the goods.

Another reason for the great value of radio advertising lies in the fact that it can address an audience either locally or over a national hookup. Also, radio advertising benefits the national advertiser by securing good will; by promoting dealer cooperation, since he is affected, interested, and entertained just as any other individual; by insuring a cordial reception of salesmen; by increasing the value of space advertising; and by improving the morale of the manufacturer's personnel. It also is well adapted to the advertising of concerns and products having names difficult to pronounce and spell. The Clicquot Club Company is a familiar example of the type of advertising which allows the imagination of the listener to picture the advertised product as endowed with a kind of personality. The Happy Wonder Bakers program, for instance, virtually allows the loaf of bread to walk right into the home and speak for itself. The essence, then, of consumer acceptance, as created by radio advertising, is that members of the audience are made to feel that they are buying a product of a friend—of one who has taken the trouble to please and entertain them.

The control of the advertising message until the time and the conditions are best suited to its success is a great advantage offered by the radio to the sponsor. Thus a manufacturer advertises flour or soap in the morning when the housewife is in the kitchen; appeals to children when they are home from play just before the evening meal; and reaches the entire family group in the evening. The radio advertisement is flexible, permitting the control of program content. In the morning household aids are of more interest to the listening housewife than grand opera. The commercial program can be adjusted to appeal to the tastes of the potential purchasers; refined programs are arranged for banks and insurance companies, popular music and quartets for brewers. Flexibility is further demonstrated

by the fact that changes, additions, or announcements may be made in a radio advertisement on very short notice, while to convey the same information to the nation by other media would require several weeks. Sponsors now recognize the year-round appeal of radio, for the summer hours are just as much in demand as winter programs. Finally the radio advertisement does not require concentration or idleness, for the listener may be impressed by the advertising message while engaged in some activity or while driving an automobile.

CHAPTER XXI

The Listener

Formerly the radio industry had to think only of building good programs and of the mechanical difficulties of projecting them. But as the novelty has worn off and the loud-speaker is now heard in every living room, two habits of the listener are particularly engaging the broadcasters' attention. Both are to some extent the result of lack of planning and lack of forethought on the part of listeners.

One bad trait is the custom of twirling the dial indiscriminately. The radio audience is never compelled to listen. By a flick of the dial, any speaker or program may be barred from the listener's consciousness. This power, it is felt, leads the listener often to a mere nervous "tasting" of programs. A speaker who is not immediately sensational never gets a chance to establish his worth-whileness. The carefully wrought unity and continuity of the individual program are wasted. The whole thing, as received by the jittery listener, becomes a hodgepodge of odds and ends picked up helter-skelter.

The other problem is, in a way, the opposite of the first: the problem of the neglected dial. It has been discovered that many listeners set their dials at the wave length of a favorite station and never bother to change during hours of more or less constant listening.

That the problem of the right listening habit is one which has concerned many of late is shown by an excerpt from a letter written to a radio magazine recently:

If the nation continues to turn its millions of radios to a certain point on the dial and receives throughout the day all that comes over the station without discrimination, there is serious danger to the emotional life of the nation.

It is apparent that it is not the general caliber of the programs themselves that demoralizes the listener, but the lack of listener selectivity that makes the situation serious. How, then, can we train the audience to get the best out of its radios? How are we to build listening habits? And, especially for the educational programs that are offered, how are we to build a suitable classroom background for educational reception?

There are, first of all, two types of listeners: individual listeners and group listeners.

The first type, the private listener, is the person who sits in his own home and listens to his favorite broadcasts. For such home listening, the best attitude is described as "the armchair mood." There are only a few people who are wise enough to take the radio seriously and sit down for a half-hour of uninterrupted listening.

Attending the Radio Play or Opera.

When you attend the theater of the air, you should go in the same eager frame of mind that you have when you go to a play. Instead of opening the printed program and reading the settings for the various scenes, allow the announcer to read them to you. As the curtain rises, your room should be darkened, for in the lighted room your eye is caught by objects that distract your attention from the invisible speaker. The darkened room is like the soundproof theater, which keeps out the sounds of traffic. Put aside conversation; be at least as polite as you would be in a theater, and concentrate more carefully.

The fact that you cannot see the stage or the actors is of great advantage to you. There are no artificial lights, no proscenium to limit your imagination, no scenery of painted canvas or wood to try to fool you. The announcer gives you a clue as to the scene, and your mind's eye may visualize the scene beyond the power of stagecraft to devise. You picture your actors; you pick their costumes to your own satisfaction. You draw upon your own expe-

rience. The radio drama allows you to have an imagination of your own, an intelligence to create. It is far more complimentary than the stage.

The entire success of the play depends upon the listener's imagination. Consider the stealthy footfall in your dark bedroom at midnight—how the ear strains, the heart beats, the mouth becomes dry; all manner of mental associations race through one's mind, and then the light comes on—it's the dog! What created that melodrama? The ear plus imagination.

The Rural Listener.

There are more than six million farms in the United States. Consequently the radio can appropriately and effectively devote a large proportion of time to agriculture. Weather and market reports are of immediate practical usefulness on every farm, and farmers listen for them eagerly. More and more these reports will aid in taking hit-or-miss methods out of farming. However, the farmer and his family are interested in a great many things other than agriculture.

Radio contributes directly to the contentment of the farm woman. It provides a pleasant background against which household tasks are performed. In addition, home-economic programs have lightened the burden of home-making and, through recommended practices, have tended to raise farm standards of living.

Thanks to radio, young people are more content with farm life, and a significant decrease has been noted in the migration of farm boys and girls to urban centers. They are now being offered the entertainment and cultural advantages they missed before.

The farmer is a serious radio listener because radio has special values for him. It breaks down rural isolation and adds to the happiness of his family. It provides him with information of financial value in his business, and, because it keeps him in touch with the many aspects of modern life,

he pays particular attention to his choice of programs. It is seldom that you will find him dialing casually.

The "Shut-in" Listener.

Since the sick and invalided are often inclined to be irritable, there should be nothing in the mechanical reception of their sets to annoy them. Tone, as transmitted through the receiving set, seems to have a negative effect when distorted or disharmonious, but has a positive therapeutic effect when the music is harmoniously rendered. The valuable part played by radio in maintaining the patient's morale at a high level is of even greater significance when the patient is in a hospital where he is deprived of the company of his family many hours of the day. This value is recognized by hospital authorities, who are constantly installing both radios and control systems. Many hospitals are developing educational programs for their patients.

The Juvenile Listener.

When we stop to think that there are between three and four million radio listeners of school age alone, according to the figures of Dr. John Tigert, United States Commissioner of Education, we realize what an important influence the listening habits of these children are going to have on their futures. The radio should, many feel, become an incentive for children to stay at home. Many parents, however, are feeling an increasing alarm and are developing the attitude that it is easier to control the choice of motion pictures the children see than the radio programs they hear. Such an attitude shows that they are not using the advantage they have as listeners, for the success of the programs lies in their mail applause or condemnation if they but realize their influence and use it. Intelligent listening in the home does not mean turning on the radio and haphazardly hearing whatever happens to be coming over it.

Many housewives have developed the habit of turning on first the radio, then the vacuum cleaner; or the husband

in the evening will turn on the radio, and then proceed to read his paper, converse with his family, play a game of bridge, or entertain guests. This type of listening may be very well for the background type of program—light music, for example. Real listening habits are, however, disturbed by such behavior.

Real listening, even in the home, requires closed eyes, relaxed posture, and the ignoring of other stimuli. A real hope is held for the parent who feels that the radio is a pleasant diversion and an addition to the family companionship. It brings recreation, pleasure, and instruction to teenage groups at home, creating a basis for family discussion.

Through home influence the parents can guide children through the maze of programs. The fault does not lie with the child if he listens to unsatisfactory programs. A close scrutiny of the programs in which both parent and child take part would eliminate this problem. The teacher in school can reach into the home with safety and aid in this guidance. She can set the standards for an appreciation of radio programs.

Group Listening.

The formation of listening and discussion groups is a new movement. Although the idea is in its infancy, it has already proved to be one of the wholesome features in the progress of radio.

A radio audience of this type may first of all be brought together by the instincts that bring any group together, that is, the gregarious instinct. When there is no other excuse for meeting, people "get together" just to see some more of their kind. If such a group has an interest in common, such as a radio program, so much the better. The second motive that unites such a group is the desire for better acquisition of information, whether in the nature of current news or social or intellectual problems. Information is often easier to assimilate in company than in solitude. The possible interchange of ideas is stimulating. The third

desire that is satisfied by the meetings of these "listening groups" is the natural desire to "answer back." This incapability of the radio listener to meet his friend or foe, whichever the speaker happens to be, on an even level of idea exchange is one of the most serious problems that radio has to face. Since it is impossible for each listener to go directly to the broadcaster with his answers, this difficulty is met by these discussion groups, where the irate or pleased listener can at least tell someone else about it.

The most common place for meeting is in some educational center: school, college, or place of training for teachers. The group that meets is almost invariably an adult audience; such a group often prefers meeting at some place where it enjoys group recreation or social life. The third possible place of meeting is in the home. The home probably fosters more spontaneity. Since most of the discussion groups in the United States are leisure-time activities, such informality seems desirable.

Although many advantages are apparent in this system of group listening, the disadvantages and the troubles encountered are in many instances likely to counterbalance the advantages. The fact that the programs are shorter than the time it takes to assemble a group presents one difficulty. Then, too, with natural laziness most people find it easier to listen in at home. Often the enthusiasm of the group is easily dampened by bad reception. A good guarantee of success requires that the group have some major interest in common that will draw them to the meetings.

A good start toward the success of this project is a contact made between the persons arranging the program over the air and those who are to listen. Many speakers, in common vernacular, "know their stuff" but cannot visualize the audience to which they are speaking. It is important that the speaker, heard by a group meeting, be the kind that can step forth from the microphone, figuratively speaking, and start his audience to thinking. Here Great Britain has taken the lead in organizing a special council to help plan

programs and meetings for suitable broadcasts. Often it is a great help, both to the listeners and to the station, if some member of the broadcasting staff can be present at the discussions. Valuable hints are gained by both groups with this method of idea interchange.

The art of listening in itself presents many difficulties. Oddly enough, the custom of taking full advantage of the auditory sense has but recently been revived with the introduction of radio. The personal difference in auditory capabilities is another of the factors that must be taken into consideration both by the listening group and by the broadcaster. The young, for example, can retain what they hear better than their elders. In a mixed group, therefore, it is difficult to know for which group the program is to be selected.

The clever organizer will supplement the listening sense and will not rely on the program alone to put across an idea. Press notices before the broadcast, if they can be obtained, will add to its success. Pamphlets, issued on the subject under discussion, increase the effect of the program. In Great Britain again, pictures, book lists, summaries of previous talks, introductions by well-known men, and the publication of the best talks of the week in *The Listener* have all been employed to increase the value of the group-listening projects.

For an artistic subject, the talk should be supplemented by reproductions or lantern slides. Such aids, supplementing the value of discussion, will stimulate a more complete understanding of the broadcast.

The most important single element in the success of the project is the group leader. He must be selected with care. A complete course could be offered in the training of group leaders. The British Broadcasting Corporation has experimented with just such a course, by gathering together a select group which, for a period of a week or more, receives intensive training in the work. Such courses are usually conducted at a university center.

Good group leaders are obtained from many different sources, but the most efficient come from the ranks of those people interested in voluntary social movements. He or she must have both personality and tact—these are the prime requisites. He should also have some standing in the community so that his backing of the project will carry weight. But most of all, he must be willing to sacrifice a great deal of time to the undertaking. His duties are numerous.

He must determine the place of meeting and the membership of the group. He must see that the receiving apparatus is set up and that it is efficient; and he must make the contacts with the broadcasters. Under the head of his duties also comes the leading of the discussion. Often he must provide a supplementary bit of information to the speaker's topic. The leader must be prepared to carry out, not one phase of the project, but all phases. Three stages are involved if the discussion group is to present any real aid to the listener. There is the work before the broadcast, already mentioned; this is followed by the work involved in the actual meeting and discussion; finally, and very important, is the "follow-up" of the interest created by the broadcast.

In preparing such a group, it is essential that the number to be included be carefully considered. From 10 to 20 people is usually the ideal number. Larger groups lack one of the best aids to success, that of social atmosphere. The leader must next see that the group is trained in punctuality, for it is essential that the entire group be seated and waiting when the broadcast comes over the air. After the broadcast the leader must stimulate thought and act as a kind of referee of the discussion, barring too lengthy speeches, drawing out the shy, and tactfully repulsing the overly bold. He must under no conditions continue the lecture. It is a difficult job to act as intermediary, to prevent the discussion from rambling, and to round it off nicely so that the discussion becomes pointed and the meeting does not just "trail off." At the conclusion there should be some reference

to future pursuit of the subject—a list of books on the subject offered or a similar device for stimulating further activity. It is an interesting movement, this group method of listening, and one which is adding a great deal of value to adult education.

Schoolroom Reception.

Teacher's manuals and classroom guides are often published in advance to suggest to teachers various ways in which they can use specific radio programs most effectively in the classroom. Sources of supplementary reading are suggested, for instance; illustrative material useful for visualizing the subject, and available to the teacher in the average city, is indicated; complete bibliography, graphs, and other aids are indicated. But this is not all there is to preparing the schools, the teachers, and the pupils for the broadcasts. It is an intricate task. Probably the first suggestion, one that is seldom heeded, is that the teacher be prepared to proceed at once with the classwork in case the radio reception should not be satisfactory or in case the radio program should not comply with class requirements.

All educators stress the fact that the radio is not to supplant direct classroom teaching but to supplement it. This fact is important to keep in mind.

In the schoolroom there is the advantage that is offered by the active and intelligent participation of the regular teacher. She sees first of all that the room for the broadcast is the proper kind. There must be no moving object and no distracting sounds that will interfere with the reception. External conditions for broadcasts become very important in the educational field. She may also train her students in advance of the radio class so that they may get all it is possible to obtain out of the program. She may help them to practice auditory perception, a faculty they have not been accustomed to use widely, by encouraging them to cultivate the habit of disregarding extraneous sensations. This is essential even though the wireless lesson usually is,

and should be, taken in the quietest room that is suitable acoustically. A great deal of care must be exercised in all the external elements of the broadcast lesson. For example, a loud-speaker placed too high, so that it is above the heads of the students and induces them to turn their heads upward to see it or even to hear well the sounds from it, detracts from the attention value of the lesson. An overcrowded room will create a spirit of unrest among the pupils, as will uncomfortable seating conditions of any sort. The volume of the radio speaker's voice should not exceed that necessary for clear hearing by all members of the class. It is bad policy to vary the volume or the tuning during the program as this distracts the student.

A good instructor will prepare the students in advance so that the interest in the subject matter will be keener. For example, the best political-science lessons that can be offered are in listening to actual broadcasts of the inauguration of a governor, to a session of the Senate or the House of Representatives, or to other actual political occasions. Such broadcasts will carry little or no meaning, however, to the student who is inadequately prepared to catch the full significance of the occasion. The students should know why they are listening and what they are to listen for.

The skillful teacher on the air will help the classroom teacher considerably in building up listener interest. He will give recognition to the listener; he will make use of local references and offer suggestions that will motivate activity. He will offer a discussion that will stimulate interest and questions, and he will employ a clear, invigorating style and psychological organization.

It is important that the teacher know adequately in advance the date and the exact time of the broadcast, by whom it is to be given, and the form of presentation. She must also know the purpose of the lesson. Otherwise she will not be able adequately to prepare herself and her class.

Writing facilities should be provided for the class in advance so that everything will be in readiness before the

broadcast. Maps and other visual aids are often valuable if the lesson concerns world affairs or geography. Any illustrations the teacher is able to find should be posted on the board in front of the class so that they are easily seen without forcing the pupil to move about the room. If no visual aids are to be offered for the study, it is sometimes effective to draw the shades and leave the room in total darkness. This prevents any distracting visual effects. In Germany, this method is employed when dramalogues are broadcast. In special cases, it is possible for certain students to follow the radio teacher's instructions with actual blackboard work. Such aids make up for the lack of the actual physical appearance of the speaker. An ideal combination of visual and auditory effects, but one which has not been fully perfected, is the combination of a film projection on the school screen and the broadcast. In order to make this effective, the speaker at the broadcasting studio must have the same film projected on the studio screen as in the school. The difficulty here comes in the timing of the two movies.

At the University of Michigan this idea of using visual aids to assist in holding the attention of the radio listener was used in a series on American art. Listeners purchased prints of pictures dealing with American history. With the prints before them in their homes or classrooms, they followed the points brought out by the radio art critics. In order to create a wider appeal than merely art appreciation, American history as portrayed by the artists was discussed. Furthermore, variety was given the programs by the reading of appropriate poems or documents and the use of music that fitted into the historical topic. Upon the program in which the two art critics discussed the painting "Pilgrims Going to Church," a dramatic reader presented Governor Winslow's Proclamation of Thanksgiving, and another reader read the first Thanksgiving proclamation issued by George Washington.

During the broadcast, contrary to the first impression, the classroom teacher is every bit as busy as she is in the

preparation for the broadcast. Her attitude toward the program will be reflected by her pupils. If she looks forward to the programs, so will they; if she listens attentively, so will they. If she discusses the problem presented by the talk, the students will join in eagerly. She must display an attitude of conscious, vital listening, not just hearing. Her suggestions are valuable. For example, in special kinds of programs she may suggest that the pupils close their eyes and transform the classroom into a concert hall, church, beach, or any other scene. Children seem to listen better if they are permitted to relax. They should not be required to sit stiffly at attention. While taking notes is excellent training in some courses, neither the teacher nor the student should attempt to take notes during broadcasts where success depends upon the atmosphere created by the radio performer.

After the broadcast, her work starts all over again. She is the one who must stimulate class discussions. In reviewing, she should present summaries and perhaps suggest further study in the form of a debate or a composition. These latter projects are more effective if they seem to come spontaneously from the students themselves. She may suggest supplementary reading, not required, but reading for which pupils will get extra credit.

Class discussion, if interesting enough, will insure retention of the knowledge gained in the broadcast. The clever teacher will point out disagreements, thus stimulating class discussion. She will suggest new viewpoints, and will assist in a review of the interesting facts. She might retell stories and incidents, or suggest the making of a word list from the broadcasts, or possibly discuss the various styles of speaking and pronunciation.

In many such ways the teacher may influence the listening habits of her pupils; remembering that the radio is "just as frail as the men and women who master it." She can influence the attitude of the student toward good and bad programs and suggest that, just as the attitude of the

speaker should be that of a guest in the home, so should the listener receive him. Naturally one of the first requirements is for the teacher to become radio conscious and to educate herself. Then in a group listening class she may have a background for developing her pupils into a more discriminating class of radio listeners.

To the audience that has learned to listen with discrimination, the radio offers many fine features of educational and recreational value.

A good radio listener must be a good correspondent. If the talk or the program is appreciated, applaud the producer regardless of whether your appreciation is rewarded by a free offer. Retain the benefit by writing for a copy of the broadcast talk to study at leisure. Make notes of questions aroused in your mind during the radio lecture. List the books or articles suggested for collateral reading and, if the program is one of a series, prepare yourself for the next broadcast by studying the suggested references. The listener's receptive attitude is always a vital part of a program's success.

CHAPTER XXII

The Law as It Affects Broadcasting

The first act of Congress designed solely to regulate radio broadcasting was the Radio Act of 1927. Before that date, radio broadcasting was regulated under the provisions of the Marine Act of 1912, which proved to be entirely inadequate.

Under the Act of 1927, a Federal Radio Commission was created and given powers of granting licenses, fixing frequencies, and other powers that were necessary for a proper regulation of radio broadcasting. The law specifically denies to the commission any power of censorship over radio programs and prescribes few specific standards except to forbid the use of profane, obscene, and indecent language over the air. The only real standard set up to guide the commission is that all broadcasting stations shall serve the "public interest, convenience, or necessity."

The right of the Federal government to grant licenses and to regulate radio broadcasting was early upheld in the cases of *Whitehurst v. Grimes*¹ and *United States v. American Bond and Mortgage Co. et al.*² In these cases radio broadcasting was declared to be interstate commerce and, as such, subject to Congressional jurisdiction. In the case of *Whitehurst v. Grimes*, it was also declared that the Congress of the United States had exclusive jurisdiction over radio broadcasting and that local governments could not tax radio receiving sets or transmitting sets. The most recent case along this line, tried in 1935, is that of *KVL, Inc. v. Tax Commission of Washington et al.*³ The court decided that the state of Washington could not levy a tax on a radio station

¹ 21 F. (2d) 787.

² 31 F. (2d) 448 (D.C., N.D., E.D., Ill.) (1929).

³ 12 F. Supp. 497 (1935).

for the privilege of broadcasting, since that was exclusively a Federal matter. 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 However, no really good definition of obscene language has been established by either the courts or the legislature.

The Radio Act of 1927 also divided the country into a number of zones. In each of these zones only a limited number of stations were to be allowed to operate. This provision helped greatly to improve the radio broadcasting service of the United States.

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.²

The Communications Act of 1934 superseded the Radio Act of 1927. Title III of this act practically takes over intact the Radio Act of 1927 with a very few minor changes. The broadcasting division of the Federal Communications Commission took over the work of the Federal Radio Commission. One of the changes that the later law makes is 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

¹ 48 F. (2d) 128 (1931).

² 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, 61 App. D.C. 311.

conducting of lotteries over the radio. There also were minor changes in the quota system by which the country is divided into zones for broadcasting, each zone being allowed only a certain number of broadcasting stations of a specified volume.

The prohibition against censorship by the Federal Communications Commission is still in the act, but that body has continued the policy set by its predecessor, the Federal Radio Commission, of denying renewal of a license if it decides that the station has not been operating in the public interest, convenience, and necessity.

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 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.

The next important case along this same line was that of *Miles v. Louis Wasmer, Inc. et al.*² In this case, Louis

¹ 123 Neb. 348, 243 N.W. 82 (1932).

² 172 Wash. 466, 20 Pac. (2d) 849 (1933).

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 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 carries the case one step further than *Sorenson v. Wood* and *Miles v. Wasmer* and placed the liability on the outlet chain station—or rebroadcaster—as well as on the station where the defamatory remark originated.

In addition to the court decisions declaring defamatory remarks over the radio to be libel, four states have statutory

¹ 172 Wash. 466, 20 Pac. (2d) 849 (1933).

² 8 F. Supp. 889 (1934).

provisions that do this. They are California, Illinois, North Dakota, and Oregon.

Although the copyright laws were passed a long time before the development of radio began, the courts have held in a number of cases that the copyright laws apply to radio broadcasting. Let me trace the development of the application of these laws to radio. 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, the 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."

In 1926, in the case of *Remick & Co. v. General Electric Co.*,⁴ 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.

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.

⁴ 16 F. (2d) 829 (S.B.N.Y. 1926).

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.*,¹ 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 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 loud-speakers 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

¹ 283 U.S. 191, 51 Sup. Ct. 410, 75 L.ed. 971, 76, A.L.R. 1266. *Buck v. Jewell-LaSalle Realty Co.*, *supra*.

orchestras and other performers, including radio stations, the music held by the society's members. The 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.

This absolute control of the large majority of popular music by one association has not gone unnoticed by the United States government, and at the present time there is pending in the Federal District Court in New York a suit against the American Society of Authors, Composers, and Publishers, alleging violation of the Sherman Antitrust Law.

At present a bill is pending in Congress known as the Duffy Copyright Bill. This has passed one house and attempts are being made to get it through the other house. This bill would eliminate the \$250 penalty for each infraction of the copyright laws. This would deprive copyright holders of their most powerful weapon and would make it necessary for them to show specific damages before the radio station could be penalized.

To constitute an infringement of a copyright in 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

The remedies for infringement of copyright are: injunction, recapture of profits, and damages for the infringement.²

In the United States it is impossible to copyright an idea, character, or title of a work.³ However, the infringement of

¹ *Air Law Review*, 1933, p. 316.

² *Ibid.*

³ *Ibid.*, 1930, p. 343.

such ideas, characters, and titles or trade may give rise to a right of action. Broadcasting organizations are frequently confronted with claims of infringement of titles of programs, characters in programs, and the infringement of ideas claimed to have been originated by some other person. It usually develops, however, that the other person's idea was not original.

An interesting question was brought to the courts in the case of *Brown v. L. Bamberger & Co.*¹ The question is a serious one and is as follows: When an author is engaged to write dramatic sketches for radio presentation and that author originates the idea on which the sketch is based, creates the characters, and names them, and is later discharged, can he restrain the broadcasting organization from continuing with the same type of sketch under the same title, using the identical characters? In this case, the author's motion for a temporary injunction was denied by the court, apparently on the theory that there was no unfair competition at that time. The complaint was not dismissed, however, for the reason that the author might still be able to prove that his ideas and characters had been infringed.

Another important case concerning copyright, which does not involve radio broadcasting directly but which is applicable to it, is the case of *Bobbs-Merrill Co. v. Strauss*,² in which the court said: "At common law an author had a property right in his manuscript, and might have an action against anyone who undertook to publish it without authority."

The general conclusion is that the author continues to own his property during and subsequent to the broadcasting, and he may prevent both unauthorized simultaneous broadcasting and subsequent reproduction, or he may recover damages for its unauthorized use. Furthermore, when there is no adequate remedy at law, equity will do justice.³

¹ *Unreported.*

² 210 U.S. 339, 346.

³ S. B. Davis, *Law of Radio Communication*, p. 146.

The reluctance of broadcasters to pay for copyrighted material during the early stages of broadcasting in the United States was due to the large fees demanded rather than to any denial of the right of copyright. After the broadcasters began to "sell time" on the air, they were then willing to pay for the use of copyrighted material.

Continuity, lectures, or plays written for radio presentation are seldom copyrighted. In order to do this, the author would have to comply with the regulations of the Copyright Office of the Library of Congress. One copy must be filed with a statutory fee of \$1 for each manuscript. Ideas, names of characters, and titles cannot be copyrighted.

No attempt can be made in this handbook to discuss international laws affecting radio broadcasting.

For a more complete understanding of how the laws affect the broadcaster, the student is referred to the following bibliography and to the references on pages 401-402.

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- Brown v. L. Bamberger & Co.* (unreported).
- Bobbs-Merrill Co. v. Straus*, 210 U.S. 339, 346.

CHAPTER XXIII

Radio as a Vocation

The Studio Staff.

In the short period since 1920 radio has grown into an industry that takes its place with the greatest. There is always considerable glamour attached to radio, and this fact largely explains the interest that so many people have in it as a possible vocation. Furthermore, broadcasting offers a career that is not seasonal, for the station operates upon a nearly full schedule, summer and winter.

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. Whereas in its early days radio broadcasting was poorly organized and talent was scarce, today each of the 689 broadcasting stations has its announcers, actors, musicians, writers, technicians, and sales and office staff, each with a specific latitude in which to work but all cooperating.

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, whose role today is more important than it was when advertising programs were handled in a rather haphazard manner. As is the case with practically all branches of radio today, the supply of announcing talent far exceeds the demand for it. Possibly this is one reason why attempts to form unions of radio announcers have failed up to the present time.

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 or regional station where the work of all departments of the station may be studied. Here there is also opportunity for trying 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.

Auditions.

Applications for an audition may be made in person, by telephone, or by mail. 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, overwhelmed 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. Description 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. It is well for an announcer to have a degree from a university, since he should have a fairly broad cultural background. Indeed, the National Broadcasting Company expects its announcers to have a working knowledge of several languages as well as a good background in literature and 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 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 start at \$25 a week, with salary changes depending on their value to the studio. Announcers' salaries reach a maximum at from \$75 to \$90 a week. The greatest advantage is that an announcer is upon 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 an artist. Even on the national chains, salaries seldom run much higher than on the larger local stations.

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 "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. It is his duty to see that the requests of sponsors for particular announcers are satisfied, that voices are varied upon successive programs, and that the announcers are on the job at the required times. In some stations he is given the title of "studio manager."

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 put originality into his day's entertainment.

Radio Writers.

The copy that the announcer reads on the air is prepared by another department 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 one who is 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. Continuity writers receive from \$50 to \$60 a week in larger stations.

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. Not only that, but the remuneration for work of this kind is small. An author will average between \$25 and \$75 for a radio play if it is accepted. Very few studios have a regular dramatic writer, but

in many instances those who are employed in other capacities by the station write radio plays and earn extra compensation. The field is expanding yearly but the pay is the lowest of any department. 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.

Another type of 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 gags suited to the comedian to that artist, 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.

Dramatic Staff.

Nearly every station has a dramatic director who has received training upon the stage; his qualifications and work have been enumerated in the chapter on Radio Dramatics. Frequently he is required to announce programs as well as train actors. His salary, sometimes as high as \$100 a week, is low as compared with that paid by the theater or the motion pictures, but his employment is steady. The station may have the nucleus of a dramatic staff on a regular salary, but the majority are on call. These radio actors may be called by various stations in the city and are not limited to one station. They usually receive from \$3 to \$5 for a program which includes the rehearsals. As most radio actors are amateurs, they do not belong to Equity. Many advertising agencies are now producing their own radio shows employing actors and directors. In addition to the director and actors, there is a sound-effects operator who may be drafted from the technical staff in the smaller stations. There is also a demand for dramatic directors in the big advertising agencies.

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. Pay for average musical talent runs from \$4 to \$15 a program hour in the large local studio, and very little more on the chains. 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.

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 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. Many radio technicians are former "salt-water operators" who have left their ship radio cabins.

A licensed radio operator must be in charge of the transmitter 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.

Musical training is not of great importance to the transmitter operator, although he must have normal hearing and a good ear for musical tones. Salaries of transmitter operators start at about \$25 a week; the average is about \$40 or \$45. As yet there is no national union, although numerous local unions have been formed.

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.

The same general remarks can be made about the control operator, with these exceptions: he is not required to have a license issued by the F.C.C., and a musical training will be of more assistance to him than it would be to the transmitter operator because he has to supervise microphone setups, etc. Most stations make it a rule to employ licensed operators at the control boards so that, if necessary, they may be shifted to the transmitter.

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 media 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. 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, and San Francisco.

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. His salesman personality is important. The

turnover in the sales department is very low. The salesman's salary generally starts at about \$60 a week. 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 that he can 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.

The function of the publicity department is to call the public's attention through other advertising mediums, 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 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.

Women in Radio.

It cannot be denied that there is a definite place for women in the field of radio. Perhaps no other profession, that includes both men and women, holds so many places for the woman as does radio. Women are today found in almost all positions in this field.

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. 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, and must enjoy talking with and meeting people.

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. 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.

Courtenay Savage, director of dramatics and continuity of the C.B.S., pointed out that today the best field for women interested in the radio as a career is that of writing plays and skits. He said:

At present there is a great lack of thoroughly good children's programs. Such programs will always be important and the finding of the right type of children's entertainment will always be a major job. The modern child does not want a fairy story after he or she has passed the age of six or seven, and the youngster of ten should not be entertained by gangsters or too harrowing mystery tales. There is a happy medium—a clean exciting story that is not sappy. The woman who could write a modern *Tom Sawyer* or *Rebecca of Sunnybrook Farm* for the air would soon find a great demand for her material.

It is much less difficult for a woman to become a radio writer than an actress or a singer; and, as Mr. Savage pointed out, 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.

Once you have broken into the field and are past the probation period, you have a pretty good chance of getting ahead if you work. The average singer makes \$40 or \$50 a week and possibly much more if she is demanded by sponsors. Actresses receive somewhere between \$70 and \$110. Writers receive salaries ranging from \$45 up to \$150 in some cases. On the whole salaries are good.

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 the broadcasting as a career, more successful members of the feminine sex will be found in radio work.

CHAPTER XXIV

Teaching the Broadcaster

Those who are in broadcasting today furnish no criteria for the requirements in the training of future broadcasters because they have grown up with the business, stepping into it from the amateur station or the entertainment profession. The criticism of diction, pronunciation, and grammar, however, from listeners is forcing the officials of radio stations to seek future broadcasters who are university-trained men. With the radio entering into the homes of over 25,000,000 American families, it is a part of the life of nearly every youth and inspires a desire in the listener to make his or her voice nationally or locally heard. The result is that educators are recognizing the vocational demands of radio and are providing instruction in its various branches.

Universities are training future broadcasters both by allowing them to assist in the operation of university-owned stations and by direct classroom instruction. In 1936 thirty-five educational institutions were operating full or part-time stations, as follows:

- WAPI, University of Alabama, Birmingham, Alabama.
- WBAA, Purdue University, Lafayette, Indiana.
- WCAD, St. Lawrence University, Canton, New York.
- WCAL, St. Olaf College, Northfield, Minneapolis.
- WCAT, South Dakota College of Mines, Rapid City, South Dakota.
- WESG, Cornell University, Ithaca, New York.
- WEW, St. Louis University, St. Louis, Missouri.
- WCAC, Connecticut State College, Storrs, Connecticut.
- WHA, University of Wisconsin, Madison, Wisconsin.
- WHAZ, Rensselaer Polytechnic Institute, Troy, New York.
- WILL, University of Illinois, Urbana, Illinois.
- WKAR, Michigan State College, East Lansing, Michigan.

- WHBY-WTAQ, St. Norbert's College, Green Bay, Wisconsin.
 WLB, University of Minnesota, Minneapolis, Minnesota.
 WNAD, University of Oklahoma, Norman, Oklahoma.
 WOI, State College of A. & M. Arts, Ames, Iowa.
 WOSU, Ohio State University, Columbus, Ohio.
 WRUF, University of Florida, Gainesville, Florida.
 WSAJ, Grove City College, Grove City, Pennsylvania.
 WSUI, State University of Iowa, Iowa City, Iowa.
 WSVS, Seneca Vocational High School, Buffalo, New York.
 WTAW, A. and M. College of Texas, College Station, Texas.
 WWL, Loyola University, New Orleans, Louisiana.
 KBPS, Benson Polytechnic School, Portland, Oregon.
 KFDY, State College, Brookings, South Dakota.
 KFKU, University of Kansas, Lawrence, Kansas.
 KFJM, University of North Dakota, Grand Forks, North
 Dakota.
 KOAC, Oregon State Agricultural College, Corvallis, Oregon.
 KOB, New Mexico College, Albuquerque, New Mexico.
 KPAC, Port Arthur College, Port Arthur, Texas.
 KSAC, Kansas State College, Manhattan, Kansas.
 KUSD, University of South Dakota, Vermillion, South Dakota.
 KUOA, John Brown University, Fayetteville, Arkansas.
 KWLC, Luther College, Decorah, Iowa.
 KWSC, State College, Pullman, Washington.
 WIXAL, World Wide Broadcasting Foundation, Boston,
 Massachusetts.

These institutions, while not all giving academic credit for work done by students, give them experience and training of a very practical nature, with the result that many of the workers go directly into commercial stations. In some instances students are paid for their assistance.

It is not surprising that many colleges have instituted courses in broadcasting during recent years. A survey made by the United States Office of Education (1933) disclosed that a total of 407 courses in radio were then being offered by colleges and universities. This number has increased yearly. A few courses are offered by correspondence and by extension classes but the great majority are residence courses.

In addition to courses presented by schools of dramatics and private schools of broadcasting, many educational

institutions offer courses in broadcasting. Courses listed in catalogues cover many of the phases of radio broadcasting. In addition to the elementary instruction of simple technique, more advanced subjects are offered by some of the institutions, such as Management and Technique of Radio Broadcasting, Problems of Radio Broadcasting, Radio Broadcasting Methods, and Radio Play Production. Syracuse University offers a course in Radio Publicity under the supervision of the Department of Journalism. It is interesting to note that some of the smaller universities are playing a leading part in this field.

The department of speech supervises the instruction in radio broadcasting in many of the universities giving academic credit for the work, while the University of Denver has set up a Department of Radio. Nearly all institutions have prerequisites of junior standing, with previous work in speech. Apparently radio broadcasting is considered a subject for more advanced students. At the University of Iowa, students have charge of a variety of programs and get experience in the actual broadcasting of entertaining as well as instructive presentations.

According to the government survey (Cline M. Koon, Circular 53, July, 1933, U.S. Office of Education),

. . . approximately one college out of every twenty reports that it gives some instruction in the preparation, presentation, use, or evaluation of radio programs. . . . Oglethorpe University has established a School of Radio Broadcasting and grants a degree to students who complete the course. . . . Western Reserve University offers courses in radio singing, speaking, and play production. Kansas State College of Agriculture and Applied Science, the University of Southern California at Los Angeles, and the Municipal University of Omaha, each has two courses in radio speaking and program building. A total of thirty radio broadcasting courses are offered by eighteen institutions.

The topics considered in the courses on broadcasting include: voice training, diction, microphone technique, radio continuity writing, writing and adapting radio scripts, announcing, speaking, singing, acting, directing, program building, and analyses

of listener reactions. The laboratory work includes practice in radio writing, voice tests, program building, coaching, and broadcasting by qualified student. House to house interviews to determine what the listener expects is reported in one course.

The following description of the courses at the University of Denver gives some idea of the content of typical college studies:

UNIVERSITY OF DENVER, DENVER, COLORADO

(Announcement of March 20, 1934)

DEPARTMENT OF RADIO, SCHOOL OF COMMERCE, ACCOUNTS, AND
FINANCE

R-101. *Radio Continuity Writing.* Exercises in writing typical "straight" continuities, musical tie-ups, atmospheric continuities, etc. Fundamentals of good announcements and effective radio advertising copy. Microphone auditions of class exercises. Two hours credit.

R-102. *Radio Continuity Writing.* Includes writing for entertainment; monologue and dialogue continuities; adaptation of plays, novels, etc.; dramatic scripts and requirements for writing radio dramas. Two hours credit.

R-103. *Radio Drama Writing.* Construction of effective radio dramas and mystery serials; use of dialogue, characterizations, sound effects, etc.; actual broadcasts of outstanding productions. Prerequisite, R-102. Two hours credit.

R-151. *Principles of Radio Broadcasting.* History, progress, present position, and future possibilities of radio. Present studio procedures; exercises in radio interpretation and development of effective radio speech. Two hours credit.

R-153. *Radio Play Production.* The production of typical radio plays with sound effects, musical curtains, etc. Microphone and audition facilities used to develop individual abilities to meet individual needs. Prerequisite: R-152. Two hours credit.

A Cultural Background for the Broadcaster.

A general cultural course is of advantage to the student who looks forward to a career in broadcasting. English courses in composition or rhetoric are essential both for the preparation of continuity and for grammatical speech. A knowledge of English literature is helpful to the interpretative reader and book reviewer. An insight into civics or

political science will be a worth-while foundation for the commentator or interviewer. Probably one of the first questions asked by the station manager of an applicant is whether or not he has had any dramatic training. Announcers for the networks are required to have some knowledge of foreign languages. Courses in music appreciation, the history of music, and creative listening will prepare the announcer for the introduction of and comment upon operas and classical selections. Many schools of journalism are recognizing the entrance of radio into the field of dissemination of current news, and journalistic training is of great value to the broadcaster. Courses in business management and economics will help the announcer into executive positions with the station. The life blood of the broadcasting station is its commercial accounts, and over one-half of the station staff is in the sales department; consequently courses in advertising and the psychology of advertising are among those recommended.

In 1933, 364 courses were offered in American universities in technical subjects connected with radio. The technician will gain his scientific background in physics and electrical engineering, and the broadcaster will do well to choose physics for a college science course. Naturally, speech courses are vital in preparation for broadcasting; public speaking, linguistics, dramatics, and oral interpretation are generally given as prerequisites for the courses in broadcasting.

Introductory Course in Broadcasting.

The teacher in broadcasting should be able to assume that those enrolled have had general training in diction, pronunciation, articulation and enunciation, voice quality, and speech vocabulary. However, a review is an excellent method of beginning the semester's work. A popular introductory course in broadcasting may be given which will appeal to all radio listeners and users. If the class is located

in a city where there is a radio station, members of the staff of the station may grant weekly interviews concerning their work in the station. The technical staff will explain the operation of the microphones, control board, and electrical-transcription pickup, and will take the class to visit the transmitter. The general manager will discuss contractual relations with the network and with ASCAP, costs of operation, the N.A.B., and F.C.C. The program director, announcers, sports announcer, and news commentator will explain and demonstrate their methods and duties. The dramatic director, with his cast will demonstrate a rehearsal of a play, later to be heard over the station's facilities. Using the public-address equipment, the musical director will illustrate balance and distortion caused by different placing of musical instruments before the microphone. Continuity writers will discuss their problems. The sales-department representatives will tell of the station's rates, explain how campaigns are planned for the sale of radio time, show by charts the station's coverage, and explain tie-in and merchandising campaigns. Through these interviews and demonstrations the class will gain a general view of the work done in the station and studios by the broadcaster.

Meanwhile the class will be given auditions over the classroom public-address equipment so that those whose voices are unpleasant or who have speech defects may be eliminated from more advanced classes. No amount of training can give the announcer the ability to project his personality pleasantly through the microphone; consequently these class auditions should limit the enrollment of more advanced radio speech classes. Individual difficulties in speech, however, may be given special attention in the speech-correction clinic. Other members will be advised to select classes in continuity writing, sales, or production, all of which require the foundation knowledge given by the station staff. By the close of the semester the students should have gained a foundation knowledge of microphone

technique, have become aware of their speech faults, and have developed into critical listeners.

Courses in Radio Speech.

Those students who have passed the audition tests of the introductory courses may enroll in radio speaking. Again relying upon the generosity of the local station, the teacher will have built up a library of electrical transcriptions. The words of the commercial continuity upon these transcriptions will be typed for the students, who will record their own delivery of such commercial announcements upon the classroom recording equipment. Their recording will be compared with the announcement upon the electrical transcription; in this way they may hear their own faults in enunciation, emphasis, and intonation. Students will listen to and study the announcements heard over the radio from recognized broadcasters and analyze their virtues. Different types of announcements will be given by the students in their auditions—station breaks, straight commercial, introductions of speakers, musical announcements, mail pulls, announcements of children's programs—all of which are given in slightly different styles.

The students of radio speech will next be trained for actuality broadcasts. A small, domestic, motion-picture projector can be used to throw a 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 before football, baseball, and tennis games are attempted. In most institutions the athletic department has

films that have been taken during games to show the players their faults; these films may be borrowed by the teacher of broadcasting.

All types of radio speech should be practiced over the public-address equipment in this radio speech class: educational addresses, political talks, interviews, conversations, round-table discussions, inquiring reporter, and news presentation. Speech programs of the local station should be listened to and the continuity used should be obtained and used by the students for comparison. The instructor should be aided in his criticism of the auditions by the class, which constitutes the radio audience for the student speaker. The auditors should be concerned with the qualities of the voice, its shading, melody, vitality, and personality. Is it well modulated, full, soft, low pitched, strong, buoyant, well directed, convincing, attractive, magnetic, warm, sincere, friendly, live, and convincing? If so, it has the qualities sought in the radio speaker.

Courses in Writing.

For the class in writing for the radio, the teacher will do well to gather a library of used continuities from broadcasting stations. All types of commercial plugs may thus be studied. The World Broadcasting System furnishes weekly continuities to be used in conjunction with its transcriptions, which the station will give to the teacher for educational purposes after they have been used. The station usually will also give the scripts of its local dramatic productions to student broadcasters. It is more difficult to obtain scripts of network plays, for these belong either to the sponsors or to the artists; but in some instances they may be obtained for classroom study. Mimeographed continuities of government programs, such as the *Farm and Home Hour*,¹ can be obtained for study. Peter Dixon is the author of *Radio Sketches and How to Write Them*, which contains a number of manuscripts with criticisms. The United States

¹ Releases of the Department of the Interior, U.S. Office of Education, Washington, D. C.

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. There are other sources of material that are available to the alert teacher. It is helpful to place the students in charge of the script library and have them solicit copies of acceptable continuity. The students should type additional copies so that there will be enough for the casts of the plays when used in the classroom.

After the class has studied the forms and diction of such professional scripts, it may write original copy. As it is best for the radio writer to construct his skits about characters and situations with which he is familiar, the college student may wisely start with short informative skits upon college life. Skits that have human interest but little conflict or denouement are popular and simple to write for anyone who is observing. In this category are Amos 'n' Andy; The Goldbergs; Clara, Lou, and Em; and One Man's Family. Skits about student life, university research, a campus March of Time must be realistic to meet the approval of the student critics; they are excellent broadcasting material and they are easy to cast in a college class. Journalistic training is an excellent prerequisite.

The next step in dramatic writing may consist in the dramatization of short stories. O. Henry, Bret Harte, and other modern writers furnish excellent plots for classroom exercises but because of copyright restrictions are not available for broadcasting. Short stories that come in the public domain are possibilities for broadcasting; these include de Maupassant, Balzac, and the Russian writers.

Descriptions of the following two courses in radio writing, as well as those offered at the University of Denver, give an idea of the work conducted in such courses:

WESTERN RESERVE UNIVERSITY (1934)

Radio Writing. Throughout the year. Three hours of credit each term. Tuition, \$30.00 each half-year. Friday 7:00-10:00 P.M. WHK Studio.

The principles, methods, and techniques involved in writing continuity for radio presentation. Emphasis upon the factors governing the interest and attention of the radio audience in relation to continuity. In the first semester, class work consists of adaptation of written material to radio as a new medium to be presented under exact broadcasting conditions in one of the studios of WHK, with supervision and criticism by the instructor. In the second semester, students prepare original, thematic, dramatic advertising, and educational material for presentation over radio. Field trips to local radio stations to familiarize with broadcasting conditions.

NEW YORK UNIVERSITY

Educational Radio Project Workshop (1936).

Group II—Script Writing Associates. Individual consultation, discussion of scripts prepared by members of the seminar, discussion of types of copy suitable for radio, dialogue, differentiation of character, catching and holding attention, transitions, mail "pulls," use and abuse of sound effects, dramatizing books, science, news, etc. Scripts of outstanding quality prepared by students will be presented by the production unit either for studio audition and criticism or on the air.

Radio Reading and Dramatics.

The course in radio reading and dramatics generally draws students who have had training in oral interpretation and in dramatics. Students required to interpret poems that will appeal to the radio audience will first study the author, his times, and his purpose. The instructor in radio dramatics will obtain from near-by stations a list of poetry programs and radio plays that may be heard in the college town. Students should study these professional productions, as well as such skits on electrical transcriptions as are available. They should examine the types of scene transitions used, the speech and "sound action" of the characters, as well as the effective use of voice by the actors. Field trips to local stations will give the students an opportunity to see and hear the players in action.

Over the classroom public-address system the radio actors may practice first the simple skits of student life.

In these there will be less difficulty in voice casting and inducing the actors to feel their parts. The students should early learn the vital necessity of correct timing. Follow these with scenes from older plays.

Next the students should be given practice on plays that have been produced professionally. The teacher can usually establish relations with the local station to obtain plays. Columbia Picture¹ releases can usually be secured. Compilations of very short plays give practice and do not take too much time in presentation.² Scholastic³ publishes a list of plays especially prepared for radio with copies for each character, which can be obtained for classroom use and for actual broadcasts. The workshop of Ohio State University⁴ has made available quite a list of radio plays.

When the students have studied the dramatic radio programs and have practiced skits used by the professional radio actors, they may rehearse for presentation original plays prepared by the radio-writing class. These will require practice in developing sound effects. As the average university broadcasting course has a limited budget, plays should be produced with as few effects as possible. Whenever possible these sound effects should be originated by the students rather than by recordings.

The radio actors must study their parts until their parts become parts of them. They must organize their material so that it has ear appeal, so that action is made obvious by words and sound, and so that voice contrasts will project facial movements. As teachers usually learn more than their students, it is advisable to have members of the class act as dramatic directors for various plays in early auditions.

¹ Columbia Pictures Corporation, 729 Seventh Ave., New York.

² Percival Wilde, *Three Minute Plays*, Greenberg, New York, \$2.

Richard Drummond, *Three Minute Blackouts*, Northwestern Press, Minneapolis, 50 cents.

Lee Owen Snook-Row, *First Yearbook of Short Plays*, Paterson & Co., Evanston, Illinois, \$4.

Second Yearbook of Short Plays.

³ Scholastic Radio Guild, Pittsburgh.

⁴ Bureau of Educational Research, Ohio State University, Columbus, Ohio.

Production, News, Advertising, and Law.

Classes in production should be assigned to the task of arranging and presenting the university broadcasts. For theoretical practice the students may be required to arrange 6-hour schedules for the public-address system. During the first 2 hours programs emulating those broadcast by a regional or outlet station during the morning hours will be prepared and presented by students. The second period will be devoted to types of afternoon programs, and the fifth and sixth hours to evening programs. Students will fulfill the duties of various members of the regular station staff: production manager, announcer, dramatic director, continuity writers, etc. Programs should not run for more than 15 minutes and should be "live" presentations. Station breaks, spot announcements, sustaining programs, and sponsored programs should all be given. The musician, actor, commentator, and writer all will have a part in making the abbreviated "day" realistic. Production requires a broad background, showmanship, and a thorough knowledge of broadcasting. Daily and weekly program schedules are easily obtained from stations for study.

Schools of journalism are recognizing the popularity and importance of news broadcasting, with the result that courses of this type are being inaugurated in some institutions. 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.

The radio-advertising field is one of the most promising for the college graduate. While a college education in business is not essential for the student entering this department, it certainly provides an excellent background. Classroom work in salesmanship, merchandising, marketing, personnel management, and psychology is helpful. The College of the City of New York offers a course in radio advertising.

Six universities were offering courses in radio law in 1933. Such courses are best described by this catalogue announcement:

The development of the legal regulations of wireless telegraphy and telephone; the Federal Radio Act of 1927 and its amendments; a study of the Federal Radio Commission and its general orders; procedure and practice before the commission; the law of crimes, torts, and contract applicable to radio; licenses, and copyright; rights and liabilities of wireless operators and Government regulations of their activities; rights and liabilities of other persons affected by such activities; State and municipal regulations of radio; and international agreements and international aspects of radio control.

Teacher-training Course.

A course offered by a teachers' college to train teachers properly to receive programs in their classrooms does not exactly come under the heading of teaching the broadcaster. Such instruction, however, would be a valuable aid to the educational broadcaster. While some teachers make effective use of the radio as an instructional device, the majority would be aided and made more cooperative if they were instructed in the purposes and methods of the broadcast. In such a course the teacher should learn how to tune and operate the receiving set correctly. She should be informed of the worth-while educational programs available and how to keep informed concerning programs. She should be taught the value of visual aids, how to create student interest in the programs, and how to evaluate the effectiveness of such programs. Since one of the greatest problems of the teacher is how to obtain a receiving set for her classroom, various

plans for earning or securing radios should be outlined. In many districts local stations do not carry educational programs; in such a class teachers can be shown how to arouse public demand for such programs. In many instances these teacher-students will return to their localities to educate their school officials to an appreciation of the educational opportunities offered by the radio. The teacher-training course should instruct the student how to tie-in the radio presentation with classroom work. Teachers must find out who is broadcasting and why before they bring any broadcast into the classroom. Teacher instruction can be given over the radio or in the summer-session classroom, and will provide the teacher with background attitudes and broadcasting technique that will help her to use educational programs more effectively. A number of teacher-training institutions are offering such courses.

Research in the field of broadcasting is being conducted by many institutions. In some cases research is being carried on as a part of the regular radio classwork, and a number of universities and colleges in the country are conducting surveys on various phases of broadcasting through other departments of instruction or through administrative divisions. A very good example of this is Ohio State University at Columbus, which owns its own broadcasting station, but which until 1936 offered no courses in radio technique. Still the radio division of the Bureau of Educational Research has made many extensive studies of the educational aspects of radio broadcasting. This bureau has issued a number of publications, including seven books and some twenty bulletins.

With the increased use of radio and the tremendous interest shown in it, there is no doubt that more courses in radio broadcasting will find their way into the curricula of our institutions of higher learning. The whole radio industry is in a state of change at present. Many theories and ideas of broadcasting practices still need to be formulated, but it will probably not be long before comprehensive

courses of study will be mapped out for prospective radio announcers, performers, and executives.

Equipment to Be Used in Classes in Broadcasting.

Control room.

Announcing booth.

Small studio.

Classroom.

Studios wired for a high-fidelity public-address system with microphones in the announcing booth and in the small studio. The loud-speaker should be in the classroom. A talk back to be used by the teacher or dramatic director is valuable but not essential.

Turntable (for both 33 $\frac{1}{3}$ and 78 recordings) with electrical pickup.

Instantaneous sound-recording equipment.

Sound-effects cabinet, on one side a door in its frame, on another side a sash window. Wired for doorbells, buzzers, automobile horns, etc.

Sound-effects recordings:

Orchestral background.

Scenes of sorrow.

Scenes of merrymakers.

Aggression, restless action.

Danger and suspense.

Bugle calls.

Sounds:

Applause, crowd murmur.

Automobile running.

Fanfares.

Rainfall and thunder.

Traffic noises.

Railroad train.

Where Broadcasting Is Being Taught.

On January 1, 1937, the following colleges and universities reported that they were presenting nontechnical

instruction in radio broadcasting as separate credit courses in connection with speech training, or as noncredit courses. Types of instruction in broadcasting which are being offered are indicated by the numbers: (1) radio speech, (2) writing, (3) dramatics, (4) production, (5) advertising, (6) education, (7) law, (8) general course in broadcasting, (9) instruction in broadcasting offered in general-speech department courses, (10) music.

- Abilene Christian College, Abilene, Texas (1)
 Akron University, Akron, Ohio (1)(2)(3)
 Alabama State College for Women, Montevallo, Alabama (1)(3)(4)
 Anderson College, Anderson, South Carolina (9)
 Augustana College, Rock Island, Illinois (9)
 Battle Creek College, Battle Creek, Michigan (9)
 Baylor University, Waco, Texas (1)(2)(3)(4)
 Bob Jones College, Lynnhaven, Florida (8)
 Boston University, Boston (2)(4)(5)
 Butler College, Indianapolis (8)
 Carroll College, Waukesha, Wisconsin (9)
 Case School of Applied Science, Cleveland
 Catholic University, Washington, D. C. (7)
 Chicago Musical College, Chicago (10)
 Chicago Theological Seminary, Chicago (1)
 Chicago, University of, Chicago (1)(2)(3)
 Cincinnati, University of, Cincinnati (5)
 Cincinnati Conservatory of Music, Cincinnati (10)
 The Citadel, Charleston, South Carolina (1)(6)
 Cleveland College, Western Reserve University, Cleveland (1)(2)(3)
 Columbia University, Teachers College, New York (6)
 Columbus University, Washington, D. C. (7)
 Cornell College, Mt. Vernon, Iowa (3)(4)
 Cornell University, Ithaca, New York (1)(2)(3)(4)(6)
 Creighton University, Omaha, Nebraska (1)
 Denver, University of, Denver (2)(3)(4)(8)
 Drake University, Des Moines, Iowa (1)(2)(3)(4)(5)
 Duquesne University, Pittsburgh (1)(3)
 Elmira College, Elmira, New York (9)
 Emerson College, Boston (1)(2)
 Emory University, Emory University, Georgia (2)(4)(5)

- Florida, University of, Gainesville, Florida (1)(2)(3)
Florida Southern College, Lakeland, Florida (8)
Fordham University Teachers College, New York (6)
Friends University, Wichita, Kansas (1)(3)(4)
George Washington University, Washington, D. C. (3)
Hamline University, St. Paul, Minnesota (1)(2)(3)
Hardin-Simmons University, Abilene, Texas (1)
Hastings College, Hastings, Nebraska (1)
Houston, University of, Houston, Texas (9)
Illinois, University of, Urbana, Illinois (1)(2)(3)
Illinois State Normal University, Normal, Illinois (1)(6)
Iowa State College of Agriculture and Mechanical Arts, Ames,
Iowa
Iowa, University of, Iowa City, Iowa (1)(2)(4)(5)
Jamestown College, Jamestown, North Dakota (8)
John Brown University, Siloam Springs, Arkansas (1)(2)(4)
(5)(7)
John Carroll University, Cleveland (1)(2)(3)
Kansas State College of Agriculture and Applied Science,
Manhattan, Kansas (1)(2)(4)
Lindenwood College, St. Charles, Missouri (1)
Logan Academy, College Hill, Utah (1)
Louisiana Polytechnic Institute, Ruston, Louisiana (1)
Louisiana State University, Baton Rouge, Louisiana
(1)(2)(4)
Loyola University of Los Angeles, Los Angeles (8)
Luther College, Decorah, Iowa
Maine, University of, Orono, Maine (5)
Marquette University, Milwaukee, Wisconsin (7)
McGill University, Montreal (8)
McPhail School of Music, Minneapolis, Minnesota (10)
Michigan, University of, Ann Arbor, Michigan (1)(2)(3)(4)(6)
Michigan State College, Lansing, Michigan (2)
Minnesota, University of, Minneapolis (2)
Missouri, University of, Columbia, Missouri (1)(2)
Mount Holyoke College, South Hadley, Massachusetts (9)
Muhlenberg College, Allentown, Pennsylvania (1)(2)(6)
National University, Washington, D. C. (7)
Nebraska, University of, Lincoln, Nebraska (8)(10)
New York University, New York (6)
North Dakota, University of, Grand Forks, North Dakota
(1)(6)
Northwestern University, Evanston, Illinois (2)(3)
Oglethorpe University, Oglethorpe, Georgia (8)

- Ohio State University, Columbus, Ohio (1)(2)(3)(4)
 Oklahoma, College for Women, Chickasha, Oklahoma (1)(3)
 Oklahoma, University of, Norman, Oklahoma (3)
 Omaha, University of, Omaha, Nebraska (1)(2)(4)
 Oregon State College, Corvallis, Oregon (1)(2)(9)
 Pacific, College of the, Stockton, California
 Pacific Union College, Angwin, California (1)(2)
 Pasadena Junior College, Pasadena, California
 Phillips University, Enid, Oklahoma (6)(8)
 Purdue University, West Lafayette, Indiana (4)
 Rensselaer Polytechnic Inst., Troy, New York (8)
 Rollins College, Winter Park, Florida (9)
 Rosary College, Oak Park, Illinois (1)(2)(3)
 St. Catherine, College of, St. Paul, Minnesota (1)
 St. Lawrence University, Canton, New York (4)
 St. Louis University, St. Louis, Missouri (7)
 St. Mary-of-the-Woods College, St. Mary-of-the-Woods,
 Indiana (1)(2)(10)
 St. Viators College, Bourbonnais, Illinois (9)
 San Antonio, University of, San Antonio, Texas (5)(6)
 San Francisco, University of, San Francisco (9)
 Southern California, University of, Los Angeles (1)(2)(3)(4)
 South Dakota, University of, Vermillion, South Dakota (1)
 South Dakota School of Mines, Rapid City, South Dakota (9)
 Southwestern University, Georgetown, Texas (1)(3)
 Stanford University, Palo Alto, California (2)
 State Teachers College, Superior, Wisconsin (9)
 Stephens College, Columbia, Missouri (1)(2)(3)(4)
 Syracuse, University of, Syracuse, New York (2)(8)
 Transylvania College, Lexington, Kentucky (8)
 Trinity University, Waxahachie, Texas (1)
 Tulsa, University of, Tulsa, Oklahoma (5)
 Utah State Agricultural College, Logan, Utah (8)
 Vassar College, Poughkeepsie, New York (9)
 Walla Walla College, College Place, Washington (1)
 Washington, University of, Seattle, Washington (1)(2)(3)
 Washington, State College of, Pullman, Washington (1)(2)(3)
 (5)
 Wayne University, Detroit, Michigan (1)(2)(4)
 Webster College, St. Louis, Missouri (1)(2)
 Wesleyan University, Middletown, Connecticut (9)
 West Virginia State College, Institute, West Virginia (2)
 Western Reserve University, Cleveland (8)
 Westminster College, New Wilmington, Pennsylvania (8)

Whitman College, Walla Walla, Washington (1)

Wisconsin, University of, Madison, Wisconsin (1)(8)

Seventy-one other institutions reported that students received some radio experience in extracurricular activities. Twenty-four institutions presented technical courses but no broadcasting subjects. One hundred and seventy-seven colleges and universities stated that they were not at present offering any instruction in radio broadcasting.

Glossary

THE SIGNALS, SLANG, AND ABBREVIATIONS OF RADIO

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 pushing 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, indicates that the rehearsal is to be stopped so that instructions may be given over the talkback.

Lifting the left hand and forming a circle by 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.

Studio Expressions

Radio phraseology is decidedly local. However, there are some words that are quite generally accepted.

The **network program** is released over two or more stations, whereas a **local program** is one that is sent into the air from a single transmitter.

A **sustaining program** is one that is presented by the station without profit or income of any sort. A **sponsored program** is an advertising program of one for which the station receives remuneration.

When a program is presented five days a week at the same hour by the same sponsor or institution, it is said to be **across the board**.

An **audition** is the studio testing of talent for a presentation or of an applicant for a position, and generally consists of presenting the material over a public-address system.

Those who write for the radio are listed as **script writers**, **continuity writers**, or **credit writers**. The first of these write dramatic presentations. The second will write the announcements and continuity that hold together the program. The last prepare the commercial or advertising copy.

The **production director** of the studio is responsible for the preparation of a program. He combines the work of the musical director, dramatic director, and the announcers into a single program, building and shaping the program by bringing all these factors into harmony.

In a broadcasting station one of the employees is generally assigned the task of **clearing the music**. This means he must obtain permission from the copyright holder of restricted numbers for permission to use the selections upon the air.

A **remote** is a program that is picked up from some point outside the studio; in some instances this type of program is called a

nemo or pickup. Such programs originate in dance halls, hotels, churches, educational institutions, mobile trucks, or other places outside the studio of the station.

The word feeding is used in a broadcasting studio to designate the delivering of a program over a telephone line either to a network or to some other station. This is also called piping the program.

The phrase stand by has two meanings. It may be either a command by the production manager to the cast to be ready to go on the air in less than a minute, or it may be a program that is relied upon in an emergency, when the allotted time for a program already on the air has been canceled or is not filled. If it is necessary to "jerk" a speaker from the air because of slanderous or profane remarks, a stand-by pianist or other performer must be on hand to fill in.

The pause in a network program to permit outlet stations to identify themselves is called a station break.

The commercial announcement that is given by the local announcer immediately after a break in a network program or at the conclusion of a network program is called either a tie-in announcement or a trailer.

The words plugs and blurbs are used to designate short commercials that are more or less jammed into a program and given in a rather hurried manner.

There must be no dead spots on a program, which means unintentional silences.

I have always enjoyed the error made by an announcer who was introducing the "Early Book-worm Program." His improper reading sent into the air the information that "this is the Burly Hook-worm Program." This type of error is known in a studio as a fluff or a beard.

In one of the assignments I have used the word "read-y," the meaning of which is obvious because it implies that the actor is reading his part rather than interpreting it.

In some studios the expression in the mud is used when the speaker's or actor's voice has an improper pitch and is picked up faintly so that it sounds as if it were bubbling through the mud.

The expression drooling is used to designate the filling in of a program period by means of speech.

The phrase tag line is used to designate a line that is to be "hit" or given emphasis. It may be either the "gag" that ends a short scene or the climax spoken before a musical transition.

A transition is the moving from one scene to another in a dramatic presentation and 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.

A musical bridge is musical transition that is used in a radio play or production of any sort.

The dramatic director may instruct his actors to deliver their parts *off mike*, which means that they should turn their heads away from the microphone or speak their parts at a distance from the mike; or they may give the talk *on mike*, which requires them to talk directly into the microphone at the proper distance.

The word *cue* is used in radio just as it is used in any dramatic presentation. If the actor *jumps the cue*, it means that he has come in earlier than he should have. When he is instructed to *pick up his cue*, it means that he should begin his lines immediately after the last word of the preceding speaker.

The expressions *fade in* and *fade out* generally require the control operator to cut down upon the volume, or to increase the volume in such a way that the music, sound, or speech seems to die out or to come in gradually from a distance. Another expression that is sometimes used in place of "fade in" is *sneak it in*, although this is generally taken to mean that a selection should be hurried somewhat in order to get it on the air before the period has elapsed.

A *live program* is one in which live performers take part, in contrast with the transcribed program, which consists of the playing of electrical transcriptions or recordings.

A record for the gramophone, an electrical transcription, a sound-effects record, or any other disc is frequently called a *platter*. If the music upon the disc is very lively, the recording is called a *hot platter*. Electrical transcriptions are platters that are prepared for use in broadcasting stations. They revolve at a speed of $33\frac{1}{3}$ or 78 revolutions per minute. They are made with either a vertical or a horizontal cut, and for high-fidelity reproduction.

The *sound man* creates by original methods or recordings the sounds that are required in a program. If his work consists in using recorded sounds, he is sometimes designated as a *pancake turner*. In some cities where the musicians' union is very strong, the sound-effects man who is using recorded music or transcriptions must be a member of the musicians' union.

In the control of the volume by the control operator the word *gain* is frequently used. It indicates the increase in volume. The expression *riding the gain* means that the operator will control the amount of increase of volume; this is also called

monitoring the program. This volume is shown on the volume indicator, a dial on the control board. If the needle upon this dial goes over a certain point as a result of too much volume on the part of the performer, the control operator must cut down on the volume. The word **peak** is used in this connection to designate the high point in the variation of sound. If the speaker shouts, he will send the needle to the very top of the dial; this is called **wrapping it around the peak** and results in blasting.

Before the program starts the control operator will frequently ask the performer to give him a **couple of peaks**. This is done in order to give the control operator an idea of the limits between which the speaker will keep his volume. At this time the voice level of the speaker is obtained. This test is to determine the proper distance from the microphone at which the performer must be placed.

The word **balance** means the blending of various sounds in the parts of a program to obtain a natural effect. It may be necessary to move the orchestra from the microphone so that it will not overwhelm the soloist, or to cut down on the volume of a sound effect being presented in a play.

A **live mike** is one that is turned on, whereas a **dead mike** is one that is turned off.

When there is some intermittent trouble in the equipment which is not easily found, it is called a **bug**. As most of these faults can be corrected by cleaning the equipment with carbon tetrachloride, this is called **bug juice**.

A **patch cord** is used in the control room to connect two **jacks**. In other words, the **patch cord** is an emergency hookup of electrical impulses, and the **jacks** are the sockets into which the plugs are pushed. A **patch cord** is a short utility cord.

The headphones that are used by the control operator have been called **cans** for so many years that this expression is rather well accepted.

The station's **signal** is any sound that may be picked up from that station's transmitter.

Gobos are screens for deadening or livening studios. One side of the screen is faced with folded monks cloth backed with hair felt. The other side has a plain wooden facing. With several **gobos** it is possible to vary the quality of the pickup, either by livening it or deadening it. They also may be used to block off sound effects or cast from the rest to the studio.

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.

F.C.C. stands for the Federal Communications Commission.

N.B.C. stands for the National Broadcasting Company.

C.B.S. stands for Columbia Broadcasting System.

B.B.C. stands for British Broadcasting Corporation.

C.B.C. stands for Canadian Broadcasting Commission.

N.A.B. stands for National Association of Broadcasters.

M.B.S. stands for Mutual Broadcasting System.

W.B.S. stands for 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.

ASCAP stands for the American Society of Composers, Authors, and Publishers. This abbreviation has been generally accepted in radio fields, as a word, "Ascap."

V.I. stands for 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.

P.A. is the public-address system, described elsewhere in this book.

M.C. stands for "master of ceremonies," and is now being written quite generally as a word, "emcee."

R.p.m. stands for revolutions per minute (of a record upon a turntable).

Suggested Class Assignments and Periodical Bibliography

The following assignments are not questions upon the contents of the text, but are exercises designed to encourage further study and research upon phases of broadcasting dealt with in the chapters.

Only representative articles that have appeared in periodicals up to 1937 are included in these assignments. The student should be required to examine the *Reader's Guide*, *International Index*, *New York Times Index*, and other periodical indexes for additional and more recent references. Additional collateral reading is found in the bibliography, which lists all books, pamphlets, and bulletins published before January, 1937. Students should be encouraged to keep these bibliographies up-to-date.

CHAPTER I

1. Start a scrapbook of instructive and informative articles about broadcasting taken from newspapers and magazines. Classify material in the scrapbook according to the chapters in this textbook.

2. Start a classroom library of free bulletins and pamphlets. See Bibliography, page 393, for those that have been issued. The magazine *Broadcasting*, in a section named The Radio Book Shelf, publishes bimonthly the names of recent publications. Watch the advertisements of stations, networks, and advertising agencies for additional material.

a. Report to the class on contents of each bulletin.

3. Purchase an outline map of the United States and, using different colored pencils, trace the basic Red and Blue Networks of the National Broadcasting Company, the Columbia Broadcasting System, and the Mutual Broadcasting System.

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 watts, 40 miles; 10,000 watts, 50 miles;

25,000 watts, 60 miles; 50,000 watts, 70 miles; 50,000 watts, 150 miles.

4. Visit a local station to observe the acoustic treatment of the studios, types of microphones in use, and the control room. Report your observations to the class.

a. Clip from magazine advertisements or write to manufacturers for pictures of the different types of microphones.

b. *The House That Radio Built*, by O. B. Hanson, issued by the N.B.C. explains by diagrams and photographs the acoustic treatment of studios.

5. Referring to the listing of the radio programs of your local station for a single day, analyze the programs:

a. Network programs:

Sponsored.

Sustaining.

b. Programs originating in the local station:

Sponsored.

Sustaining.

c. Make a comparative evaluation of like programs.

CHAPTER II

1. 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 as were given in assignment 3b of Chap. I, 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.

2. Make a dial chart of all stations that may be heard regularly in your area.

3. Draw a diagram of the route taken by a program as it proceeds from the speaker or orchestra in a studio until it reaches you in your home.

4. Make a block diagram of the station's staff.

5. Visit the transmitter of your local station. Report to the class your observations. Draw the type of antenna used.

6. 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?"

7. Appoint one member of the class to obtain:

a. Forms for the application for a station license. Address: Federal Communications Commission, Washington, D. C.

b. The Rules and Regulations of the Radio Division of the

F.C.C. Address: Government Printing Office, Washington, D. C. (10 cents).

CHAPTER III

1. Listen to your local station for announcements of transcribed programs.
 - a. What proportion of programs (morning, afternoon, evening) are transcribed?
 - b. What proportion of the transcribed programs are (1) sponsored, (2) sustaining?
2. Report your reaction to a program announced as transcribed, as compared with your reaction to a program with live talent.
3. Compare the quality of a transcribed musical program with that of a program presented by a local orchestra.
4. Obtain from your local station a used commercial transcription. If you have a turntable revolving at $33\frac{1}{3}$ revolutions per minute, play the record for class criticism.
5. Write to the companies manufacturing transcriptions for advertising material concerning their products.

CHAPTER V

1. Listen to and evaluate various professional announcers.
 - a. Compare the merits of those upon the local station with those of the network announcers.
2. Attempt to make a catalogue of voices on the air according to their quality, tone, pitch, and appeal.
3. Using a stopwatch, check up on the number of words that you deliver a minute in:
 - a. Conversational speech.
 - b. Reading copy.
 - c. Reading poetry.
 - d. A sales talk.
4. 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?
5. Read one of the following periodical articles and report upon it to the other members of your class.

BELL, ROBERT: "The Reader and the Listener," *Fortnightly Review*, July, 1934.

- BELLOWS, HENRY A.: "Broadcasting and Speech Habits," *Quarterly Journal of Speech*, April, 1931.
- BRIGANCE, WILLIAM N.: "How Good Is Your Speech," *Woman's Home Companion*, January, 1935.
- CUTHBERT, MARGARET: "Rules to Heed When You Talk on the Radio," *Women's Edition, NBC News Service*, vol. V, no. 19.
- DENISON, M.: "Why Isn't Radio Better?" *Harper's Magazine*, April, 1934.
- DOLMAN, JOHN, JR.: "From the Listener's Point of View," *Quarterly Journal of Speech*, April, 1934.
- EDWARDS, DAVIS: "Interpretation," *Quarterly Journal of Speech*, November, 1935.
- ERSKINE, JOHN: "The Future of Radio as a Cultural Medium," *Annals of the American Academy of Political and Social Science*, January, 1935.
- EWBANK, H. L.: "Studies in the Technique of Radio Speech," *Quarterly Journal of Speech*, November, 1932.
- HANSON, E. C.: "What the Public Likes," *Literary Digest*, January, 1934.
- HERZBERG, M.: "The Magic of Speech," *English Journal*, April, 1935.
- JAMES, L. A.: "Standards in Speech," *American Speech*, April, 1933.
- LAWTON, S. P.: "The Principles of Effective Radio Speaking," *Quarterly Journal of Speech*, 1930.
- LOWE, C.: "Master of the Microphone," *Pictorial Review*, August, 1933.
- LUMLEY, F. H.: "Rates of Speed in Radio Speaking," *Quarterly Journal of Speech*, June, 1933.
- PARSONS, V. K.: "Announcer's English," *Scholastic Life*, Jan. 11, 1936.
- SUTTON, VIDA R.: "Radio and Speech," *American Speech*, February, 1933.
- TYSON, L. B.: "The Radio Influences Speech," *Quarterly Journal of Speech*, April, 1933.
- WILKE, WALTER H.: "A Radio Speaking Course," *Emerson Quarterly*, March, 1935.

CHAPTER VI

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.
 - a. Trace the news backward in a short dramatization.
5. Write the filler material to be used by a sport announcer for a local game.
6. Conduct a 15-minute round table, using a stopwatch; and arrange it so that those participating in the discussion are invisible to the balance of the class. Have the other members criticise the presentation from the standpoint of human interest, unity, sequence, delivery, and summary.
7. Conduct a classroom interview with another student on a topic of local interest. Have it criticised as above.
8. Read one of the following articles and report on it to the class.

BENT, S.: "Radio Takes Over the News," *American Mercury*, October, 1935.

BROWN, H.: "Public Enemy No. 64B; The Football Broadcaster," *Nation*, Oct. 9, 1935.

DUNNE, R. A.: "The Press Takes to the Air," *Advertising and Selling*, July 4, 1935.

KEATING, I.: "Radio Invades Journalism," *Nation*, June 12, 1935.

WARREN, C. H.: "Brightening Up the Broadcast News," *Bookman*, October, 1934.

CHAPTER VII

1. At what rate of speed (words per minute) does it come natural for you to read poetry aloud? Do you read all poems at the same rate?
2. Listen to and report about the poetry-reading programs that can be heard in your territory.
3. Using an appropriate musical selection (recorded), try reading poetry with a musical background.
4. Catalogue the types of poetry that seem to be used most generally upon radio programs.
5. Organize a choral speaking chorus and rehearse.
6. Read one of the following articles and report concerning it to the class.

- ABRAHAM, E.: "The Dangers of Choral Speech," *Good Speech Magazine*, Nov. 26, 1935. Published by the Speech Fellowship, 56 Gordon St., London.
- BELL, R.: "The Reader and the Listener," *Fortnightly Review*, July, 1934.
- CRUSE, P. G.: "Choral Speaking," *Grade Teacher*, February, 1935.
- EDWARDS, D.: "Interpretation," *Quarterly Journal of Speech*, November, 1935.
- EICH, L. M.: "The Oral Interpretation of Poetry," mimeographed copies mailed on request, University of Michigan Broadcasting Service, Ann Arbor, Michigan.
- ERSKINE, J.: "The Future of Radio as a Cultural Medium," *Annals of the American Academy of Political and Social Science*, January, 1935.
- HOLLISTER, R. D. T.: "Dramatic Reading," mimeographed copies mailed on request, University of Michigan Broadcasting Service, Ann Arbor, Michigan.
- RAMSEY, E.: "Verse-speaking Choir for Children," *Child Ed.*, February, 1936.
- RASMUSSEN, C.: "Choral Speaking with Children," *Elementary English Review*, Nov., 1933.
- SULLIVAN, A. M.: "Radio and the Poet," *Commonwealth*. November 30, 1934.
- "Choral Speaking in the Secondary School," *Quarterly Journal of Speech*, October, 1935.
- "Modern Verse Speaking," Conference of Education Association Report of the 23d Annual Conference, 1935.
- "Practical Methods in Choral Speaking," Compiled by the Expression Company from magazine articles.
- Quarterly Journal of Speech*, April, 1936.
- "The Verse Speaking Choir," *National Education Prin.*, July, 1935.

CHAPTER VIII

1. A number of radio stations seek to discourage applicants for positions as announcers by using the following copy, prepared by the G. & C. Merriam Company, for auditions. It is admittedly poor radio copy but good practice in pronunciation. Only a part of the copy is reprinted here; the balance may be obtained by writing to the publishers of Webster's dictionaries. Practice it.

Under the azure crouched an indisputable Indian. His forehead was bedizened with herbage, and he wore a scarlet

belt about his abdomen. Though his conduct was exemplary and decorous, he lived in extraordinary squalor.

Though, like a patriot, familiar with the tribal legends his parents had taught him, he knew little beyond legendary lore, and was ignorant of our national literature, and of the process of telegraphy.

He knew nothing of calligraphy, and very little about finance. He was not an aspirant for Parliament, but he hoped to exorcise evil spirits from the epoch by the advertisement of an Indian sacrifice. When granted a favor, he sought the apotheosis of his patron.

A piquant matron by his side was his housewife, to whom he gave alternately a meagre maintenance and peremptory commands, for he considered the position irrefragable, that to perfect a woman she must be isolated and made to obey. On this point he considered his arguments irrefutable. He appeared to care little for hymeneal harmony. Her peculiarity was bronchitis, which he hoped to cure by launching a tiny raspberry into the interstices of her larynx. The two made a squalid but interesting tableau.

2. Are there examples of sectional or regional speech to be heard over stations in your locality? What is the public reaction to such speech?

3. 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 such as:

again	chassis	data
ally	concentrate	deficit
automobile	Chicago	finance
advertisement	detail	isolate
address	depot	route
alternate	inquiry	penalize

4. Select 10 words with disputed pronunciations and discover the preferred pronunciation by educated people in your locality.

5. The following articles contain additional material on pronunciation, enunciation, articulation, rhythm, and regional speech. Read and report on one article.

COMBS, J.: "Radio and Pronunciation," *American Speech*, December, 1931.

JAMES, L.: "Some Sales Tips," *Broadcasting*, Apr. 1, 1936.

- LUMLEY, F. H.: "Broadcasting and Speech Habits," *Quarterly Journal of Speech*, 1931.
- PURELL, F.: "Radio and the Language," *Commonwealth*, Apr. 10, 1929.
- SUTTON, V. R.: "Radio and Speech," *American Speech*, February, 1933.
- TYSON, L. B.: "The Radio Influences Speech," *Quarterly Journal of Speech*, 1933.
- "Broadcasting English," *Saturday Review of Literature*, Jan. 31, 1931.

CHAPTER IX

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. Give some examples of "class advertising" as heard in your locality.
5. 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.
6. Write a sample of each of the three types of commercial copy: reminder, educational, and action. Use any product, fictional or real.
7. Read the following articles and report to your class.

GANNON, C. F.: "Commercial Copy," *Annals of the American Academy of Political and Social Science*, January, 1935.

URIST, B. D.: "Analyzing Radio Continuities," *Journal of Business*, July, 1931.

CHAPTER X

1. Write a 2-minute radio 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.

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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. Listen to a radio speech and (1) determine how close it follows Morse Salisbury's formula for the organization of the radio talk; (2) be specific and illustrate from the speech.
5. Criticize a radio address upon the following points:
 - a. Conversational style of the speaker.
 - b. His choice of words.
 - c. Sentence structure.
 - d. The speaker's ability to communicate with his audience.
6. Make a list of ways to attract interest in the opening of a radio address.
7. Read one of the following articles and report concerning it to the class.

ARCHER, GLEASON L.: "Pedagogues and Microphones," *Education on the Air*, 1933, Ohio State University, Columbus, Ohio.

BINGHAM, WALTER V.: "The Making of a Radio Address," *Education on the Air*, 1932, Ohio State University, Columbus, Ohio.

DUNHAM, FRANKLIN: "Getting Ideas Over in a Radio Speech," *Education on the Air*, 1933.

EVANS, PHILLIP: "Writing for Radio," *Writer's Digest*, April, 1933.

SMITH, FRED: "Writing for the Radio Audience," *Education on the Air*, 1934, Ohio State University, Columbus, Ohio.

WARREN, C. H.: "A Talk on Talks," *Bookman* (London), November, 1933.

"Are Talks Too Highbrow?" *B. B. C. Yearbook*, 1931.

"The Making of a Talk," *Listener*, July 24, 1929.

"Matter Versus Manner," *Annals of American Political and Social Science*, January, 1935.

8. Write to the broadcasting services of some universities' broadcasting programs requesting copies of radio talks. Criticize these. Mimeographed copies will be mailed on request by University Broadcasting Service, Ann Arbor, Michigan.

CHAPTER XI

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 were the sound effects?
 - i. Were they essential?
 - j. How important to the play was the announcer or narrator?
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. The radio skit must introduce characters and plot quickly. Write the first 100 words of a skit introducing essential characters, plot, mood, and setting.
4. Dramatize and cut for a 10-minute radio play a story by O. Henry, Bret Harte, Morgan Robertson, or other short-story writer.
5. 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.
6. Write to the Educational Radio Project, U.S. Office of Education, Washington, D. C. for *Interviews with the Past*.
7. Read one of the following articles and report on its contents to the class.

BUSS, C. A.: "Writing and Producing the Radio Play," *Education on the Air*, Ohio State University, Columbus, Ohio.

DENISON, M.: "Broadcast Play," *Theatre Arts Monthly*, December, 1931.

———"The Preparation of Dramatic Continuity for the Air," *Education on the Air*, 1932, Ohio State University, Columbus, Ohio.

———"The Broadcast Play," *Current Literature*, Jan. 11, 1932.

DICKSON, S. B.: "Radio's Future in Drama," *Commonwealth*, Dec. 8, 1931.

DIXON, P.: "Supplying Drama to Radio Audiences," *Drama Magazine*, October, 1930.

DUNHAM, F.: "Radio Plays in School and Out," *Journal of Education*, October, 1932.

- HANLEY, J.: "Radio Market Letter," *Writer's Digest*, November, 1934.
- HAYWORTH, F. K.: "Creative Atmosphere for Radio Drama," *Quarterly Journal of Speech*, November, 1935.
- JENKINS, G.: "Airways for Drama," *Education on the Air*, 1933, Ohio State University, Columbus, Ohio.
- LAPIN, "Radio Drama," *Theatre Arts Monthly*, October, 1932.
- LOPHAM, J. H.: "What Hope Radio Drama?" *Theatre Arts Monthly*, January, 1934.
- McELLIOTT, J.: "Problem of Conveying Action through Dialogue," *Writer's Digest*, June, 1931.
- MOLLISON, N. L.: "Adventures over the Radio," *Recreation*, April, 1935.

CHAPTER XIII

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. 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 from behind a screen. Watch for a read-y style, interpretation, characterization.
6. Work out sound effects for the play. Also discover a method of creating the sound of:
 - a. Swinging hammock.
 - b. Ice skaters.
 - c. A landslide.
 - d. Cranking a model T Ford.
 - e. Rain.
7. Rehearse the plays obtained from the Educational Radio Project, Office of Education, Washington, D. C.
8. Read one of the following articles or one listed in a current periodical index and report on it to your classmates.

DENISON, M.: "Actor and the Radio Play," *Theatre Arts Monthly*, December, 1931.

- : "Actor and Radio," *Theatre Arts Monthly*, November, 1933.
- GIELGUD, V.: "Side-lights on the Broadcast Play," *Theatre Arts Monthly*, July, 1931.
- : "The Actor and the Broadcast Play," *Theatre Arts Monthly*, February, 1931.
- : "What Hope Radio Drama?" *Theatre Arts Monthly*, April, 1934.
- SCHMITT, G.: "Stage Stars Must Learn Acting Over Again for Radio," *News Week*, June 29, 1935.
- "Pros and Cons of Studio Audiences," *Printer's Ink Monthly*, April, 1934.
- "Strange Devices Make Realistic Noises for Radio Audiences," *Popular Science*, March, 1931.

CHAPTER XIV

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. Music of the future will be written for the radio, taking into consideration the flexibility of the microphone, its sensitivity, the acoustics of the studio, the opportunity to amplify solo parts over the orchestral background, and the atmosphere in which the music is received. Compare broadcasts of operas and symphony orchestras from the stages of auditoriums with music of like nature broadcast by studio orchestras from the networks to discover whether the latter is better or worse than the former.
5. Read and report upon one of the following articles. Examine the periodical indexes for current articles.

- BLACK, FRANK: "What Is Popular and What Is High-brow?" *Etude*, May, 1936.
- FURGESON, C. W.: "Music Is My Hobby," *Reader's Digest*, February, 1936.
- GAUL, H.: "Broadcasting and the Organ," *Etude*, May and June, 1934.
- : "Demands of Copyright Owners," *News Week*, Nov. 4, 1933.

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- : "Sponsors Race to Give Radio Best in Music," *News Week*, Dec. 23, 1933.
- KLEMM, G.: "Glance behind Scenes of Radio Land," *Etude*, December, 1933.
- : "How Music Is Murdered," *Literary Digest*, Aug. 5, 1933.
- : "Music Poets," *Etude*, January, 1934.
- : "Serious Music on the Radio," *Literary Digest*, Nov. 18, 1933.
- : "Music the Magic Carpet of Radio," *Etude*, December, 1935.
- LA FORGE, F.: "Applause and Fan Mail Equally Fallacious," *Musician*, October, 1936.
- LAMARE, T.: "Why Not Give an Etude Radio Recital?" *Etude*, January, 1934.
- MAINE, B.: "Unmusical Audience," *Fortune*, May, 1934.
- : "What the Public Likes" (*Literary Digest* test), *Musician*, January, 1934.
- PHILLIPS, A. J.: "How May Singers Get into Radio?" *Musician*, September, 1934.
- : "Music on the Radio; NBC Music Appreciation Hour," *School and Society*, Oct. 20, 1934.
- SANBORN, P.: "There's Music in the Air," *Scholastic Life*, Jan. 11, 1936.
- : "What Radio Offers the Young Composer," *Etude*, February, 1936.
- SKILES, W. A.: "What to Sing before the Mike," *Etude Life*, August, 1933.
- TAYLOR, D.: "Tomorrow's Broadcast," *North American Review*, March, 1936.
- WATERMAN, M. C.: "A Few Things a Young Radio Vocalist Should Know," *Etude*, January, 1931.
- "Fireside Symphonies," *Etude*, May, 1936.
- "Getting the Best from Radio," *Etude*, February, 1936.
- "Orgy by Air," *Atlantic Monthly*, March, 1936.
- "Tempest in a Tune Pot," *Business Week*, June 11, 1936.

CHAPTER XV

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. Read one of the following articles and report upon its contents.

BAUER, W. W.: "First Aid to the Unconscious," *Hygeia*, December, 1933.

———: "Health by Radio Dramas," *Hygeia*, October, 1933.

BLANCHARD, A.: "Health Information on the Air," *American Journal of Public Health*, October, 1935.

DRURY, F. K. W.: "The Broadcaster and the Librarian," National Advisory Council on Radio in Education, *Information Series 3*.

HYERS, F. H.: "Hints for Library Programs," *Library Journal*, Oct. 15, 1935.

KOON, C. M.: "Some Public Service Broadcasting," National Advisory Council on Radio in Education, *Information Series 12*, 1934.

REED, T. H.: "Civic Education by Radio," *Radio Institute of the Audible Arts*, 1936.

RUTHERFORD, G. W.: "Radio as a Means of Instruction in Government," *American Political Science Review*, April, 1933.

SALISBURY, M.: "Administering Agricultural Programs," *Education on the Air*, 1932, Ohio State University, Columbus, Ohio.

———: "Radio and the Farmer," *Annals of the American Academy of Political and Social Science*, January, 1935.

———: "Social Usefulness of the Radio," *New Republic*, May 22, 1935.

- STUDEBAKER, J. W.: "Town Meetings on the Air," *Survey*, August, 1935.
- TURNER, C. E.: "Effectiveness of Radio in Health Education," *American Journal of Public Health*, May, 1935.
- TYSON, L.: "Public Health on the Radio," *School and Society*, Dec. 22, 1934.
- WILLIAMS, J. F.: "Child Health on the Air," *Child Health Bulletin*, March, 1933.
- : "Use of the Radio," *Public Health Nursing*, February, 1933.
- "Giving Religion the Air," *Literary Digest*, June 28, 1935.

8. Refer to the table of contents of the yearly issues of *Education on the Air*, published by Ohio State University, Columbus, Ohio, for additional collateral reading.

CHAPTER XVI

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 those between eight and twelve), youth 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. Read one of the following articles, or refer to *Reader's Guide*, *International Index* or some other periodical index for current articles on the subject. Report to the class.

- BENEDICT, A. E.: "United Front on Children's Radio Programs," *Parents' Monthly*, June, 1935.
- FENN, R. C.: "Buck Rogers in the Twentieth Century," *Junior-Senior Clearing House*, March, 1936.
- GRUENBERG, S. M.: "Radio and the Child," *American Academy*, January, 1935.
- : "Radio for Children," *Commonwealth*, Mar. 8, 1935.
- : "Children's Programs," *Annals of Academy of Political and Social Science*, January, 1935.
- : "The Children's Hour," *Delineator*, July, 1934.
- HENRY, T. R.: "Terror Is on the Radio," *National Educational American Journal*, May, 1935.
- MANN, ARTHUR: "Children's Crime Programs," *Scribners*, October, 1934.

CHAPTER XVII

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 fifteen-minute program addressed to a definite grade and course. Prepare advance material to be of value to teacher, also follow-up suggestions.
7. The following articles and those books listed in the Bibliography, page 397, should be referred to for collateral reading.

BAGLEY, W. C., JR.: "Radio in the Schools," *Elementary School Journal*, December, 1930.

- : "Geography in Education by Radio," *High School Journal*, May, 1932.
- : "Radio in the Schools," *Elementary School Journal*, December, 1930.
- : "Visual Aids and Educational Radio," *School Executive's Magazine*, March, 1932.
- : "What the Future Holds for Broadcasting in the Schools," *School and Society*, May, 30, 1931.
- BAGLEY, W. C., JR.: "How to Listen in to Radio in the Classroom," *Education Bulletin*, February, 1932.
- BANKER, G. M.: "Planning for the Efficient Use of the Radio," *Nat. El. Prin.*, June, 1934.
- BRODIE, ROBERT B.: "Fitting Radio into the School Program," *Nation's Schools*, February, 1935.
- BROWN, W. M.: "New Education by Radio," *High School Teacher*, November, 1931.
- CARR, F. F.: "Radio in the Schools," *Journal of Education*, June 9, 1930.
- CHARTERS, J. A.: "The Radio as an Educational Force," *Religious Education*, December, 1930.
- CLOHESY, A. B.: "Radio in Chicago Schools," *American Teacher*, January, 1931.
- COLTRANE, E. J.: "Possibilities of Radio in Education," *Kiwanis Magazine*, November, 1933.
- DARROW, B. H.: "Radio Education," *High School Teacher*, May, 1933.
- DUNHAM, F.: "Radio in the Music Curriculum," *Journal of Education*, Oct. 26, 1931.
- EGAN, J. B.: "Radio Dramas in School," *Journal of Education*, Nov. 7, 1932.
- ERSKINE, J.: "Radio and Education," *Vital Speeches*, Nov. 5, 1935.
- FAIRGREIVE, J.: "Use of Broadcasting in Teaching Geography in Schools," *Geography*, March, 1931.
- FUNKHAUSER, H.: "Radio as an Educational Factor for Artists, Musicians, and Music Students," *Etude*, June, 1930.
- HARRISON, M.: "How to Use the Radio in Teaching School Subjects," *Grade Teacher*, September, 1930.
- KEEN, B. A.: "New Steps in School Broadcasting," *Listener*, Sept. 17, 1930.
- KEITH, A.: "Radio as a Classroom Aid," *Grade Teacher*, June, 1930.

- KOON, C. M.: "The Technique of Teaching with Radio," *Elementary School Journal*, October, 1933.
- : "Radio Off the Air," *Scholastic Life*, January, 1935.
- : "American School of the Air," *School and Society*, Sept. 14, 1935.
- : "The Art of Teaching by Radio," *U.S. Office of Education Bulletin*, 1933.
- : "Educational Limitations of Broadcasting," *Broadcasting*, Feb. 1, 1932.
- : "Developing Critical Appreciation of Radio," *School Review*, December, 1935.
- MADDY, J. E.: "Bandmastering by Radio," *School Life*, September, 1931.
- METZ, J. J.: "Radio and Education," *Industrial Arts and Vocational Education*, December, 1934.
- ROEDER, M.: "The Radio Enters the Classroom," Teachers' Lesson Unit Series, Columbia University, New York, 1932.
- RUTHFORD, G. W.: "Radio As a Means of Instruction in Government," *American Political Science Review*, April, 1933.
- STEPHAN, E. M.: "Can Language Be Taught by Wireless?" *Listener*, Feb. 19, 1930.
- STROHOEFER, F. K.: "Improving Our Judgment of Broadcasts," *Nat. El. Prin.* July, 1934.
- STUDEBAKER, W. J.: "Educational Broadcasting in a Democracy," *School and Society*, June 15, 1935.
- : "Experiment in Educational Broadcasting in Chicago," *School Review*, November, 1935.
- "Radio—A New Force in Education," *Journal of National Education Association*, January, 1932.

CHAPTER XVIII

1. Write and arrange an assembly program to be presented from a central studio in a high school over the public-address system to the various assembly rooms. Write the announcements; arrange a skit to be presented by some chosen class, and select the music, using recordings.
2. 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.
3. Arrange and write a 5-minute library program including book reviews.

4. Write to one of the university broadcasting departments for copies of radio talks that have been delivered. Upon the assumption that one of these talks is to be broadcast, prepare an advance sheet of instructions to be sent to teachers. List all essential information, including visual aids, etc.

5. Write to the Educational Radio Project, U.S. Office of Education, U.S. Department of the Interior, Washington, for a copy of the *Radio Manual* and follow the instructions contained therein for the organization of a school radio-producing unit.

6. Read one of the following articles and report upon it to the class.

BARR and JAYNE, "The Use of Sound Recording Equipment in the Study and Improvement of Teaching," *Journal of Experimental Education*, May, 1936.

BLOM, E. C.: "Developing Broadcast Programs in the School," *Bulletin, Department of Elementary School Principals*, January, 1932.

BROCKWAY, D. C., and W. WILLIAM: "Sound System Organization for School Use," *Education on the Air*, Ohio State University, Columbus, Ohio, 1933.

BROWNELL, S. M.: "Shall the Plans for the New School Include Radio Installation?" *Nation's Schools*, October, 1931.

BURKHARD, R. V.: "Students at the Microphone," *Journal of Education*, Mar. 7, 1932.

CLIFTON, J. L.: "Suitable Radio Equipment for Schools," *The American School and University*, 1930-1931.

COLTRANE, E. J.: "The Correct Use of Radio," *Adult Student*, February, 1934.

DARROW, B. H.: "How Schools Equip for Radio Reception," *High School Teacher*, March, 1933.

DRUECK, G. P.: "Radio Equipment for Large and Small School Systems," *School Executive's Magazine*, June, 1932.

EKLO, ELMER B.: "Radio Speech in High School," *Quarterly Journal of Speech*, June, 1934.

ERLANDSON, R. S.: *101 Ways to Earn a Radio for Chicago Schools*, Grigsby-Grunow Company, 1930.

GORDON, E. B.: "Experiment in the Use of Radio and Home Recording Records in Extension Teaching," *Wisconsin Journal of Education*, February, 1932.

JARVIS, E. D.: "Equipping the School for Radio Reception," *American School Board Journal*, February, 1931.

———: "The Setting during the Broadcast," *American School Board Journal*, June, 1931.

- KEITH, A.: "Utilizing Radio in the Classroom," *Journal of Education*, Feb. 15, 1932.
- KOON, C. M.: "Training School Teachers to Use Radio Programs," *Education on the Air*, 1932.
- MARTIN, W. C.: "School Building Structure and Equipment for Efficient Use of Visual Aids and Radio," *School Executive's Magazine*, May, 1936.
- MILLER, D. B.: "Value of Broadcasting in High School Talent," *Sierra Education News*, June, 1926.
- MILLSON, WILLIAM A. D.: "Radio Drama and the Speech Curriculum," *Quarterly Journal of Speech*, April, 1934.
- OBERLEIN, K. F.: "How to Benefit by a School Radio Installation," *Nation's School*, March, 1933.
- RICHIE, J.: "Sound Amplifying Distributing Installations for Schools," *American School Board Journal*, March, 1930.
- SKELTON, JAMES D.: "Industrial Arts Radio Broadcast," *Industrial Education Magazine*, November, 1934.
- STONE, R. M.: "Use of Radio in Secondary Schools of Texas," *Outlook*, June, 1936.
- "Backstage with the Educational Radio Project," *School Life*, May, 1936.
- "High Frequencies for Education," *Radio*, June, 1936.
- "High School Conducts a School of the Air," *School Review*, June, 1932.
- "The National Public Radio Board Plan," *Radio*, May, 1936.
- "Study of Use of Radio in a Group of California Schools," *Elementary Education*, August, 1936.

CHAPTER XIX

1. Evaluate (a) a musical program, (b) a dramatic presentation, and (c) a children's program upon the following bases:
 - a. Technical perfection: is the program well produced, lively, smooth, unified, carefully cast, balanced?
 - b. Amount and type of advertising: dignified?
 - c. Ability of performers: were they chosen for their names or for their radio ability; are they musicians or speakers, artists, or authorities?
 - d. Manuscript: is it well written or thrown together by an inexperienced writer?
 - e. Honesty in representation: are the facts and incidents truthful?

2. 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.
3. Suggest the introduction of some feature that will enliven a program now upon the air.
4. Among the programs that you listen to regularly, choose the one you consider best from the standpoint of program building. Justify your choice.
5. Read and report upon one of the following articles.

CANTOR, EDDIE: "Radio Needs Showman," *Printer's Ink*, Oct. 25, 1934.

DUNLAP, O. E., JR.: "Essentials of a Good Program," *Radio Advertising*, Harper & Brothers, 1931.

LUDINGTON, K.: "An Experiment in Evaluating Radio Programs," *Education on the Air*, 1932, Ohio State University, Columbus, Ohio.

PERRY, ARMSTRONG: "Analysis of 79 Radio Programs," *Commonwealth*, October, 1934; May, 1935.

REAVES, E.: "Radio Building: British and American Ways," *Rotarian*, May, 1934.

REED, CONYERS: "Problems of Program Organization," *Education on the Air*, 1935, University of Chicago Press.

TYLER, I. KEITH: "How to Judge a Radio Program," *Scholastic Life*, Jan. 11, 1936.

Articles in *B.B.C. Yearbook*, 1932 and 1934.

CHAPTER XX

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. Examine commercial announcements over the local station in accordance with the tests set forth by Roy C. Witmer in the N.B.C. *Little Book on Broadcasting*, New Series F.

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?

5. Can you find any illustration of the use of a tie-in campaign locally?

6. 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.

7. Articles and pamphlets dealing with radio advertising are too numerous to list. Refer to the periodical indexes for current articles. Write to the networks for publicity. One of the following articles should be read for a class report.

BIELASKI, A. BRUCE, JR.: "Radio Advertising; Control of Quality and Quantity," *Air Law Review*, October, 1934.

BIJUR, GEORGE: "Merchandising the Radio Program: Ways That Are Being Used to Increase the Size of the Listening Audience," *Printer's Ink Monthly*, June, 1935.

- DAVIS, E. L.: "Regulation of Radio Advertising," *Annals of the American Academy of Political and Social Science*, January, 1935.
- DONALDSON, E. W.: "How to Dramatize the Radio Commercial; There's a Formula, but It Must Be Preceded by a Knowledge of the Basic Preliminary Elements," *Printer's Ink Monthly*, May, 1935.
- DURSTINE, R. S.: "Future of Radio Advertising in the United States," *Annals of the American Academy of Political and Social Science*, January, 1935.
- : "The Future of Advertising over the Air," *Broadcasting*, Jan. 15, 1935.
- : "Radio Advertising's Future in the United States," *Printer's Ink*, Jan. 24, 1935.
- GREEN, ERNEST: "Merciful Commercials," *Advertising and Selling*, May 23, 1935.
- GRIMES, B. A.: "Twenty Basic Questions on Radio," *Printer's Ink Monthly*, August, 1934.
- HETTINGER, HERMAN S.: "The Future of Radio as an Advertising Medium," *Journal of Business of the University of Chicago*, October, 1934.
- SPAETH, FRANK W.: "Radio as a Publicity Medium for Retailer," *Broadcasting*, Feb. 1, 1935.
- WHITTEN, LOUIS A.: "The Road to Success in Radio Advertising," *Broadcasting*, Mar. 1, 1935.
- "Free Show," *Time*, Aug. 31, 1936.
- "How Advertisers Are Using Radio," *Printer's Ink*, April, 1935.
- "Making the Radio Sales Message More Effective," *Printer's Ink Monthly*, March, 1935.
- "Spot Radio Prospers," *Business Week*, June 27, 1936.

8. Refer to the books and pamphlets in bibliography.

CHAPTER XXII

1. Examine the statutes of your state to discover whether injurious remarks over the radio constitute slander or libel.
2. Study the decisions in the following cases.
 - a. *Whitehurst v. Grimes*, 21 F. (2d) 787.
 - b. *United States v. American Bond and Mortgage Co.*, 31 F. (2d) 448 (D.C.N.D., E.D. Ill.) 1929.
 - c. *KVL Inc. v. Tax Commission of Washington*, 12 F. Supp. 497 (1935).

- d. *Duncan v. United States*, 48 F. (2d) 128 (1931).
- e. *KFAB Broadcasting Association v. Federal Radio Commission*, 62 F. (2d) 670.
Trinity Methodist Church, South, v. Federal Radio Commission, 62 F. (2d) 850, 61 App. D. C. 311.
- f. *Sorenson v. Wood*, 123 Neb. 348, 243 N.W. 82 (1932).
- g. *Miles v. Louis Wasmer, Inc.*, 172 Wash. 466, 20 Pac. (2d) 847 (1933).
- h. *Coffey v. Midland Broadcasting Co.*, 8 F. Supp. 889 (1934).
- i. *Herbert v. Shanley Co.*, 242 U.S. 591, 61 L. ed. 511.
- j. *Whitmark v. Bamberger*, 291 Fed. 776 (D.C.N.J. 1923).
- k. *Remick v. American Automobile Accessories Co.*, 5 F. (2d) 411, 40 A.L.R. 1511.
- l. *Remick v. General Electric Co.*, 16 F. (2d) 829 (S.D.N.Y. 1926).
- m. *Buck v. Jewell-LaSalle Realty Co.*, 283 U.S. 191, 51 S.
- n. *Brown v. L. Bamberger & Co.* (unreported).
- o. *Bobbs-Merrill Co. v. Strauss*, 210 U.S. 338, 346.

3. The following articles discuss the law as it affects radio. More recent articles can be found in periodical indexes and legal digests. Bring this bibliography up-to-date.

- ASHBY, A. L.: "Legal Aspects of Radio Broadcast," *Air Law Review*, July, 1930.
- DUNLAP, O. E., JR.: "How the Communication Act of 1934 Will Affect Radio," *New York Times*, June 24, 1934.
- FINKELSTEIN, E. M.: "American Radio Decisions Collected and Abridged," *Air Law Review*, 1930.
- GARY, H.: "Regulations of Broadcasting in the United States."
- ISKIYAN, E. L.: "Notes of Radio," *Air Law Review*, 1933.
- LEE, B.: "Power of Congress over Radio Communications," *American Bar Association Journal*, January, 1925.
- SEIDMAN, B. S.: "The Communications Act of 1934," *Air Law Review*, July, 1934.
- SIMPSON, L. P.: "Broadcasting as Copyright Infringement," *Air Law Review*, 1930.
- "Censorship Does Not Exist—Broadcasters Seek Definition of Profanity," *New York Times*, Oct. 12, 1934.
- "Liability of Broadcasting Station for Defamation over the Radio," *Harvard Law Review*, November, 1932.
- Quarterly Review of Radio Decisions," *Air Law Review*, 1933, 4: 95-98.

"Quarterly Review of Radio Decisions," *Air Law Review*, 1933, 4: 314-324.

Rules and Regulations of the Radio Commission, U.S. Government Printing Office, 1934.

CHAPTER XXIV

1. Induce members of the staff of the local station to appear before the class and be interviewed concerning their work.

2. 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.

3. The following articles in periodicals will be of interest to those who intend to teach broadcasting.

BRYAN, E. W.: "Teaching the Fundamentals of Radio," *Industrial Education Magazine*, July, 1934.

BURKHARD, R. V.: "Students at the Microphone," *Journal of Education*, Mar. 7, 1932.

CRANE, ARTHUR G.: "Selling Radio to College Authorities, a National Plan," *Education by Radio*, May 16, 1935.

EKLO, E. B.: "Radio Speech in High School," *Quarterly Journal of Speech*, June, 1934.

GHIRARDI, A. A.: "Radio Instruction in the High School," *Industrial Education Magazine*, June, 1930.

MILLSON, W. A. D.: "Radio Drama and the Speech Curriculum," *Quarterly Journal of Speech*, April, 1934.

THOMAS, T. B., and E. SMITH: "Class in Radio Broadcasting," *School Executive's Magazine*, August, 1934.

"A Course of Study in Speech for Secondary Schools," *Quarterly Journal of Speech*, April, 1936, pp. 264ff. (on Radio Speaking).

"Radio Course in Teacher Training," Extension Division of the University of Utah, *School and Society*, Oct. 21, 1933.

Bibliography

BOOKS, PAMPHLETS, BULLETINS, PERIODICALS, AND BIBLIOGRAPHIES

The following bibliography excludes magazine and newspaper articles and mimeographed sheets concerned with broadcasting. Such material is usually the most timely and valuable; consequently the student is advised to refer to the bibliographies listed in this bibliography and to the articles listed in *Reader's Guide*, *International Index*, *New York Times Index*, and other periodical guides. The larger networks and stations issue numerous pamphlets that are of particular value to the student of radio advertising. As these pamphlets are issued they are announced in *Broadcasting* magazine and the student may write for them. A list of such pamphlets is included in the bibliography published in the *Broadcasting Yearbook*.

This bibliography, compiled as of January 1, 1937, is based upon the annual bibliography printed in the *Broadcasting Yearbook*, bibliographies compiled by Anne L. Baden of the Library of Congress, publishers' lists, and the British Broadcasting Corporation list. Only material relating to the facts presented in this volume is included in the bibliography.

An effort has been made to classify the material to conform with the chapters in this handbook, but, as many of the books cover the entire field of broadcasting, the student should refer to the tables of contents and page indexes for a clearer conception of what the books contain. The annual yearbooks of the Institute for Education by Radio (*Education on the Air*) and those of the National Advisory Council on Radio in Education (*Radio and Education*) are very inclusive in their contents and are of decided value to the student of broadcasting.

TECHNICAL:

- DUNCAN, R. L.: *Foundations of Radio*, John Wiley & Sons, Inc., 1931.
—, and C. E. DREW: *Radio Telegraphy and Telephony*, 2d ed., John Wiley & Sons, Inc., 1931. Explanation of broadcasting receiving and transmitting apparatus and operation.
- DUNLAP, O. E.: *The Story of Radio*, Dial Press, 1935. Nontechnical discussion, including facsimile.
- ESHBACH, O. W.: *Handbook of Engineering Fundamentals*, John Wiley & Sons, Inc., 1936.

- EVERITT, W. L.: *Communication Engineering*, McGraw-Hill Book Company, Inc., 1932. Fundamentals of communication by wire and wireless networks.
- GLASGOW, R. S.: *Principles of Radio Engineering*, McGraw-Hill Book Company, Inc., 1936. Fundamentals of radio communication and practice, and the application of thermionic vacuum tubes.
- HARLOW, A. F.: *Old Wires and New Waves*, D. Appleton-Century Company, Inc., 1936. History of communication agencies.
- HATHAWAY, K. A.: *Modern Radio Essentials*, American Technical Society, 1935. General discussion for layman and technician.
- HENNEY, KEITH: *Principles of Radio*, John Wiley & Sons, Inc., 1934. Technical treatment of radio communication and apparatus.
- : *The Radio Engineering Handbook*, 2d ed., McGraw-Hill Book Company, Inc., 1935. All phases of engineering practice by authorities.
- HUND, AUGUST: *High-frequency Measurements*, McGraw-Hill Book Company, Inc., 1933.
- : *Phenomena in High-frequency Systems*, McGraw-Hill Book Company, Inc., 1936.
- MILLS, JOHN: *Signals and Speech in Electrical Communication*, Harcourt Brace & Company, 1934. A nontechnical discussion of the general principles of electrical transmission including radio.
- MORECROFT, J. H.: *Elements of Radio Communication*, 2d ed., John Wiley & Sons, Inc., 1934. Covers all phases of radio.
- : *Experimental Radio Engineering*, John Wiley & Sons, Inc., 1931. Experiments covering facts, theories, and principles of radio.
- : *Principles of Radio Communication*, 2d ed., John Wiley & Sons, Inc., 1933. All phases of science of radio communication.
- MOYER, J. A.: *Radio Construction and Repairing*, McGraw-Hill Book Company, Inc., 1931.
- : *The Radio Handbook*, McGraw-Hill Book Company, Inc., 1931.
- NILSON, A. R., and J. H. HORNUNG: *Practical Radio Communication*, McGraw-Hill Book Company, Inc., 1935. Technical information for the practical radio operator-technician. Includes chapters on studio acoustics, apparatus, control-room equipment, and operation.
- and ———: *Radio Operating, Questions and Answers*, 6th ed., McGraw-Hill Book Company, Inc., 1936. Written for operators about to take the government examination for an operator's license.
- OLSON, H. F., and FRANK MASSA: *Applied Acoustics*, P. Blakiston's Son & Company, 1934. Fundamental acoustical measurements, microphones, loud-speakers, architectural acoustics.
- REYNER, J. H.: *Modern Radio Communication*, Sir Isaac Pitman & Sons, Ltd., London, 1935. Textbook on theory and practice.

- SABINE, P. E.: *Acoustics and Architecture*, McGraw-Hill Book Company, Inc., 1932. Fundamentals of sound, reverberations, absorption, acoustics of studios.
- TERMAN, F. E.: *Measurements in Radio Engineering*, McGraw-Hill Book Company, Inc., 1935.
- : *Radio Engineering*, McGraw-Hill Book Company, Inc., 1932.
- Broadcasting Network Service*, American Telephone & Telegraph Co., 1934. Bell system's part in developing wire networks for radio, operation, plant, costs, etc.
- The House That Radio Built*, National Broadcasting Company, 1935. Technical description of N.B.C. studios.
- "Present and Impending Applications to Education of Radio and Allied Arts," National Advisory Council on Radio in Education, *Information Series 5*, 1936. Summary of recent technical developments.
- The Radio Industry*, compiled by Graduate School of Business Administration, Harvard University, McGraw-Hill Book Company, Inc., 1928. Lectures on the development of the radio industry.
- A Technical Description of Broadcasting House*, British Broadcasting Corporation, 1932. Descriptions and photographs of studios and control rooms.

RADIO SPEAKING:

- BICKEL, KARL A.: *New Empires*, J. B. Lippincott Company, 1930. Radio and the press.
- BICKFORD, LELAND, and WALTER FOGG: *News While It Is News*, G. C. Manthorne & Co., 1935. The Yankee Network news service.
- BORDEN, R. C.: "Principles of Effective Radio Speaking," Modern Eloquence Series, vol. XV, Modern Eloquence Corporation, N. Y., 1923.
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- DOLMAN, JOHN, JR.: *A Handbook of Public Speaking*, Harcourt Brace & Company, Inc., 1934. Chapter on Radio Speech. p. 145.
- DUNLAP, O. E.: *Talking on the Radio*, Greenberg, Publisher, Inc., 1936. Special emphasis on how to write and deliver political talks. One chapter on Practical Do's and Don't's.

- JAMES, ARTHUR LLOYD: *Broadcast English*, I, II and III British Broadcasting Corporation, 1928-1936. Recommendations to B.C.C. announcers regarding words and place names of doubtful pronunciation.
- : *The Broadcast Word*, Kegan Paul, Trench, Trubner & Co., London, 1935. Pronunciation and radio speech from a British authority.
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