

The
FIRST QUARTER-CENTURY
of
AMERICAN BROADCASTING

By

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The
First
Quarter
Century
of
American
Broadcasting

Statuette (on cover) symbolizes the service in the public interest performed by American Radio stations, and presented to them, by the Radio Manufacturers Association, to commemorate the First Quarter-Century of Broadcasting.

**THE FIRST QUARTER-CENTURY
OF
AMERICAN BROADCASTING**

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P R E F A C E

Here indeed is a book that belongs to those about whom it is written. Any history of the American broadcasting system that evolves out of a single memory, or a single source of facts, can not be expected to give a true and adequate account of an industry that hatched from a thousand eggs. A book, though, which incorporates the writings of several hundred qualified authorities can be expected to approach a reasonable degree of legitimacy. Such is the strongest attribute of this effort, for just about everyone with intimate knowledge of broadcasting's first quarter-century contributed directly or indirectly to the final editorial matter which melted down a storehouse of valuable material.

With what accepted facts as there were at hand as broadcasting approached its first quarter-century anniversary, a careful and all-inclusive study of radio was begun early in 1945. It was at this stage of research that the past "Chronologies" of the *Broadcasting Yearbooks* were of inestimable value. The facts they contained afforded a jumping off place for stimulating further thought and cooperation from the broadcasting industry in general.

This information, along with some additional facts voluntarily contributed by interested parties, was compiled into a "challenge" form and mailed out to the entire list of American stations and networks for their acceptances, revisions and additions. The response to the first request for assis-

tance was truly staggering. It was so enthusiastic, in fact, that the writer for months spent many a late hour pouring over facts of every description imaginable. Such material had to be classified into standard editorial form for re-submitting to the industry. This was repeated four different times—along with a separate request for examples of accomplishments in outright public service.

To mention by name all the station people who responded to an extent *beyond the call of courtesy* would require many pages in itself. There were the Edward F. Evanses of A.B.C.; the William C. Ackermans of C.B.S.; the C. W. Myerses of KOIN; the C. L. McCarthys of KQW; the George Burbachs of KSD; the Jack Snows of N.B.C.; the W. B. McGills of Westinghouse stations; the Rudolph Blooms of WCAU; the Harold Fellowses of WEEI; the John Patts of WGAR; the Leo Fitzpatrick of "Merry Old Chief" days; the Paul Brineses of WGN; the Kolin Hagers then of WGY; the Glenn Snyders of WLS; the Carleton Smiths of WRC; the Edwin Wheelers of WWJ; the Howard Chernoffs of the West Virginia Network; the Phyllis Dohertys of the Yankee Network; and the so many, many more.

From every side, too, valuable information and advice were proffered by individuals in all walks of radio. H. V. Kaltenborn and his wealth of data about "Twenty Year" pioneers; Paul Specht, the famed orchestra leader, for his information about the early days of radio and music; William P. Banning and his wealth of knowledge about the early days of A. T. & T.

in radio; Sol Taishoff and his *carte blanche* permission to use *Broadcasting*; Manuel Rosenberg of "*The Advertiser*" and his valuable publication advice; Elmer Legg for his expert printing know-how; Marvin Kirsch of "*Radio Daily*"; Elwyn J. Rowell, of the United States Department of Agriculture on farm radio; Aaron Bloom of Kasper-Gordon on transcriptions; Edward Murphy on the early days of KHJ; Edward L. Bernays on "Dodge Victory Hour"; and again, a host of others.

When it was necessary to fill out any missing gaps in the story by *lifting* data from other published records, immediate and generous permission was granted by such as Harper & Brothers for excerpts from Orrin E. Dunlap's "Radio's 100 Men of Science"; the Radio Corporation of America's "25 Years of Radio Progress with RCA"; "The Wisconsin Blue Book" about the early days of WHA by Harold B. McCarty; the networks and many stations with rights to publication of pioneering photographs; the National Association of Broadcasters; etc.

With such assistance as this, how could this book help but tell the story of broadcasting's first quarter-century? It is truly one written by a hundred hands. And lest we forget—a vote of appreciation to our fellow associates at KMBC — the Karl Koerpers, the Sam H. Bennetts, the George Halleys and all the rest — for living with a *guy* all wrapped up in the dim distant past — and most important of all, my own understanding wife and family who tiptoed around me and my typewriter for the past two years.—E. P. J. Shurick.



Arthur B. Church, with a lifetime devoted to the development and improvement of the American system of broadcasting, founder and president of KMBC — through whose encouragement this documentary record of the industry's first quarter-century was made possible.

We're on the Air

CHAPTER I

What do I, the typical radio listener, know about broadcasting? Practically nothing when it comes to tubes, microphones, transmitters and condensers. I only know what emanates from that thing called a *loudspeaker*. Some of it I like, and some of it I don't. But I must remember that all of it has a place in the American way of things. What may seem inconsequential or inconsistent to one majority meets the wants and needs of another.

Who was responsible for the birth of broadcasting? Well, in the first place it appears quite a certainty that broadcasting was conceived by radio communications, which in turn was conceived by experimental wireless. As for the doctor who spanked voice into the youngster, the delivery room is filled to

the rafters with all those who want to get into the act. Practically sitting on top of the delivery table is an illustrious array of qualified scientists, professional and amateur. But pushing them for a position of vantage is a host of station operators, commercial and educational. One cannot help but wonder though if broadcasting's beginnings should date back to when some Adam made with a sound that was received as coherent by some Eve. It was then that sound went on the air, and it's been getting louder and louder ever since.

Back before the first World War I—in fact, a whale of a long time before, mankind was sitting in on scientific discoveries that in later years crystalized into what is broadcasting as we know it today. Thales of Miletus, so history says, observed that amber after being rubbed acquires the electric property of attracting straws. On asking a few engineers as to why the importance of the event, we were told that this was the first manifestation of static electricity known to man.

So, we're on our way! For the next couple thousand years the world seemed content to let it be *forever amber*¹. About midway in the seventeenth century, however, the scientist became as inquisitive as a talent agent, and history-making events tumbled over each other in rapid succession. Most of such discoveries mean little to the layman, but to the scientist they are the stepping-stones to further developments which resulted ulti-

¹ Don't be distressed by such a remark. The likes of this will be found most commonplace in the further study of broadcasting, particularly in the field of radio comedy.

mately in the establishment of radio—and then broadcasting. We all have a little red schoolhouse recollection of Benjamin Franklin flying a kite in a thunderstorm to prove that “electrical fire might be drawn silently out of a cloud before it came nigh enough to strike,” thereby illustrating for posterity the presence of static or atmospheric electricity; the transatlantic cable, after its trials and tribulations with the sea, finally went into operation with an announcement over the cable that “Europe and America are united by telegraph. Glory to God in the highest; on earth peace, and good-will toward men”; Alexander Graham Bell¹ inventing the telephone; and Thomas Alva Edison putting the first talking machine together, and then developing the incandescent lamp, which through the insistence of George Westinghouse, turned on lights all over the world.

• THE PROFESSIONAL SCIENTIST

It always comes as a surprise to realize the influence an invention has upon others. One small discovery may unlock the door to dozens more, and so on *ad infinitum*. And so it was with the story of the wireless. Pertinent questions were finding their answers in the fertile minds of nineteenth century scientists. The tumblers were falling into place for an arrival on the scene of the imaginative to make that final twist of the dial and thereby open the door to new storehouses of human enlightenment, enjoyment and service.

¹ Further evidence to what extremes radio comedians will stoop! Not once, but many, many times one has heard Alexander Graham Bell popularly referred to as Don Ameche.

Such an event was presaged by the birth of a son to Anna Jameson Marconi of Bologna, Italy. This was on April 23, 1874. The Marconis could be considered on the well-to-do side. Their son, Guglielmo, would certainly lack for nothing in the pursuit of any hobby that might interest his talented mind. Fortunately for himself, and naturally for wireless, he turned his attention in the direction of a virgin science. A magazine article by Heinrich Hertz, a German physicist who is credited as being the discoverer of electric waves, set imaginative Guglielmo to thinking. He bought the necessary electrical thingumbobs, including a Hertz wave emitter.

Within the year Guglielmo flashed his first wireless signal from one point to another across his father's estate in Bologna. Before the start of the twentieth century, Marconi had expanded his experiments to jump a wireless signal across the English Channel—and in 1901, the Atlantic. From then on the earth was to know no privacy, and wireless was knocking down the skeptics like ten-pins.

In his modesty Marconi down through the years refused to accept the mantle of scientist. He claimed that all he did was to put two-and-two together and come up with the discovery. If Marconi wasn't a scientist, in the strictest sense of the term, he was certainly a scientific diagnostician.

From the stage of experimental wireless the science developed into the public-spirited role of radio communications.



Guglielmo Marconi whose discoveries in the realm of wireless transmission of sound contributed greatly to the ultimate realization of the American system of broadcasting. He is shown here in St. Johns, Newfoundland, at his receiving set over which the first transatlantic signal was received from Poldhu, England.

Through giving ocean-going vessels a voice, the way was opened for ships to sail with confidence into the night. Out of the tragic disasters of the S. S. Republic in 1909 and the S. S. Titanic in 1912 the wonders of the wireless became more than backyard gossip. The public suddenly was awakened to its potentialities.

Here possibly might be a means, not only to save lives, but even to prevent an occurrence of the disaster itself.

But the story of the early development of radio was not that solely of Marconi from over there. The mechanically inclined minds of American inventors quickly went to work on breaking down the barriers of the unknown.

There is the *legend* of Nathan B. Stubblefield of Murray, Kentucky, as the true inventor of the radio. According to eyewitness accounts, he sent his voice and his harmonica music through the air without wires in 1892, three years before Marconi sent his first signals across his father's estate in Italy. Stubblefield tried to interest Washington, Philadelphia and New York in his invention.

In 1902 he twice demonstrated "wireless telephony" before large audiences in the East, once from a steamer in the Potomac River off Georgetown. He was granted patents in 1908, but partly because of his own peculiarities, his lack of business ability and an abnormal fear that someone would steal his idea, he never commercialized it. He disappointedly retired to a hermit's cabin near Murray, Kentucky, where he was found dead in 1928. The Kentucky Assembly's resolution in 1944 said that he was "entitled to the highest honor and respect at the hands of the people of the commonwealth and this nation for his outstanding scientific achievement and public service."

For every European Marconi there were as many Americans, and more, who were making daily discoveries to the advancement of the *wireless* science. Such American scientists include, among many more, Ernst F. W. Alexanderson, Edwin H. Armstrong, Frank Conrad, Lee DeForest, William Dubilier, Reginald Fessenden, Louis Hazeltine, Greenleaf Whittier Pickard, John Stone Stone and Willis Whitney.

• THE AMATEUR SCIENTIST

Sometimes overlooked, but for sure none the less important, was the amateur scientist. You know him as the *radio ham*. To the reserved sedateness of this century's teen years, the *radio ham* was just about as strange as his name, that is, at first observation! He had a language all his own. And that look in his eyes! He seemed somewhere out there with the beat of his signal. But wherein rested the importance of the *ham* in the advancement of radio? His was a contribution fundamentally basic for he brought radio into the American home.

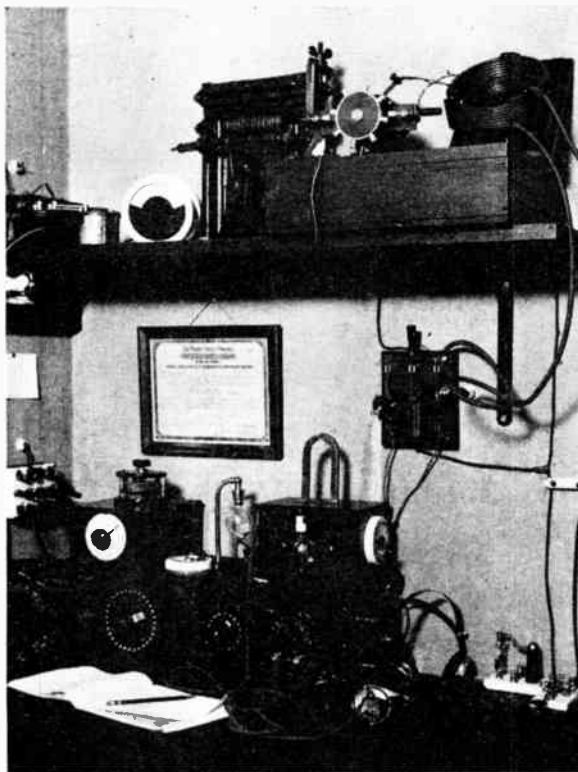
Among the founders of the small farming community of Lamoni, Iowa was a young couple named *Church*. They endured the rigors all successful pioneers endure, and finally established a home on the edge of the town. Judged by the standards there, the estate marked the family a prosperous one. In due course was born a son, Arthur, who at an early age was to be bitten by an infectious insect, the *wireless bug*.

Young Arthur cluttered up a great deal of the premises on that Iowa farm, inside the house and out, with wires and apparatus in the pursuit of his hobby. From a window in his father's office which was shared to provide laboratory space, he could look out on the farmyard where from a forty-foot pole on the barn to a hundred foot pole in the pasture was stretched his aerial.

Strange surroundings for the doings of science, even in an amateurish sort of way? Quite the contrary! Imaginative young men off the beaten track of life's bright lights possibly took to wireless with a more appreciative enthusiasm, for here was an escape into greener pastures. But where else but in America could the youth of the country dabble into the hobbies reserved for kings? Where else could a young man from a modest farming community build through the abilities of his hands and mind an influential institution of countless services to thousands of citizens occupying a goodly section of this earth's surface?

During the first World War young Arthur entered the armed forces. Fortunately he was classified where he could do the most good, in the training of personnel for the signal corps. On completing this hitch in the army, Arthur, never deviating from the course he had set out for himself, went to the *big city*¹ to put some of his theories into practice. Even as far back as 1915 he had tested radio in the limited commercial

¹ Kansas City.



Arthur B. Church's first licensed "ham" station (1915) in Lamon, Iowa. It answered to the call letters of 9WU.

sense of selling radio equipment and parts to fellow amateurs. Returning to civilian life, he wasted no time in stringing the wires for his broadcasting station. With the assistance of Ray Moler, a fellow *ham* who at broadcasting's first quarter-century anniversary, is still his chief engineer, Arthur was putting the finishing touches upon his 9AXJ transmitter at just about the time history was being made around Detroit and Pittsburgh.

His most ardent "fans" of those struggling early twenties were his parents who couldn't help but lend an attentive ear to the squawks and squeals they knew so well. Through the experiments of this amateur scientist, and a few others, broadcasting was introduced to inquisitive but dubious middlewesterners¹. From a modest amateur operation, an institution known throughout broadcasting at its first quarter-century anniversary as KMBC of Kansas City contributed its share in the establishment of the broadcasting industry.

• THE PIONEER BROADCASTING STATIONS

Out in California, a Dr. Charles Herrold in 1907 read in a New York newspaper about Dr. Lee DeForest who transmitted music over the wireless—the singing of Madame Geraldine Farrar. It was only a two-line notice, without headlines, hardly befitting such a noteworthy accomplishment. History had been made though, even if it did not receive just recognition.

But Dr. Herrold did not measure the importance of the event by the space it received in the press. It became an inspiration for him to take part in a science which challenged man's imagination, especially that of Dr. Herrold's. Within the year he had hung out a shingle which read, *The Herrold Radio and Engineering College*. From this school he began his own experiments with the wireless transmission of voice and music. In

¹ A. R. "Bob" McCreary—WOQ and John Schilling—WHD were the Kansas Citians who built stations almost simultaneously.

1909 he made his first successful broadcast, and three years later started regular programs after working out a successful means for water-cooling his microphones so they wouldn't keep burning out. In that same year Dr. Herrold developed radio two-way voice communication blended into a radio program between Fairmont Hotel in San Francisco and his station in San Jose, which was later to become of national importance under the call letters of KQW.

But there were those who insisted it was too bad that the wireless telephone would never amount to anything. The limits of its use would be confined to that of a toy. How could it ever be effective for communication, for anyone could tune in its message? A lot like being on a country-wide party line! Then again there were others, far-visioned men like David Sarnoff who in 1916 wrote, "I have in mind a plan of development which would make radio a household utility in the same sense as the piano or phonograph. The idea is to bring music into the home by wireless."

Out of the public eye though, the development of radio was steadily taking shape. Educational institutions were contributing their share to working out the bugs in early-day transmission. In the middlewest the University of Wisconsin had its Professor Earle M. Terry and young student wireless experimenters who worked with him night after night into the morning hours, exploring the principles of sound transmission. Sig-

nals were being sent into the air and received, but at first they were weird, garbled noises. Music could be distinguished, but the tonal quality was poor.

Constant tests, however, were being met with progress. Hawaiian music, played from phonograph records, gave superior results. Its metallic twanging seemed best suited to the broadcasting process. Voice broadcasts were not so successful in the early laboratory experiments. Distortion made the speech almost unintelligible.

In the summer of 1917 Malcolm Hanson, a former student of Professor Terry's, engaged at that time in radio work at various Great Lakes naval training posts, reported hearing while on duty, several telephonic broadcasts from the University of Wisconsin. The university station 9XM thereafter communicated with many other experimental stations. Code was at that time used to identify the music broadcasts and to help the listener locate the weaker telephonic signals.

July 31, 1918 was a dark day, not only for 9XM, but for radio enthusiasts in all parts of the land. As a war-time precautionary measure, all stations were ordered off the air. University stations, however, were soon to be exempt from the ban, and those, along with a few others, were permitted to "rebuild for experimental service to the nation." It was during this war-time period when the first "clear" and scheduled tele-

phonic broadcast from Wisconsin came in February, 1919. The university station transmitted voice signals which were heard by the Great Lakes Naval Training Station. This was followed by others, and by the time the ban on sending equipment was lifted, giving other operators a chance to assemble their equipment again, the university station 9XM was sending telephonic broadcasts regularly and successfully. Under the later call letters of WHA it was to become a leader in the field of educational broadcasting.

Ever had a feeling in the dark that there was someone else in the room? While the radio enthusiast was too involved with the experimental responsibilities of technical development to appreciate fully the significance of a change, something new was slowly permeating the science of radio communications. It was upon this new ingredient that radio was transformed into broadcasting.

In the days before World War I station 8XK in Pittsburgh was well-known to amateur wireless operators. The station was installed by Frank Conrad, Westinghouse Electric and Manufacturing Company engineer and amateur wireless hobbyist. Conrad started with the company in 1890, making registering gear trains for electric meters.

During the war, when means of quick, readily understandable communication was called for by the government, a

special license was granted Westinghouse, permitting them to build and operate transmitting and receiving stations for experimental purposes. Conrad, then assistant to H. P. Davis, Westinghouse vice president, worked closely with the United States Signal Corps in carrying on research, and in developing new ideas in radio telephonic transmissions in the company's laboratories.

After the war Conrad's deep interest in radio led him to continue his experiments at home with transmitting and receiving station, 8XK. On making its debut back on the air, 8XK presented a wireless concert which lasted about two hours and was favorably commented upon in a newspaper report, that it "was greatly enjoyed by a large number of the local amateurs who were listening in". A phonograph was used to produce the music, and between the records Conrad announced the titles. Grand opera, popular music, songs, jazz bands, orchestral and various other numbers were among the selections.

Commenting on the broadcast in his radio column, Claude E. Urban of the *Pittsburgh Gazette Times* wrote:

"Quite a little applause from the large and widely scattered audience marked the close of each piece played. This applause was registered in the dots and dashes of wireless telegraphy. When Mr. Conrad finally announced that he had no more records to play and would have to quit for the evening there were many regrets.

"One amusing incident in connection with the wireless concert occurred when, during a catchy melody, a peal of merry feminine laughter was heard in the receivers of the attentive audience. Mr. Conrad informed the listeners that it was Mrs. Conrad, who had just then stepped into the room where the telephone was, and had laughed at some pun of his. The laughter was startling in its clearness. In fact, both the music and speech transmitted by the wireless telephone were very clear and distinct; the humming, buzzing and other induction noises so common to the ordinary telephone being entirely absent."

Another concert broadcast by Conrad drew the conjecture from the *Gazette Times* news editor that the audience amounted to *two hundred!* He pointed out that there was music in the air that night, and persons walking along the city streets little knew that both voice and musical selections were being transmitted through the ether to listeners many miles away. The third of a series of *Conrad Open Air Concerts* made the news columns again with an explanation of the broadcast as follows:

"Shortly before 9 o'clock J. B. Coleman of 328 Locust street, Edgewood, and Mr. Conrad's sons, Francis and Crawford Conrad, began preparations in the laboratory for the open air musical. A few taps on the wireless telegraph key by Mr. Coleman announced the concert was about to start. A record was put on a phonograph and the telephone was placed at the mouth of the phonograph. The machine was started and the concert was on.

"The audience, scattered for many miles, was treated to almost everything musical with the exception of piano solos, for piano notes do not carry well through the air. There was band music, vocal, violin and other instrumental solos. The concert continued until 10 o'clock when the music was stopped so as to prevent any confusion in the air while the government stations sent out messages, such as weather news and the correct time. There was no applause to the concert last night, but Mr. Conrad said many members of his audience would send approval by the telephone and wireless telegraph today."

It was not until February of the following year, 1920, that the *Gazette Times* radio column carried this :

"Concerts by wireless have become more popular than ever within the past few weeks. On Saturday evening, February 21, Frank Conrad of Wilkinsburg rendered an excellent radio concert, which was enjoyed by amateurs near and far. This is the first time in several weeks that Mr. Conrad has given a concert from his station, but everyone who heard it pronounced it superior in volume and clarity to his former concerts, although they were excellent in quality. From this it would seem that the time during which these concerts were discontinued has been utilized by Mr. Conrad to improve his radiophone apparatus. Radio amateurs of this vicinity are very much pleased that Mr. Conrad is again giving wireless concerts."

By March of 1920, Conrad's concerts had become routine. Something new was added, according to another newspaper account of May 2:

"The last two radio concerts given by Mr. Conrad of Wilkinsburg were exceptionally fine. The usual repertoire was changed to include piano selections rendered by Mr. Conrad's son Francis, who is an accomplished pianist. A special line was installed for this purpose, which led from the laboratory and experimental station several hundred feet to the music room in the Conrad residence, where a telephone transmitter was used to catch the sounds and transfer them back to the laboratory to be sent out into the ether by the radiophone apparatus located there.

"The diversion met with much favor and was greatly enjoyed by hundreds of listeners. Biddle Arthurs, a popular amateur of this city, who is somewhat of an artist on the saxophone, has been scheduled to assist at some of Mr. Conrad's concerts."

The concert season for Conrad apparently ended in May, for it was not until September 26, 1920 that newspaper notice was again given to the broadcasts. As the season progressed, the concerts grew more ambitious. On September 29, a newspaper advertisement told how a receiving station installed in the basement of Horne's department store had picked up a concert sent out by Conrad. The advertisement offered receiving sets for sale to the public.

HORNE DA



on Stock Patterns of
price—25— Off

... a complete set of
... in general and for
... same reason.

The Radio-Group

\$23.00 and \$25.00

The Radio-Group
... and ...

W
E



Air Concert "Picked Up" By Radio Here

Victrola music, played into the air over a wireless telephone, was "picked up" by listeners on the wireless receiving station which was recently installed here for patrons interested in wireless experiments. The concert was heard Thursday night about 10 o'clock, and continued 20 minutes. Two orchestra numbers, a soprano solo—which rang particularly high and clear through the air—and a juvenile "talking piece" constituted the program.

The music was from a Victrola pulled up close to the transmitter of a wireless telephone in the home of Frank Conrad, Penn and Peoples avenues, Wilkensburg. Mr. Conrad is a wireless enthusiast and "puts on" the wireless concerts periodically for the entertainment of the many people in this district who have wireless sets.

Amateur Wireless Sets, made by the maker of the Set which is in operation in our store, are on sale here \$10.00 up.

—West Basement

This now famous advertisement appearing in Pittsburgh newspapers for the Horne's department store had a great deal to do with the establishment of KDKA and thereby American broadcasting.

The development of another pioneer broadcaster is to be noted here with interest. Back early at the start of the twentieth

century, Thomas E. Clark dreamed of messages and music being sent through the air without wires. He told his story to James E. Scripps, founder of the *Detroit News*. Scripps, a man of vision as well as an editor, a man who believed in the future, backed the young inventor financially.

Then followed years of experimentation by Clark, as for Herrold, DeForest and other well known scientists. The editor's son, William E. Scripps, became interested in his experiments. Like his father, he began to see radio's value and possibilities. He joined the ranks of the *radio ham*.

Then in turn, his son, William J. Scripps, also became interested. Equipment to build a wireless outfit was brought from New York. Father and son assembled it on the second floor of their home. Then followed hours of work and grief and suspense—until one night the boy heard voices.

William E. Scripps was struck then with the idea that it would be a great service to news readers if he installed a transmitter in the office and broadcast news events. The more he thought about it, the more convinced he was that *The News* should be the first newspaper in the country to own a radio outfit.

He did start a station later to become WWJ, and it began operations the twentieth day of August, 1920. But it was an event eleven days later on August 31 that introduced to radio a new ingredient of listenership. The *Detroit News* sta-

tion undertook the bold experiment of transmitting into the homes of those limited few with receivers the results of the Michigan State, Congressional and County primary elections. Here was something more than just a wireless experiment for the primary appreciation of the ones conducting the experiment. The public itself began to look over the technician's shoulder to see what was going on in radio.

Readers of the *Detroit News* of September 23, 1920 noted with increasing interest that:

Miss Mabel Norton Ayres of Cincinnati gave the first vocal concert over The News radiophone Wednesday night. Miss Ayres, who is with the Edison Recreation studio in Chicago, sang several solos and also duets with the phonographs. She sang *Ave Maria* and *The Last Rose of Summer* with Madame Marie Rappold and *Annie Laurie* with Anna Case, their voices being reproduced by records. The concert, the first of a weekly series, was the first one in which the natural voice and the phonograph were used together over the radiophone. Operators reported that it was clear and distinct."

There was no question about the matter. In the dark of radio communications someone else was in the room. What really turned on the lights to bring the intruder to light was an event a couple hundred miles away from Detroit in East Pittsburgh.

It had occurred to the Westinghouse vice president, H. P. Davis, that to develop radio as a means of confidential com-

munication would limit its use. For the wireless telephone had been heading directly towards the use for which it was most unsuited, i.e., for point-to-point communication in private business. In fact, the Westinghouse Company in East Pittsburgh was installing radio telegraph transmitters in its main and branch factories for interplant communication early in 1920, when Davis conceived the idea for mass communication by radiophone. Accordingly, a transmitter under construction for the Cleveland plant was converted to telephony.

Outside the laboratories the air was filled with talk of the coming presidential election between Harding and Cox. Here was a public eager to know which would win, and here were the facilities needed to disseminate the information faster than ever before possible. Westinghouse engineers used more than ordinary caution in preparations for the transmission of the election returns which turned on the lights to full brilliancy for radio's transition into broadcasting.

Exhaustive test broadcasts were made on October 25 and again on the 27th, less than a week before election day. Operators at Westinghouse plants in Derry, Pa., Mansfield, Ohio, and Louisville, Ky., planned to receive the results and to post them on bulletin boards. Many other cities had similar plans.

The returns were to be phoned to the transmitter in East Pittsburgh from the editorial rooms of the *Pittsburgh Post*, but as a final assurance of successful broadcasting, the

telephone circuit was routed through the station of Frank Conrad, who stood by, ready to give the returns over his amateur station 8XK, in case of trouble in East Pittsburgh. The Westinghouse station under the call letters of KDKA transmitted the broadcast smoothly, and the standby was not needed.

Although only a handful of persons had radio receivers on the night of November 2, 1920, there were thousands who received word of the progress of the vote tabulation through the instrumentality of radio. The members of the Radio Engineering Society of Pittsburgh, Inc., made up of licensed amateurs, worked out a system for relaying the news to the public. Space was taken in the old Public Safety building, located then where the Philadelphia Company building now stands. An elaborate receiver and loudspeaker were set up. As an additional service, they flashed returns on a screen across the street, and phoned the results to theater managers at intervals so they might relay them to theater audiences.

There was excitement in the air. Technicians look forward to the event with justifiable anticipation. But even they could not realize the full significance of what this undertaking would mean to the future of radio in the American way of life. When the Harding-Cox returns were going forth over the ether, the general public itself had a stake in the project. Yes, that intruder looking over the technician's shoulder was the radio listener, the tuner-in, the radio fan, or anything else that he has been popularly called in the past twenty-five years.

Radio almost unconsciously passed into broadcasting.

CHRONOLOGY OF MILESTONES

(Including historical development leading up to establishment of
American System of Broadcasting)

CLASSIFIED AS TO EVENTS

- 640 B. C.: Thales of Miletus observes that amber after being rubbed acquires the electric property of attracting straws.
- 1600 A. D.: "Of the Magnet and Magnetic Bodies," a scientific treatise which went into more detail about the force of *elektron* discovered by Thales of Miletus, introduced by William Gilbert, one of England's first experimentalists.
- 1654: Robert Boyle observes that electric attraction may take place through a vacuum.
- 1676: Olaus Roemer discovers that light travels at a finite velocity.
- 1725: Stephen Gray discovers electrical conduction, observing that electricity can be carried more than 500 feet along a hemp thread.
- 1733: Charles Du Fay notes that sealing wax rubbed with cat's fur is electrified, but the electrical effect is different from that produced by rubbing a glass rod with the fur. He names one "vitreous" and the other "resinous." The terms "positive" and "negative" are later introduced by Benjamin Franklin.
- 1749: Benjamin Franklin proves by means of his historic kite experiment in a thunder storm that lightning is an electrical phenomenon.

- 1779: Scientific paper presented at Academy in Paris by Charles A. DeCoulomb, French pioneer in experimental science, applying mathematics to electricity, observes that a feeble force is sufficient to twist a long thin wire through a large angle, thereby leading to the invention of his well-known torsion balance.
- 1780: Luigi Galvani discovers "animal" electricity or "galvanic" electricity as it is later called.
- 1819-20: Hans Christian Oersted, a Danish professor of physics, discovers the relation between electricity and magnetism, opening new horizons for future experiments.
- 1820: On learning of Oersted's discovery, Andre Marie Ampere, French physicist and mathematician, makes many discoveries into developments based upon magnets to become the *Newton of Electricity*.
- 1825: Georg Ohm propounds the law named for him—Ohm's Law.
- 1832: The idea of telegraphing is discussed by Samuel F. B. Morse.
- 1838: Professor K. A. Steinheil, of Munich, discovers the use of the earth-return later utilized in telegraph, telephone and wireless.
- 1844: May 24—Beginning of the telegraph industry, as a service to the public, Samuel F. B. Morse transmits a message, "What Hath God Wrought", from Washington, D. C. to Alfred Vail in the Baltimore & Ohio Railroad station in Baltimore.
- 1847: February 11—Thomas Alva Edison is born at Milan, Ohio.
- 1858: August 16—The first transatlantic cable is opened with an exchange greeting between President Buchanan and Queen Victoria.

- 1867: James Clerk Maxwell of Cambridge University, outlines theoretically and predicts the action of electromagnetic waves.
- 1872: July 30—The first patent for a system of wireless telegraphy is granted in the United States to Dr. Mahlon Loomis of Washington, D. C. His drawings illustrate how setting up “disturbances in the atmosphere would cause electric waves to travel through the atmosphere and ground.”
- 1874: April 25—Guglielmo Marconi born at Bologna, Italy.
- 1875: Edison notes a strange electrical phenomenon he calls “etheric force.”
- 1880: J. and P. Curie of France discover the piezo-electric effect of crystals.
- 1885: Sir William Preece in England demonstrates that telephonic speech could be sent 440 yards by induction.
- 1892: Sir William Crookes predicts wireless telegraphy without wires would soon be possible.
- 1895: Marconi sends and receives his first wireless signals across his father’s estate at Bologna, Italy.
- 1896: Marconi files application for the first British patent on wireless telegraphy. He sends signals across two miles at Salisbury Plain, England.
- 1897: Joseph J. Thomason discovers the electron which the radio tube is destined to operate and control.
- Marconi receiving on a tug boat picks up wireless messages from Needles on Isle of Wight, 18 miles distant.

July—The Wireless Telegraph and Signal Company, Ltd., is incorporated in England as a commercial wireless organization.

1898: June 3—Paid wireless messages are sent from Needles, Isle of Wight. Lord Kelvin (William Thomson), renowned physicist and inventor of the mirror galvanometer used in cable signaling, sends the first messages.

July 20—Marconi wireless reports the Kingstown regatta off Irish coast to Dublin newspaper from aboard the *S. S. Flying Huntress*.

1899: March 27—Marconi flashes the first wireless signals across the English Channel.

April 28—*Steamer R. F. Matheres* collides with the *East Goodwin Sands Lightship* and sends a wireless call for assistance.

April—Wireless communication is established by the U. S. Army Signal Corps between Fire Island and Fire Island Lightship, a distance of 12 miles.

July—Three British warships exchange wireless messages at sea across 75 miles.

1900: Sir Oliver Heaviside and Professor Arthur E. Kennelly of Harvard suggest the theory of a "radio ceiling" later referred to as the Heaviside surface, a conducting medium that reflects radio waves from the upper levels of the atmosphere.

S. S. Kaiser Wilhelm der Grosse leaves port as a seagoing passenger ship equipped with wireless service.

1901: January 1—The bark *Medora* is reported by wireless to be waterlogged on Ratel Bank, and assistance is sent.

February 11—Marconi establishes wireless communications between Niton, Isle of Wight, and the Lizard station, 196 miles apart.

December 12—Marconi at Newfoundland intercepts a transatlantic signal, the letter "S", transmitted from Poldhu, England.

1902: February—Marconi on *S. S. Philadelphia* picks up messages from Poldhu, 2,099 miles distant.

December 17—Marconi sends west-east transatlantic wireless messages from Glace Bay to England.

1903: President Theodore Roosevelt and King Edward of England exchange greetings by wireless between Cape Cod and Poldhu.

Ocean daily "newspaper" printed on board *S. S. Campania*, with news supplied by wireless.

August 4—International Radio-telegraphic Conference held at Berlin.

1904: February 1—CQD is adopted as the wireless distress call by the Marconi Company.

August 15—Great Britain passes a Wireless Telegraph Act.

1905: *The New York Times* receives eye-witness wireless bulletins of naval battle off Port Arthur in Russo-Japanese war.

1906: December 24—Reginald Fessenden transmits the human voice by wireless.

1908: February 2—*S. S. St. Cuthbert* afire off Sable Island is sighted by steamer *Cymric* from which a newspaper cor-

respondent sends story by wireless to the *New York Times* and the *Chicago Tribune*.

International Radio Telegraphic Conference at Berlin suggests SOS as wireless distress call instead of CQD.

- 1909: January 23—*S. S. Republic* collides with *S. S. Florida* off New York harbor, and Jack Binns, Republic wireless operator, flashes CQD that summons rescuers proving the value of Marconi apparatus in time of disaster at sea.

Marconi is awarded the Nobel Prize in physics, shared with Karl Ferdinand Braun for his development of the cathode-ray tube.

- 1910: January 13—Enrico Caruso and Emmy Destinn singing backstage of the Metropolitan Opera House, broadcast through DeForest radiophone and are heard by operator on *S. S. Avon* at sea and by wireless amateurs in Connecticut.

Marconi flashes wireless messages from Ireland to Buenos Aires.

S. S. Principessa Mafalda intercepts messages from Clifden, Ireland, 4,000 miles by day and 6,700 miles at night.

April 23—Marconi transatlantic American-Europe service is opened.

June 24—United States approves an Act requiring certain passenger ships to carry wireless equipment and operators.

- 1911: July 1—Department of Commerce organizes a radio division to enforce the wireless act of June 24, 1910.

Radiotelephony spans 350 miles between Nauen, Germany, and Vienna, Austria.

1912: United Wireless Company absorbed by American Marconi Company.

April 14—*S. S. Titanic* disaster proves the value of wireless at sea; 705 lives are saved. Jack Phillips and Harold Bride are the wireless men.

July 5—International Radio Telegraphic Conference in London approves regulations to secure uniformity of practice in radio communication service.

July 23—An Act is approved by the United States extending the act of June 24, 1910 to cover cargo vessels and require auxiliary source of power, efficient communication between wireless room and bridge, and two or more skilled wireless operators in charge of apparatus on certain passenger ships.

August 13—United States approves Act licensing wireless operators and transmitting stations, including amateurs.

1913: October 11—*S. S. Volturno* afire at sea flashes an SOS.

November 12—Safety at Sea Conference is held in London; wireless receives major consideration.

1915: July 28—Radio telephone successful between Arlington, Va., and Paris, 3,700 miles away. Hawaii also hears the voices in these tests conducted by American Telephone and Telegraph Company.

1916: November 5—President Woodrow Wilson and Mikado of Japan exchange radiograms at opening of trans-pacific circuit.

1918: July 31—United States Government takes over all wireless land stations in the country, with exception of a few high power transmitters remaining under control of commercial organizations.

November—Signing of the Armistice ending World War is announced by wireless flashed from Germany and France.

1919: President Wilson on way to Peace Conference in Paris maintains contact with America by wireless from *S. S. George Washington*.

August 24—United States Signal Corps broadcasts service of Trinity Church at Third and D streets, Washington, D. C.

President Wilson returning from Peace Conference on board *S. S. George Washington*, addresses the crew on July 4, and an attempt is made to broadcast his speech to shore, but was unsuccessful.

Radio Corporation of America is organized, acquiring the interests of the Marconi Wireless Telegraph Company of America and radio activities of the General Electric Company in plans for an American worldwide radio system.

Establishment of U. S. Naval Shore Radio Compass System with 33 stations along the Atlantic coast after tests by *U. S. S. Chicago*; project suggested to Navy by Lieut. Comdr. Thomas Appleby in 1918.

1920: February 29—United States government returns the high power stations under its control during the world war, and the first commercial long distance communication between the United States and foreign countries is inaugurated by the Radio Corporation of America.

A tract of land covering ten square miles is acquired at Rocky Point and Riverhead, L. I., for the construction of a Radio Central conceived for worldwide communication under direction of R. C. A.

1921: Nobel Prize for physics awarded Professor Edouard Branly for radio research and invention of coherer.

Paul Godley, American amateur at Androssan, Scotland, intercepts 27 American radio amateurs using power outputs ranging from 50 to 1000 watts.

August 30—American Radio Relay League holds its first annual convention at Chicago.

1922: Two-way radio conversation, first of its kind, is established between Dea Beach, N. J., and *S. S. America*, 400 miles at sea.

February 27—Radio Conference relating to broadcasting is held at Washington, D. C., at call of Secretary of Commerce, Herbert Hoover.

1924: October—Equipped with wireless the *Zeppelin ZR-3* (later renamed *Los Angeles*) crosses the Atlantic.

October—Third National Radio Conference pertaining to broadcasting is held in Washington, D. C.

1925: Commercial companies apply for shortwave licenses as transatlantic traffic is shifted more and more from long waves to 20 to 105 meters.

Heaviside-Kennelly theory of the so-called "radio mirror" is confirmed by the United States Radio Research Laboratories, Bellevue, D. C.

1926: *S. S. Antinoc* in distress at sea flashes an SOS and the *S. S. President Roosevelt* rushes to the aid through a blinding blizzard guided to the scene by a radio compass.

February 23—President Calvin Coolidge signs the Dill-White Radio Bill, creating the Federal Radio Commission and ending chaos caused by industry's wild growth.

May—Richard E. Byrd and Floyd Bennett in plane, *Josephine Ford*, fly over North Pole from Spitzbergen equipped with a short wave transmitter to contact base.

May—Dirigible *Norge* soars across the Arctic and broadcasts the first messages direct from the North Pole.

November 1—National Broadcasting Company is organized with WEAf and WJZ in New York as key stations, and Merlin Hall Aylesworth as president.

1927: January 1—Blue Network organized.

March 2—Federal Radio Commission appointed by President Coolidge: Rear Admiral W. H. G. Bullard, John F. Dillon, Judge E. O. Sykes, O. H. Caldwell and Henry A. Bellows.

September 18—Columbia Broadcasting System goes on the air with a basic network of 16 stations. Major J. Andrew White is president.

December 30—Radiomarine Corporation of America is organized to operate a radio service for ships at sea.

1928: January 4—The Dodge Victory Hour, costing \$67,600, becomes a national hook-up of major entertainment importance, linking into one radio "studio" by means of 30,000 miles of wire, every state in the union.

December 23—The National Broadcasting Company establishes a permanent coast-to-coast network.

1929: January 3—William S. Paley is elected president of the Columbia Broadcasting System.

November 29—Short wave flash from Little America, Antarctica, announces that Richard E. Byrd and several companions have flown over the South Pole.

December 20—International program from Germany rebroadcast in the United States.

December 25—Christmas Day is celebrated by an international exchange of radio programs between the United States, England, Germany and Holland.

1930: December 25—Premier Hamaguchi of Japan is heard in an American rebroadcast from the Orient.

1932: December 10—Program direct from Java clearly rebroadcast in the United States.

1934: July 11—Federal Communication Commission is organized to succeed Federal Radio Commission, and also to regulate wire telephony and telegraphy. Members: Eugene O. Sykes, Thad H. Brown, Paul A. Walker, Norman S. Case, Irvin Stewart, George Henry Payne, and Hampson Gary.

September 30—Mutual Broadcasting System starts as cooperative four-station hookup (WOR, WGN, WLW, and WXYZ), carrying first commercial program.

1935: Sun disturbances and their effect upon high-frequency reception are discovered by John Howard Dellinger and thereby called *the Dellinger effect*.

1936: April 24—American Newspaper Publishers Association drops fight on radio and adopts cooperative attitude, concluding in report that functions of newspapers and radio are so closely allied that future welfare of country depends upon continuance of both media as "free institutions."

December 29 — Mutual Broadcasting System, after operation as limited network for two years, expands transcontinentally by adding Don Lee Broadcasting System of California and other stations.

1937: July 20—Guglielmo Marconi, pioneer radio inventor and first man to span the ocean with a radio signal, dies of a heart attack at age of 63.

July 30—American Federation of Radio Artists formed as autonomous union of all talent except musicians under A. F. of L.

December 6—U. S. Court of Appeals for District of Columbia writes radio law in three decisions holding that broadcasting stations are not public utilities; that economic competition should be considered in granting new facilities in given localities; and that F. C. C. should hand down statement for facts and grounds for decision at time of ruling rather than weeks or months later.

1938: August 10—Elliott Roosevelt, president of Hearst Radio, Inc., organizes Texas State Network as independent enterprise with 23 stations, scheduled to start operating September 15.

1939: May 9—President Franklin D. Roosevelt in transcribed address under government auspices describes radio as “free as the press” except for such controls as are necessary to prevent complete confusion on the air.

1940: March 25—U. S. Supreme Court in Sanders-Dubuque case, gives F. C. C. power to license new broadcast stations without regard to economic injury to existing stations, establishing new “survival of fittest” theory. In same decision holds Commission has no supervisory control of programs, business management or policy of stations.

December 23—C. B. S. President Paley announces plan for a radio network to link the Americas, following a visit to the countries of Central and South America.

1941: December 10—Dr. Frank Conrad, father of KDKA, Pittsburgh, dies in Florida.

1942: January 9—Blue Network Company starts as separate entity, divorced from N.B.C. but under parenthood of R. C. A.

May 19—Regularly operating network dedicated by C. B. S. to provide a two-way service between the Americas. Affiliated with C. B. S. in this intercontinental hookup on broadcasting's 25th anniversary are 114 stations.

June 8—James C. Petrillo, president of American Federation of Musicians, touches off national controversy by banning recording and transcribing of music for public consumption as of August 1.

July 30—Census Bureau county-by-county breakdowns show 82.8% of all occupied dwellings in the United States are equipped with radios when 1940 Census was taken.

1943: May 6—Home radios reported by 91.9% of the nation's families, although 4.2% reported sets out of order, according to a survey by *Life* magazine.

December 24—Christmas Eve address by President Roosevelt carried over greatest worldwide hookup in history.

1944: January 3—Largest number of radio homes in history (32,500,000) estimated for 1944 despite wartime freezes plus tube and parts shortages.

April 12—Death of Franklin D. Roosevelt, *first radio president*, stuns nation, getting its news by the radio, handled in high dignity.

May 8—Petrillo discloses plan for A. F. M. to install "pancake turners" in all stations to make jobs for 2,000 at A. F. M. scale. Precipitated a fight with N.A.B.E.T., which resulted later in National Labor Relations Board

ruling favoring latter except in Chicago, where musicians are used as record turners.

1945: October 17—Petrillo announces ban on dual broadcasting of musical programs on F. M., as well as standard stations, with comments by all in radio that F. M. development thereby would be retarded.

November 4—Worldwide recognition of role played by American broadcasting given during observance of national radio week November 4-10, commemorating its 25th anniversary.

CLASSIFIED AS TO EQUIPMENT

1650: Otto Von Guericke invents the air pump and the first frictional electric machine.

1745: The principle of the electrostatic condenser is discovered by Musschenbroeck of Leyden.

1794: Alessandro Volta invents the voltaic cell.

1827: The term "microphone" is coined by Sir Charles Wheatstone as the name of an acoustic device he built to amplify feeble sounds.

1831: Joseph Henry of Princeton, N. J., discovers self-induction improving the electromagnet to lift 3,000 pounds and makes the first electric bell.

Michael Faraday formulates the laws of electromagnetic induction, paving the way for the magneto and dynamo.

1835-36: Samuel F. B. Morse builds his first telegraph instruments.

1861: Philip Reis of Germany builds a make-and-break platinum contact microphone with which musical sounds, but not speech can be transmitted.

1863: Hermann L. F. Von Helmholtz, German philosopher and physicist, publishes *Sensations of Tone*, considered by many as the most important work on acoustics in the nineteenth century.

1865: An induction machine is constructed by Wilhelm Theodor Holtz.

1867: Heinrich Daniel Ruhmkorff builds a coil consisting of a secondary containing sixty-two miles of wire—just one of his many developments in the improvement of the induction coil.

1875: The telephone is invented by Alexander Graham Bell.

1877: Emile Berliner of Washington, D. C., notes that the resistance of a loose electrical contact varies with pressure, applying the principle to the design of a microphone.

Edison patents the button or solid carbon type of voice transmitter for the telephone.

1878: Francis Blake designs a telephone transmitter employing a block of hard carbon and a vibrating diaphragm.

David Edward Hughes of London builds a sensitive inertia transmitter for the telephone and revives the name "microphone." He discovers the phenomena upon which the action of the coherer depends.

Alternating current system of electric distribution developed by Elihu Thomson.

1882: March—Professor Amos Dolbear of Tufts College is granted a United States patent for a system of wireless telegraphy or as he states, "electrical communication between two points certainly more than one-half mile apart."

- 1883: Edison discovers "the Edison effect," a phenomenon occurring inside an incandescent lamp. He observes that an electric current can be made to pass through the space between a heated filament and an adjacent cold metallic plate.
- 1884: Paul Nipkow of Berlin invents a scanning disk by means of which he hopes to send pictures over wires; it being used later in television.
- 1885: Edison develops an induction system of communication for use between railroad stations and trains.
- 1886: Dolbear patents a wireless system employing two elevated insulated metallic plates.
- Professor Heinrich Hertz, German physicist, proves experimentally that electromagnetic waves as predicted by Maxwell can actually be sent through space with speed of light. He demonstrates with the famous Hertz oscillator.
- 1888: Emile Berliner, developer of the lateral cut disk record, makes his first exhibition of the gramophone before the Franklin Institute.
- 1889: Thomson meter invented by Elihu Thomson forerunner to millions of recording wattmeters manufactured in years to follow.
- 1890: Professor Edouard Branly of Paris develops the coherer as a detector of electromagnetic waves.
- C. Francis Jenkins of Washington, D. C., begins a search for new devices needed for success of Nipkow disk as a television scanner.
- 1891: Nikola Tesla experiments with high frequency currents and discovers the principle of the rotary magnetic field.

He applies it in practical form to the development of the induction motor.

1892: Sir Preece signals between two points on the Bristol Channel by a system that employs both the principles of induction and conduction.

1894: Sir Oliver Lodge at the British Association meeting demonstrates the efficiency of the Branly coherer as a detector of electromagnetic waves up to 150 yards.

1895: Radio magnetic detector, more sensitive than the coherer, invented by Sir Ernest Rutherford, British physicist.

1897: October—Resonant coils for measuring wave lengths, later replaced by the more accurate wavemeter, introduced by Adolph K. H. Slaby, known as the *German Marconi*, taking out German patents to cover the invention of wireless, thereby becoming a serious rival to Marconi who himself was granted German patents the year before.

1900: Marconi files application for his first historic patent No. 7777 covering a "tuned" or synchronized wireless system.

1901: September 28—Professor Reginald Fessenden applies for a United States patent for radio-telephony utilizing an alternating current generator having a frequency of 50,000 cycles per second.

Telephone repeater or Pupin Coil, invented by Michael Idvorsky Pupin, acquired by the Bell Telephone Co.

1902: June 25—Marconi introduces the magnetic detector and conducts tests on board the Italian cruiser *Carlo Alberto*.

Professor Fessenden introduces the electrolytic detector.

1903: Electric arc transmitter as means of propagating wire-

less waves is introduced by Valdemar Poulsen and William Duddell.

1904: Professor John Ambrose Fleming of England invents the two-element thermionic valve detector.

Wireless apparatus featured at St. Louis World's Fair.

1906: E. Bellini and A. Tosi of Italy pioneer in radio direction finder research.

Telefunken arc system of wireless is introduced in Germany and covers 25 miles.

Dr. Lee DeForest invents the audion, a three-element vacuum tube, having a filament, plate and grid.

General H. C. Dunwoody discovers the rectifying properties of carborundum crystals and Greenleaf Pickard notes similar properties of silicon, replacing coherer as a detector of wireless waves.

1912: Frederick A. Kolster of Bureau of Standards develops a decimeter to make direct measurements of wireless waves.

Single-dial tuning system for radio receivers developed by John Vincent Lawless Hogan.

February—Marconi Company acquires the Bellini-Tosi patents, including the direction finder.

1913: November 24—Tests of wireless are conducted on Delaware, Lackawanna and Western Railroad between Hoboken and Buffalo.

1914: October 6—Edwin H. Armstrong is granted a patent on the regenerative or feed-back circuit.

1915: Radio compass is developed by Dr. Kolster of U. S. Bureau of Standards.

Dynatron, a vacuum tube having a true negative resistance, developed by Albert Wallace Hull.

1916: Mica condenser invented by William Dubilier.

1917: Dr. E. F. W. Alexanderson designs a 200-kilowatt high frequency alternator, facilitating world-wide wireless.

A filter circuit, used later in radio receiving sets, developed by Albert Wallace Hull.

1918: A. Hoxie, General Electric engineer, installs a high-speed wireless recorder to copy messages from France at Otter Cliffs, Maine.

1919: The vacuum tube highly developed by World War necessities begins to replace the old spark and arc transmitters.

U. S. Navy's flying NC-boats use radio and direction finders on historic transatlantic flight.

British dirigible R-34 crosses Atlantic equipped with a vacuum tube transmitter.

England and Canada linked by vacuum tube radiophone transmitters.

1920: Installation of 200-kilowatt Alexanderson high frequency alternators for international communication begins at Bolinas, California; Marion, Massachusetts, and Kahuku, Hawaii.

Magnetron, ultra-high-frequency generator, developed by Albert Wallace Hull.

1921: Alexanderson's 200-kilowatt alternator system installed at Tuckerton, N. J.

Powell Crosley, Jr., builds a radio receiving set for \$35 when they were being sold for \$130 up. Decides to manufacture moderately priced receiving sets on a mass production basis.

September 1—Specially built storage batteries of 10 units, 50 watts each, put into use by WCAK, Houston, Texas.

1922: Successful experiments with the principle of a "machine-gun mike" on KQV, Pittsburgh, through the Doubleday Hill Electric Company.

The superhetrodyne as a broadcast receiver is demonstrated by its inventor, Armstrong.

June—Marconi comes to America in his yacht, *Electra*, and at a meeting of the Institute of Radio Engineers demonstrates his short wave beam and reflectors.

June 26—Marconi delivers an address using the Pallphotophone pickup (recorded sound on motion picture film) over WGY, Schenectady.

October 25—High-powered vacuum tube transmitters handle traffic between New York, England and Germany. Development of a 20-kilowatt vacuum tube for transmitters announced by Dr. Irving Langmuir, Schenectady.

1923: Principle of negative feed-back to stabilize and reduce distortion in transmission circuits, modulators, amplifiers, and detectors, also describing automatic volume control, developed by Stuart Ballantine while with the Radio Frequency Laboratories at Boonton, New Jersey.

March—Invention of the neutrodyne circuit is described by Professor L. A. Hazeltine at Radio Club of America.

June 7—American Telephone and Telegraph Company demonstrates use of long distance wires for simultaneous broadcasting by engineering circuits and connects WEAJ, New York; and WGY, Schenectady; KDKA, Pittsburgh; and KYW, Chicago, for annual meeting of National Electric Light Association.

August 7—Condenser microphone is put into use by WGY, Schenectady.

1924: Air-cooled metal transmitter tubes used by WTAM, Cleveland.

February 8—Broadcast made involving transcontinental circuits and including a Havana station as a part of a demonstration of the telephone art by an A. T. & T. Company official for the Bond Men's Club of Chicago.

October 23—Cities of Los Angeles, Portland and Seattle on west coast are connected with Eastern cities by long distance lines for simultaneous broadcasting. The occasion is President Calvin Coolidge's address at dedication of United States Chamber of Commerce building.

1925: Alternating current tubes introduced, making possible the all-electric receiver for the home by William Dubilier who invents the "B" battery eliminator.

November—Mobile studio and short wave transmitter W6XBR, installed by KFWB, Hollywood.

1926: April—Largest storage battery in the world for plate supply to station's transmitter, then licensed at 3,500 watts, by WTAM, Cleveland.

April 20—Picturegram of a check flashed by photoradio from London to New York where it is honored and cashed.

1927: January 7—Radiotelephone circuit or "talk-bridge" of American Telephone and Telegraph Company opens between New York and London with Adolph S. Ochs, publisher of the *New York Times*, talking with Geoffrey Dawson, editor of the *London Times*.

1928: Nils Erik Lindenblad demonstrates that wires, each having a length of several waves, can be combined into

extremely simple and inexpensive arrays to form excellent beam patterns, an important technique in beam aerial design.

1929: Screen grid tubes developed for radio receiving sets by Albert Wallace Hull.

In collaboration with H. A. Snow, Stuart Ballantine devises a remote cut-off system of vacuum-tube construction in which the grid is given a variable pitch, thereby eliminating to a large extent cross-talk and modulation distortion in radio broadcast receivers.

1930: Pentode tubes for radio receivers introduced.

June—Plans announced for a \$250,000,000 Radio City to be built on Manhattan Island.

December 6—Direct radio communication established the United States and China by opening of San Francisco-Shanghai circuit.

1931: Dr. Allen B. DuMont invents "the magic eye" or cathode-ray tuning indicator.

June—Single-tower vertical half-wave radiator built by WNAC, Boston at Squantum, Massachusetts.

September—Commercial use of the Western Electric dynamic microphone by WHK, Cleveland.

December 1—Directional antenna system is installed by WFLA, Tampa and WSUN, St. Petersburg, Florida.

1932: Velocity microphone perfected by R. C. A., as invented by Harry Ferdinand Olson, who also pioneered in development of directional microphones and the long-pointed, ultra-directional microphones.

1934: May 20—All-wood radio tower installed by KRGV, Weslaco, Texas.

October 9—Supreme Court of the United States upholds Dr. de Forest as the inventor of regenerative or “feed-back” circuit.

December 15—475 foot non-supported tower completed by KOA, Denver.

1936: June—At the Democratic National Convention, the Columbia Broadcasting System introduces “lapel mikes” for interviews on the Convention floor and for picking up the voices of chairmen of delegations as they announce voting results.

September—Uniform cross-section vertical antenna tower installed by KUOA, Siloam Springs, Arkansas.

1937: January 1—Walkie-talkie as a broadcasting unit for special events is utilized by KMTR, Hollywood.

1939: The *rhumbatron*, an ultra-high-frequency resonator, projecting a radio beam “as straight as a sunbeam”, is invented by brothers, Russell and Sigurd Virian, and Dr. William Webster Hansen. This electron tube is important for blind landings in aviation, in electric power transmission by radio, and other branches of communication.

1942: July 30—Census Bureau county-by-county breakdowns show 82.8% of all occupied dwellings in the United States are equipped with radios when 1940 census was taken.

1944: Full-wave or double half-wave antenna system for standard broadcast stations installed by WKY, Oklahoma City.

May 1—Educational station purchases a “mobile unit” truck—WOSU, Ohio State University.

1945: February—WHBF, Rock Island, Illinois, uses a wire-

recorder for action broadcasts, covering all modes of transportation.

CLASSIFIED AS TO STATIONS

- 1897: July—The Wireless Telegraph and Signal Co., Ltd., is incorporated in England as a commercial organization; its name being changed to Marconi Wireless Telegraph Co., Ltd., in 1900.
- 1900: February 18—Germany opens a commercial wireless station on Borkum Island.
- November 2—Belgium installs a wireless station at Lapanne.
- 1901: March—Wireless service for the public is established between the five main islands of the Hawaiian group.
- 1907: October 17—Commercial wireless service is inaugurated between Clifden, Ireland and Glace Bay, Nova Scotia.
- 1908: February 3—Marconi transatlantic wireless stations opened to the public for transmission and reception of Marconigrams between England and Canada.
- 1912: United States Naval radio station, NAA, opens at Arlington, Va.
- San Jose, California radio telephone transmitting station (later becoming KQW) begins broadcasting of regular programs.
- 1913: Message 1,550 miles by station POZ, Nauen, Germany.
- 1914: Direct communication established between WSL, Sayville, L. I., and POZ, Nauen, Germany; also between Tuckerton, N. J. and Elvise.
- September 24—California-Honolulu wireless service is opened by Marconi Telegraph Company of America.

1915: July 27—Wireless communication is established between United States and Japan through relay via Honolulu.

1916: Summer—8XK license is issued to Dr. Frank Conrad, assistant engineer of Westinghouse, East Pittsburgh, for general development work. Station starts broadcasting in November, 1919.

November—De Forest experimental radiophone station is opened at High Bridge, N. Y.

November—Station 2ZK, New Rochelle, N. Y., operated by George C. Cannon and Charles V. Logwood, broadcasts music between 9 and 10 p.m. daily except Sunday.

1917: Experimental broadcasts with music, in addition to its regular telegraphic transmissions of weather and crop reports from the University of Wisconsin on 9XM (later WHA, Madison, Wisconsin).

May 3—From a wireless telegraph set on the steamship *Matoa*, call letters KMJ assigned to Fresno, California, station which is established in 1922.

1918: April—A high power station LCM is opened at Stavanger, Norway.

1919: February—"Clear" and scheduled telephonic broadcast by 9XM (later WHA), University of Wisconsin, Madison.

April—CW and telephone transmission installed by 21A (later WAAT, Newark) with phonograph records used in tests.

1920: February—Ohio State University begins broadcasting of music and talk by President W. O. Thompson from station set up by Captains Jones A. Code, Jr., and H. W. Webbe, Jr., of the R. O. T. C.—located in barracks building east of Robinson laboratory.

May—Twice-a-week programs of news and music for two hours broadcast by WAAT, Newark leased by the Jersey Review.

August 20—Daily broadcasting begins on WWJ, Detroit (then 8MK, later WBL, WWJ, July 7, 1922) owned by Detroit News and installed by William E. Scripps.

November 2—Founded by Dr. Conrad, KDKA, Pittsburgh (Westinghouse Company) begins regular schedule of broadcasting with Harding-Cox presidential election returns. Phonograph music broadcast by means of electrical pickup.

“Checkers” of evening programs instituted by KDKA, Pittsburgh using “Aeriola, Jr.,” a crystal set with head phones and one tube for amplification, with authority to order shows off the air that do not measure up to standards.

1921: H. W. Arlin employed as a full-time announcer by KDKA, Pittsburgh.

President Harding formally opens Radio Central on Long Island addressing a radiogram to all nations.

Government licenses “sister” stations—KQV, Pittsburgh and WSMU, Washington, D. C.—owned and operated jointly by the Doubleday Hill Electric Company.

April—KMBC of Kansas City goes on the air under the call letters of 9AXJ.

September 27—WBZ goes on the air at Springfield, Massachusetts.

October 1—Featuring World Series bulletins, WJZ, New York officially opens at Newark, New Jersey.

Fall—Stand-by emergency microphones and phonograph in separate control room put into use by WJZ, New York. In November Thomas A. Cowan builds a radio "studio" in a partitioned section of the Westinghouse plant.

November 11—Station KYW is introduced on the air at Chicago by Westinghouse Company.

December 15—Station WDY (later merged with WJZ) opens at Roselle Park, N. J.

1922: February 20—Station WGY, Schenectady, goes on the air with Kolin Hager announcing the inaugural program.

April 4—Log cabin is used as a completely equipped broadcasting studio by KGY, Olympia, Washington—known as *The Log Cabin Station* with the slogan, "Out where the Cedars meet the sea."

April 10—Stations share time—WWL, New Orleans, and WAAB, Times-Picayune.

April 13—Variety programs of music, comedy and informative talks start on KHJ, Los Angeles.

June—Instructions in Continental Code on WCAU, Philadelphia.

June—Acoustically treated and sound-proof studios installed by KSD, St. Louis.

June—KSD, St. Louis is a 400 meter station.

June—"Real" studio complete with artificial ventilation, French pleated draperies made of Monk's cloth, heavy rugs and expensive padded furniture installed by WJZ, New York.

August 16—The American Telephone and Telegraph Company abandons its broadcasting station, WBAY.

August 16—WEAF goes on the air atop the Western Electric Building, West Street, New York.

August 31—Requirements for a class "B" station license passed by KSD, St. Louis.

September 12—Heard in every state of the Union, in Canada, Mexico and on ships, both in the Atlantic and Pacific oceans, is KSD, St. Louis.

October 28—Pick-up from gridiron combines long distance telephone lines, radio broadcasting and a public address system through WEAF, New York.

1923: Western Union lines used by WTAM, Cleveland.

January 4—Simultaneous broadcasting from two stations by WEAF, New York, and WNAC, Boston.

February 18—Successful exchange of programs across nation by WOR, New York, and KHJ, Los Angeles.

March 4—Short wave from KDKA, Pittsburgh rebroadcast by KDPM, Cleveland.

May 12—WBAP, Fort Worth is licensed 1,500 watts.

May 15—WJZ moves from Newark, N. J., to Aeolian Hall on 42nd Street, New York.

July 1—Broadcasting chain is formed when WMAF, Round Hills, Massachusetts begins regular broadcasts of WEAF programs.

July 4—A. T. & T. Company's second experimental station, WCAP, Washington, D. C., opens with a program transmitted by long distance from WEAF, New York.

August 1—WRC is opened by Washington, D. C., by the Radio Corporation of America.

October 14—Program is transmitted from WEAF, New York over long distance wires to WJAR, Providence.

December 29—Transatlantic broadcast (long wave) from London over WEAF, New York.

December 31—Experimental broadcast with 5 kw transmitter by WEAF, New York.

Late in Year—Mobile short wave radiophone transmission on KFWB, Hollywood.

1924: International program relayed on 1,600 meter wave from Daventry, England to Houlton, Maine, from where it is fed by wire lines to WJZ, New York for rebroadcast.

St. Louis radio stations during the St. Louis Radio Show construct a "Crystal Studio" in which various stations take turns presenting programs which the audience watches through a plate glass partition, thereby bringing broadcasting out from behind closed doors.

WTAM, Cleveland broadcasts via light waves using light instead of wire connections.

January 9—KGO, Oakland makes its debut on the air, owned by General Electric Company.

February 5—Short-wave program from KDKA, Pittsburgh rebroadcast in London.

February 23—Calcutta, India eavesdrops on a KDKA program rebroadcast from London.

March 7—Simultaneous trans-Atlantic and trans-continental broadcast by WJZ, New York.

October 11—Program of KDKA, Pittsburgh is intercepted at Cape Town, Africa in sufficient strength to be rebroadcast.

October 14—Commercial network service is started by WEAJ, New York in the forerunner of the "Red Network." The five other stations are WJAR, Providence; WEEI, Boston; WGR, Buffalo; WCAP, Washington, D. C., and WCAE, Pittsburgh.

December 15—KOA, Denver goes on the air owned by General Electric Company.

1925: Since this year, KOIN, Portland, Oregon has maintained a live-talent, transcription only policy, never playing a phonograph record except as sound effects.

January—Transmitter remote from city in Harrison, Ohio put into use by WLW, Cincinnati.

January 31—Broadcasting service is furnished from United States into Canada with addition of CNRO (Ottawa) to "Red Network."

April 30—For Long-Bell Lumber Company on its 15th anniversary, WHB, Kansas City introduces independent network connecting Kansas City and the Pacific Coast.

July 25—WGY, Schenectady uses 50,000 watts in the antenna. On October 3, WGY is authorized to use 50 kw Saturdays and Sundays—full-time on May 8, 1926.

October 10—Crystal control, to hold the station on its assigned frequency, installed by WGY, Schenectady.

November 1—At the Sherman Hotel with an audience theatre seating 100, WLS, Chicago moves into new studios.

November 22—Programs start on Western New York network including WHAM, Rochester; WFBL, Syracuse; WMAK, Buffalo, and WGY, Schenectady.

1926: National Broadcasting Company is organized with WEAJ and WJZ in New York as key stations.

1927: January 1—Blue Network organized.

August 4—100,000 watts in the antenna of WGY, Schenectady.

September 18—Columbia Broadcasting System goes on the air with a basic network of 16 stations.

October 27—Program rebroadcast from Sydney, Australia over WGY, Schenectady.

1928: February 21—Two-way communication with England through WGY, Schenectady.

October 26—Two-way communication between the United States and Sydney, Australia through General Electric's 2XAF and 2XAD, Schenectady and 2ME in Australia.

December 23—The National Broadcasting Company establishes a permanent Coast-to-Coast network.

1929: March—For two consecutive nights between midnight and 3 a.m. test programs heard more than a thousand miles away from KLCN, Blytheville, Arkansas with seven and a half watts.

1930: March 9—200,000 watts in the antenna of WGY, Schenectady.

December 24—Building to order for broadcasting is constructed by WCAU, Philadelphia.

1931: December 12—The National Broadcasting Company spans the earth from New York's WEAJ to a world roll call of 14 nations on four continents—thirtieth anniversary of Marconi's trans-Atlantic wireless message.

1933: April—Live and dead end studios designed for use of dynamic microphones installed by WNAC, Boston.

October 29—Broadcast from a Navy plane on ultra high frequency during San Francisco's Navy Day celebrations through KJBS, San Francisco.

1934: May 1—Licensed for 50,000 watts regularly and 450,000 watts experimentally WLW, Cincinnati begins operating with 500,000 watts.

September 30—Mutual Broadcasting System starts as cooperative four-station hook-up (WOR, WGN, WLW and WXYZ).

1935: November 8—Located on pilings of the Municipal wharf with entire ground system in salt water of Monterey Bay, KDON, Monterey, California starts operation.

1936: May 21—High fidelity transmission covering the full frequency range is introduced by WQXR, New York.

December 29—Mutual Broadcasting System, after operating as limited network for two years, expands transcontinentally by adding Don Lee Broadcasting System of California and other stations.

1941: Towers moved, while standing, by WMBG, Richmond, Virginia.

June 4—50,000 watt station operates in small rural community of less than 50,000 population—KOB in Albuquerque.

1942: May 19—Regularly operating network dedicated by C. B. S. to provide a two-way service between the two Americas.

October 25—Foreign pick-up arrangement for integration into regular programs established by WLW, Cincinnati.

1944: March—Restricted by war-time building ban WOIS, Florence, South Carolina, goes out into the woods, cuts its own lumber, builds a studio, offices and a complete building—and keeps fires going in building to dry out lumber and walls for occupancy.

Week of October 8—Series of programs beamed to WTAG, Worcester as an individual station from the Belgian Congo.

December 7—Program short-waved from India to WTAG, Worcester as an individual station.

1945: May 7—New radio station starts operation on V-E Day—WSSV, Petersburg, Virginia.

Music From Out of the Nowhere

CHAPTER II

The role of music in the transition of radio into broadcasting was an important one. While the first transmission of the human voice through the ether staggered the listener's imagination, the sound of music coming in from out of the nowhere was even more unbelievable. That radio should commission music to its experiments, through gramophone records, is quite logical for after all music is an elemental sound challenging the scientist's skill to reproduce the full frequency range and improve tonal quality.

Frank Conrad with his 8XK, and phonograph records, entertained fellow amateurs around Pittsburgh for over a year before broadcasting came into being. Up in Detroit Paul Specht

introduced his full dance orchestra to the airwaves less than a month after the establishment of WWJ. Specht vividly remembers the details of the memorable event, and the first tune he played was a hit of his own, "Wishingland"—written two years previously in collaboration with J. Will Callahan, the author of the world famous "Smiles". A few nights later a certain Miss Mabel Norton Ayers of Cincinnati added her voice to phonograph background music over WWJ, and the early radio fans marveled at what next the crystal box would produce.

Vaughn De Leath provided just that with the origination of a "crooning" method of singing to suit the human voice to the sensitiveness of the transmitting tubes. The Bing Crosbys and the Frank Sinatras have become legend by capitalizing upon what was considered at first a technical necessity.

A well-known tenor could have used *crooning* to good advantage back in the days of KDKA's tent studio when he opened his mouth wide to sing a full, high note and almost swallowed a bug. His comments, which came in a torrent of angry words as soon as he caught his breath, were not in good radio taste—and a vigilant operator took the station off the air in a hurry.

The phonographs used in putting records on the air, before broadcasting came into being, were the first of the models to appear on the market without the morning-glory

amplifier. Until electrical pickup heads were perfected, the microphone was placed in front of the sound-box aperture. But the Westinghouse engineers had experimented with the electrical pickup method and devised a working model in the fall of 1920. The night of the historic Harding-Cox election coverage marked the first use of the electrical pickup to fill the intervals between announcements of returns.

Some years later on a hot, sultry night in July, 1925, a scratchy phonograph led to the firing of a WEEI announcer. The announcer's assignment was "keep the station on the air." The *how* was left up to him. So he rigged up a device with a gramophone and some records to cover himself while he slipped out for a *Coke*. The gadget jammed, the manager squawked and not long afterwards the announcer took up book-keeping.

There were instances in those first years of broadcasting when *name* artists could be persuaded to perform before the microphone, but on the whole, the ether was throbbing with singing announcers and budding hopefuls from out of the amateur ranks. It was back in the days when Thomas E. Dewey, rising young baritone from Owosso, sang with the Detroit News orchestra over WWJ, Detroit, in his first radio appearance.

It was, too, the day¹ of the DX'er. The early radio fans combed the radio dials for something that kept sleep away and feet tapping. Out in Kansas City, the Night Hawks,

¹ We should say "night".



Billy Jones and Ernie Hare, "The Happiness Boys," with Helen Hahn at the piano, won outstanding success in the early days of radio. Remember them, too, for "Socks, Socks—We're the Intercoven Pair!"

with Leo Fitzpatrick as the *Merry Old Chief* and with Coon-Sanders from the Plantation Grill of the Muehlebach hotel, had half-a-world burning lights at all hours of the night. If that skeptic who charged WEEI, the Edison Company station in Boston, with being "a bald-faced ruse to make people stay up late—and burn more electric lights" could have fallen under the spell of the *Merry Old Chief*, he would have accused WDAF as being a partner in crime.

In Leo Fitzpatrick's own words—"The program had its inception the latter part of 1922. Up to that time we had been using a very stereotype formula of cutting on the microphone and announcing that Ginny Smith would play something. Then with the feeling a little studio noise would get out, we shut off the microphone when she had finished and would wait for the next number.

"I got the idea of why not let the public listen to some of the atmosphere. The hottest thing in town at that time was the Coon-Sanders Orchestra, playing at the local Newman Theatre and at the Hotel Muehlebach. We installed microphones in the hotel, and the next night we were on the air. The listeners had their first taste of transferring a night club into the ether where they heard the chatter of the dancers, the playing of the orchestra and such popular pieces of that day as *Gallagher and Shean, Runnin' Wild, Maggie — Yes Mam—Come Upstairs* and others.

"The band would play fifteen minutes and then there would be a ten minute lull that offered a very difficult problem at first until we started to read telegrams and make alleged wisecracks, which later proved almost as popular as the music. I think the real success of the *Night Hawks* was that it gave every little town throughout the country its own night club. It was a custom then to gather a few jugs of *corn*, hold a party and wait for the *Night Hawks* to start broadcasting for

the evening's entertainment. The *corn* probably contributed as much as the *Night Hawks* did to the evening."

As for the noted artists of the Met and the like, there were a few exceptions to the *holdout* ranks. Of course, back in radio's experimental beginnings, Enrico Caruso and Emmy Destinn appeared over the DeForest radiophone, singing backstage of the Metropolitan Opera House. That was in 1910, and the audience was limited to an operator on the *S. S. Avon* at sea and wireless amateurs in Connecticut. After the establishment of broadcasting itself, Mme. Johanna Gadski, the great operatic singer, was one of the first *name* stars to appear before the microphone on WJZ in New York.

Contrary to world-wide publicity some 22 years later which labeled him a "steadfast radio holdout", Fritz Kreisler performed over the KDKA facilities from Pittsburgh's Carnegie Music Hall on the night of January 26, 1922. H. W. Arlin, broadcasting's first announcer, in recalling the occasion, said "... we waited rather impatiently at the stage entrance because Mr. Kreisler was late in arriving due to a traffic jam around Carnegie Hall."

For the most part though, the artists of broadcasting's formative years looked askance at what they considered an actual competitor to their phonograph record sales. The event which swung open the flood gates of the world's great talent

occurred on January 1, 1925 (not 1926) when John McCormack, noted Irish tenor, and Lucrezia Bori, star of the Metropolitan Opera, made their debuts over WEAF, New York. It was a historic broadcast, for its success encouraged other noted artists, who heretofore had frowned upon broadcasting, to go on the air. They were convinced that instead of a competitor here was actually a ready means for unheard of remuneration and fame—and furthermore, the quality of the McCormack-Bori concert convinced them that radio could do justice to their art.

Within that year listeners around the New York area came to welcome in their homes the top stars of the grand opera and the concert stage as a regular weekly occurrence through the Atwater Kent Sunday series on WEAF, conceived and organized by A. Atwater Kent of Philadelphia. The first day of the Columbia Broadcasting System in 1927 featured programs of good music, thereby setting a pattern followed steadfastly ever since. A notable highlight of the initial day was the first radio performance of the American Opera, "The King's Henchman," by Deems Taylor and Edna St. Vincent Millay, with the Columbia Symphony Orchestra.

Shortly afterwards in 1930 the Philharmonic-Symphony Orchestra of New York began its long C.B.S. association. Today each of these Sunday afternoon broadcasts, which have continued without interruption except for brief summer vaca-



The New York Philharmonic-Symphony in Carnegie Hall, Dr. Artur Rodzinski conducting. A C.B.S. feature since 1930, and positive evidence in later years under sponsorship to the U. S. Rubber Company that symphonic music commercially supported sounds just the same as it did while sustaining.

tions, are heard by more listeners than have filled the concert halls during the orchestra's 103-year history.

The role of broadcasting in music circles, however, has not been that of merely providing a means for the rendition of music already at hand. In the production of radio programs the need arose for a new form of music, adaptable to the uses

of broadcasting for background and montage effects. William Stoess of WLW in Cincinnati was one of the first to develop this new art. In 1936 C.B.S. commissioned seven leading American composers to write music "to order, for radio." Its "Columbia Composers Commission" has done much to encourage the writing of original music for radio.

But there is no question that one of the real significant contributions to the art has been the stimulating of a broader appreciation of serious music among the common man. It is difficult to realize that in the world there are human beings with no soul for music. To many, the rhythmic, throbbing beat of a tom-tom satisfies their innermost cravings for musical intercourse. Whole segments of peoples are confined to the simpler forms of musical expression because limited have been the facilities for bringing the more complex to the isolated or thinly populated areas.

Like the growing child who graduates from nursery rhymes to the first grade reader to Shakespeare, the radio listener has been slowly but definitely developing a deeper sense of values in music. It takes no surveys to determine this fact. Broadcasting has brought music out of the country barns, the *honky-tonks*, and the music halls into the living rooms of even the most remote families. Many are learning for the first time that music can mean something more than a whining fiddle or a hot trumpet.

The criticism of broadcasting's over-balance in the more popular forms of music today is not without justification, but the critic should not forget that *crooning* and *jive* are the will of the majority. If the day should ever come that listener likes can be cultivated to a degree of appreciation among the masses for the philharmonics and the operas, their wishes will be reflected accordingly. For the American broadcasting system owes its existence and furtherance to a recognition of what makes *more* people want to listen *more*. The will of the majority is its standard, but even the most insignificant minority participates to the degree of its importance. Anything less than that would be just poor radio.

CHRONOLOGY OF MILESTONES

Music

Classified to the Heavier Side

1920: September 23—Miss Mabel Norton Ayres of Cincinnati sings with phonograph accompaniment over WWJ, Detroit.

1921: A complete opera from the Metropolitan Opera House by WGL, Philadelphia—the Howlit station.

Mme. Johanna Gadski, great operatic singer, appears over WJZ, New York.

December 4—KDKA *Little Symphony*, a musical organization exclusively for broadcasting, founded by KDKA, Pittsburgh.

December 17—Pittsburgh *Civic Quartet*, under direction of Mrs. Will Earhart, presents program consisting entirely of Christmas Carols on KDKA, Pittsburgh.

1922: A series of music appreciation programs under direction of E. B. Gordon on WHA, Madison, Wisconsin.

January 26—Fritz Kreisler in a concert from Pittsburgh's Carnegie Music Hall on KDKA, Pittsburgh.

February 10—Ossyp Gabrilowitsch directs the Detroit Symphony in a complete concert over WWJ, Detroit.

March 15—Mozart's opera, "The Impresario," on WJZ, New York, arranged by Thomas H. Cowan with Hazel Huntington, Regina Vicarino, Tom McGranahan and Percy Hennis.

March 25—"Martha" given by the Bijou Opera Ensemble in English, lasting over two hours, on WJZ, New York.

May 28—Complete opera, "Carmen", made up of recordings and story continuity, on KGY, Olympia, Washington.

June 6—Oratorio Society of Newark presents a complete oratorio, "The Messiah," on WJZ, New York.

June 25—Light opera from an outdoor stage by KSD, St. Louis from the Municipal Theatre in Forest Park.

November 22—*The New York Philharmonic* from the Hall of the College of the City of New York on WEAJ, New York.

November 26—Regular weekly series by the *City Symphony* orchestra begins on WJZ, New York.

1923: William Stoess with WLW, Cincinnati develops a new form of music which is adapted to the uses of broadcasting including background and montage music for dramatic productions.

February—Opera presented from the Boston Opera House over WNAC, Boston.

February 16—Complete "The Flying Dutchman" from stage of the Manhattan Opera House on WJZ, New York.

April 2—Comic opera, Gilbert and Sullivan's "Mikado", from the stage of the Shubert Theatre in Newark on WJZ, New York.

1925: The Atwater Kent Sunday concert series starts on WEAJ, New York.

The Fadettes, an all-girl concert orchestra, on WEEI, Boston.

January 1—John McCormack and Lucrezia Bori of the Metropolitan Opera Company on WEAJ, New York.

October 27—Josef Hoffman with the Philharmonic Orchestra under Dr. Walter Damrasch in a concert series on WJZ, New York.

1926: June—"The Classic Hour" with Mrs. Aubrey Waller Cook at the piano begins on KMBC, Kansas City, weekly concerts which continue down through broadcasting's 25th year.

1927: Programs of instrumental and vocal music, with talks in the various languages of the Poles, Czechs, and Russians, begin on WEDC, Chicago.

January 21—Opera "Faust" from the Chicago Civic Opera auditorium on coast-to-coast network of the National Broadcasting Company — sponsored by the Brunswick Balke Collender Company.

September 18—The Columbia Symphony Orchestra under Howard Barlow, "The King's Henchman" with Deems Taylor as commentator, stars from the Metropolitan Opera and Don Vorhees' orchestra on the first day's ceremonies of the formation of the Columbia Broadcasting System.

November 3—Network opera series, "The Balkiter," originates from WJZ, New York to NBC Blue with the broadcast, "La Traviata."

1928: May 25—National school band contest on WLS, Chicago.

1930: October 5—The Philharmonic-Symphony orchestra of New York begins its long CBS association.

1931: August 21—*Vienna Philharmonic* orchestra in its first American rebroadcast on WJZ, New York.

1934: December 25—The opera, "Hansel and Gretel," presented in its entirety from the stage of the Metropolitan by the National Broadcasting Company.

1936: May 21—Program schedule of WQXR, New York, established entirely on the presentation of classical music.

October 5—The Columbia Broadcasting System commissions seven leading composers to write music especially for the microphone.

1937: *Columbia Composers Commission* of the Columbia Broadcasting System encourages writing of music for radio.

December 25—The newly formed *N. B. C. Symphony Orchestra* makes its debut under the baton of Arturo Toscanini over the National Broadcasting Company through WEAJ, New York.

1942: Milton J. Cross receives scroll from Metropolitan Opera Association for having announced Metropolitan broadcasts over the Blue Network since their inception in 1931.

Winter 1943-44—WGAR, Cleveland, as independent station sponsors a nationally known symphony orchestra over a national network.

1945: Spring—Tulsa Civic Symphony Orchestra of 72 pieces formed through promotional efforts of KTUL, Tulsa.

Classified to the LIGHTER SIDE

1920: Vaughn De Leath originates "crooning" method of singing because mikes are imperfectly adjusted to range of human voice, and soprano high notes often shatter a delicate tube in the transmitting panel. Receives fan letter which reads, "You have inaugurated a form of entertainment which will no doubt become very popular in the future."

September 14—Dance music, under direction of Paul Specht with station's own orchestra, provided exclusively by radio through WWJ, Detroit.

1921: Thomas H. Cowan inaugurates a radio program on WJZ, New York with a quartet, *The Shannon Four*.

1922: Charley Kerr's dance orchestra picked up from the Cafe L'Aiglon by WIP, Philadelphia.

January 3—College Glee Club, of the Western Reserve School of Cleveland, on KDKA, Pittsburgh.

March 7—Request programs introduced on WJZ, New York with a request for "Auld Lang Syne" for the Newark Elks.

June 24—The musical play, "Sue Dear," featuring Claire Stratton and Bradford Kurkbridge, on WJZ, New York.

November 23—*Uplifters Club* of the Los Angeles Athletic Club presents a standard routine minstrel show on KHJ, Los Angeles.

December 1—The Kansas City Night Hawks with Leo Fitzpatrick, *Merry Old Chief*; John Patt as assistant; and Coon-Sanders orchestra from Plantation Grill, Muehlebach Hotel over WDAF, Kansas City.

1923: An informal morning show of music, songs and comedy, "Blues Chasers", begins on KQV, Pittsburgh.

February 1—All-night international program with Ted Lewis and his orchestra begins over WHB, Kansas City.

April 11—"Wildflower," musical show, from the stage of Casino Theatre on WEAJ, New York.

Winter—nightly programs for the DX fans on KFPY, Spokane; CFCN, Calgary; Frank Moore at Walla Walla, Washington; and a station on Telegraph Hill, San Francisco.

December—Harmony team of Jones and Hare, the *Happiness Boys*, on WEAJ, New York.

1924: Vincent Lopez and his traveling orchestra on WCAE, Pittsburgh from the Davis Theatre.

Paul Specht's orchestra broadcasts to Europe from the Grand Theatre through KDKA, Pittsburgh.

January—Radio barn dance from KDKA, Pittsburgh.

April 19—"National Barn Dance" on WLS, Chicago.

May 3—"Radio Sing" program with William Wade Hinshaw as conductor and with group singing by a large audience on WJZ, New York.

October 15—Carillon concerts on WNAC, Boston.

1925: Dick Gilbert as a charter member of the Radio Artists Association of America contends that sustaining as well as commercially sponsored talent should be compensated for broadcasting.

Paul Specht's orchestra broadcasts over a coast-to-coast network from station WBZ, Springfield—sponsored by the Massachusetts Institute of Technology.

November 29—Old time fiddlers' contest, strictly amateur, on KMMJ, Clay Center, Nebraska.

1926: Fall—Paul Specht's Canadian orchestra broadcasts from London's *Kit Kat Club* and the *Piccadilly Hotel* to America.

- 1927: April 29—"Jazz versus Classics," featuring Maurie Sherman's orchestra and the Little Symphony orchestra, of Chicago, on WLS, Chicago.
- 1929: Paul Specht's orchestra broadcasts at the Inaugural Ball of President Herbert Hoover and Vice President Charles Curtis over a combined network of 109 stations.
- 1933: September 30—National Barn Dance from WLS, Chicago starts on Blue Network of the National Broadcasting Company.
- 1934: September 15—"The Gibson Family," musical comedy especially composed for radio, on the National Broadcasting Company.
- 1935: December 31 — Warner Brothers withdraws from A.S.C.A.P. music pool, resulting in split catalogue and turmoil in broadcasting over music clearance. Finally settled six months later with simultaneously dismissal of some 200 infringement suits against stations and others seeking about \$4,000,000 in damages.
- 1939: January 14—Governor James V. Allred of Texas grants commission as "Honorary Texas Rangers" to KMBC's musical Texas Rangers.

To Be Or Not To Be

CHAPTER III

While music lent itself admirably to the early needs of broadcasting's beginnings, the drama was held in abeyance until radio could satisfy itself that the listener had the capacity to visualize in his mind's eye the physical action and props. It was not realized at first that the pictures the listener paints in his own mind are greatly more to his liking, for they are as he wants things to be. In his imagination colors are more brilliant, the pageantry more spectacular and the action more robust. His attention, too, is not detracted by displeasing or inconsequential details.

Broadcasting was well on its way to going places before anyone would venture forth to tread the boards. WGY, in Schenectady made the pioneering step on August 3, 1922 with Eugene Walter's full-length stage melodrama, "The

Wolf." The performance, which was directed by Edward H. Smith, lasted two and a half hours. Orchestra entree, acts and general theatre routine were carried out. Beginning the following month, WGY offered drama as a regular weekly feature including many Broadway favorites such as "The Garden of Allah," "Secret Service," "The Passing of the Third Floor Back," and nearly 200 others.

The year 1923 was possibly the most significant in the early adaptation of the drama of broadcasting. KDKA, Pitts-



The famous WGY Players in action. The whole cast is simulating the sound of trotting horses on the exciting climax of the Broadway favorite, "The Country Fair."

burgh, is credited for undertaking the first complete performance from the legitimate stage with "Friend Mary" as its initial presentation. An early theatre-goer along the *Great White Way* was WJZ, acquired from Westinghouse by R.C.A. in the spring of '23 and moved from Newark to New York. The station took its microphones to the Plymouth Theatre for a remote pick-up of "The Old Soak." The arrival of Shakespeare on the scene was not without its importance as WJZ broadcast on March 13 a portion of "Romeo and Juliet" with Jane Cowl from the Henry Miller Theatre, and a complete presentation a month later of "As You Like It" with Marjorie Rambaun from the stage of the 44th Street Theatre. The Rensselaer Polytechnic Institute station WHAZ, in Troy, also can be credited for some of the first experiments in drama with its "Heeries." The station re-wrote and adapted numerous plays for radio just as had been done for the movies.

A development which had a great influence upon the future of dramatic art in broadcasting, and the establishment of Chicago as the center of such programming, was the introduction of the "Amos 'n' Andy" technique on WMAQ. Up to this time the industry had thought in terms of once-a-week shows. With the acceptance of "Amos 'n' Andy," which evolved out of WGN's "Sam 'n' Henry" series, an art new to broadcasting came into being, patterned after the continued story idea of magazines. Just about everything else around the

American home stopped each evening when it was time for the boys from Harlem and their *Fresh Air Taxi Company*. Amos Jones (Freeman Gosden) and Andy Brown (Charles Correll) became a national institution.

Another series of skits that contributed much to the development of radio dramatics was "The Smith Family" over Chicago's WENR, by Marion and Jim Jordan, later to become "Fibber McGee and Molly." And to these most certainly must be added "The Goldbergs."

The isolated examples given here spaded the ground for the later advancement into a highly developed skill of dramatic art. Day-time programming had always afforded a difficult problem for the broadcaster who was striving to fill his hours of operation with material that made for listener approval. It was discovered that there could be something more to broadcasting acceptance than just a few hours of extravaganzas in the evening. The woman with her monotony of household duties was found to be a ready customer for entertainment that would take her away from the cares of a workaday world into a realm of fancy. The drama was obviously the answer.

With "Amos 'n' Andy" the strongest single factor in radio at the time, and with their formula supplying unusual simplicity and economy of production, the daytime serial (or radio drama) became the logical vehicle for the entertainment



When Bill Hay, announced in his curious, catchy way that "Here th'y are," radio millions could be found with "Amos 'n' Andy" in their humorous escapades centering around Andrew H. Brozen and his always complicating deals.

of morning and afternoon listeners. "Painted Dreams," which Irna Phillips authored over WGN in 1930 set the pace for "Road of Life", "Mary Marlin", "Ma Perkins" and "Big Sister." Almost overnight it seemed as if every social incident and complication that existed found expression through the *Soap Operas*¹. But no one could deny that here was a potent force which could wield a tremendous influence upon

¹ Only in the sense of pathos and every trouble known to womankind, of which the soap opera abounds, would we dare to use this term. It actually came into being through the wide commercial acceptance of the dramas by soap manufacturers.

the education and enlightenment of social living. The listeners, in most part, little realized the effect that the daytime radio drama had upon them in their everyday affairs. But the effect has been great, and by an almost fervent devotion to the responsibilities placed in their writings, the authors have contributed much to countless worthwhile causes.

The daytime radio drama also was responsible for stimulating creative writing exclusively for broadcasting's use. At first the dramatic producers merely adapted what was at hand, and let it go at that. In 1936 the Columbia Broadcasting System instituted the "Columbia Workshop", a regular program to stimulate dramatic writing for radio. *Unknowns* were encouraged to submit scripts and to take part in the production of those selected for broadcast. To the Workshop in 1938 came Norman Corwin, then 27 and a beginner in radio. In the years to follow he was to contribute much to the art of radio dramatics. His stirring drama, commemorating the 150th anniversary of the *Bill of Rights* in 1941, was heard on all four national networks and reached a larger listener audience than any other playwright in world history. Titled "We Hold These Truths," the program was presented eight days after *Pearl Harbor* and was climaxed with a brief address by President Roosevelt, proving to be a landmark in radio drama.

In 1937 another milestone was the Columbia Workshop's presentation of "The Fall of the City", a radio verse drama by Archibald MacLeish, called "the first poetic work

of permanent value to be written expressly for the air, the first to be submitted in shape to be broadcast without re-adaptation, the first to exploit the potentialities of radio for activating the imagination of the listener." Orson Welles and Burgess Meredith were among the principal actors.

The mention of Orson Welles brings to many listeners' minds an episode on the night of October 30, 1938 which was to have a basic effect on standards of common sense as to dramatic extremes over the air. Orson Welles already was widely known, through his "Mercury Theatre", for a genius of realism and finesse in the adaptation of even the most difficult dramatic subjects to voice pictures. Graphic evidence of his ability was to be demonstrated in the freely adapted version of H. G. Wells's imaginative novel, "War of the Worlds." The program proved so realistic that many listeners, affected to a degree by the strain of war nerves, were led to believe the fanciful story about the man from Mars invading the earth planet. The unfavorable reaction to the realism of the broadcast, through hysteria and confusion, evidenced a need for discretion and a fuller realization of broadcasting's responsibilities as a powerful mass communicative means. Broadcasting, of its own initiative, took heed for future conduct.

The progress of dramatics through sound alone has been one of increasing excellence in production procedures. It is a far cry today from the first appearance of even the great

Ethel Barrymore, veteran of thousands of stage performances, when she faced the microphone in 1924 as WBBX (later to become WLS) went on the air from a tiny studio on the second floor of the Sherman Hotel. With one startled glance at the microphone and another at the manuscript held in her trembling hand, she gave an exclamation of fright. William S. Hart, two-gun cowboy of the movies, for all his rough and courageous roles, turned pale and stammered out his lines.

Such accomplishments recently of "An Open Letter on Race Hatred", a documentary drama dealing with Detroit race riots, are but a promise for the future. Today though, they are a testimony to the pioneering craftsmanship of radio writers and producers such as William N. Robson. "The Lux Radio Theatre," consistently broadcast on C.B.S. at the same hour of the same evening since its 1935 *first night* of George Arliss in "Disraeli," has become the *Met* of radio dramatics, setting the stage for even more ambitious productions of the tomorrow. The voice of broadcasting is exploring thoroughly the pages of the classics and reaching out to new horizons to encourage the creation of greater works for future generations.

CHRONOLOGY OF MILESTONES

Dramatics

1922: Sound effects introduced by slapping two pieces of wood together to represent a door slamming by WGY, Schenectady.

August 3—A full length melodrama (2½ hours), "The Wolf," by Eugene Walter produced from WGY, Schenectady studios with Edward H. Smith as director.

1923: January 9—"The Old Soak" from the Plymouth Theatre by WJZ, New York.

February 12—Complete performance from the legitimate stage by KDKA, Pittsburgh with "Friend Mary" as first presentation.

March 13—Portion of the Shakespearian play, "Romeo and Juliet," with Jane Cowl, by WJZ, New York from the Henry Miller Theatre.

April 16—First installment of "The Waddington Cipher," a detective story, on WJZ, New York.

April 23—Complete presentation of the Shakespearian play, "As You Like It," with Marjorie Rambeau, by WJZ, New York from the stage of the 44th Street Theatre.

1924: May 13—Network presentation of "Billited" by WGY players and carried by WJZ, New York and WRC, Washington, D. C., in addition to WGY, Schenectady.

1925: Spring—National radio play-writing contest sponsored by WGY, Schenectady.

- 1926: February 23—Original mystery serial by WNAC, Boston.
- March 31—"The Battle of Gettysburg," a spectacle including the use of horses, artillery and sound effects, broadcast by WTAM, Cleveland.
- 1927: Student dramatic group, the *WEAO Players*, now known as *Alpha Epsilon Rho*, formed by the Ohio State radio station.
- 1928: March 19—Two "unknown" radio characters, Amos 'n' *Andy*, introduced by WMAQ, Chicago.
- 1935: July 28—"The Lux Radio Theatre" begins on the Columbia Broadcasting System, its unique series of hour-long movie adaptations.
- 1936: July 18—"The Columbia Workshop," a regular program to stimulate dramatic writing for radio, begins on the Columbia Broadcasting System.
- 1937: April 11—"The Fall of the City," a radio verse drama by Archibald MacLeish, written expressly for the air, presented by the Columbia Broadcasting System.
- 1938: October 30—Orson Welles presents over the Columbia Broadcasting System a freely adapted version of H. G. Wells's novel, "War of the Worlds."
- 1941: December 15—"We Hold These Truths," a stirring drama heard on all four national networks, written and produced by Norman Corwin of C.B.S., reaching a larger listening audience than any other playwright in World History (60,000,000 plus).
- 1944: September 21—*Little Theatre of Radio*, to train and develop local volunteer talent, inaugurated by KFBK, Sacramento, California, and later expanded to other McClatchy stations.

On Land, On Sea and In the Air

CHAPTER IV

Showmanship was an important ingredient in the sudden surge of broadcasting from the ranks of the chorus into the limelight of a full-fledged headliner. On land, on sea and in the air, broadcasting was the talk of the day with newspaper headlines doing much to spread its fame across the world.

Where else but in America could every city, town, village and hamlet possess radio receiving apparatus and hear radio programs within only three years of the industry's founding? How untrue was the prediction of an electrical handbook of 1915 which said there would be little demand for "the wireless telephone, and at its best its range is limited and will be unfit for distant service."

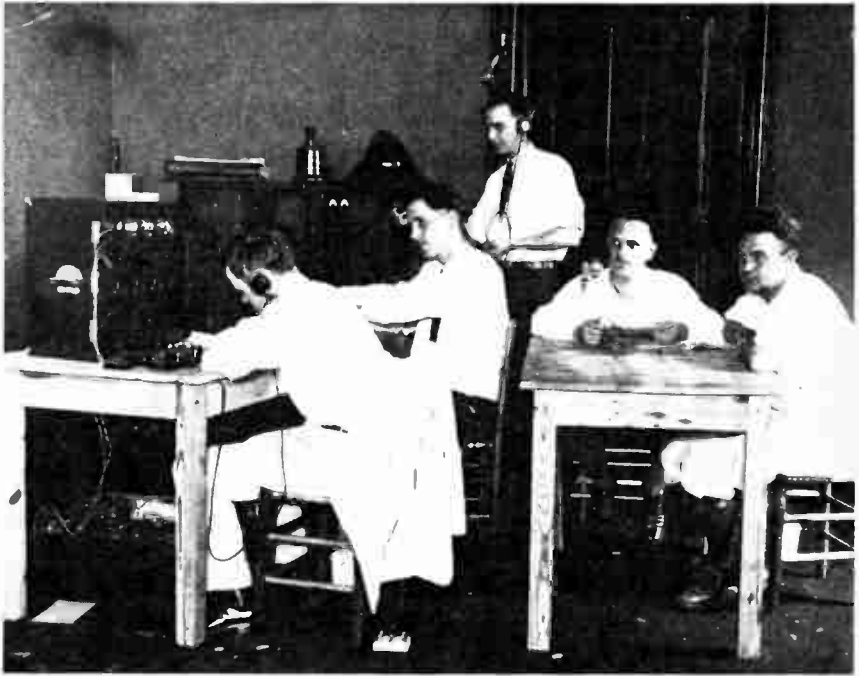
Broadcasting was simply beyond the realm of visualization in the early part of the 20th century. No one anticipated its facility for making news at every turn. The very novelty

of wireless transmission of sound was enough in itself to keep listeners goggle-eared long after the sensationalism of the Harding-Cox election coverage by KDKA.

When the imaginative looked beyond the four walls of a *studio*, all the world with its variety of goings-on stretched forth an endless challenge to broadcasting's ingenuity and resourcefulness. As new technical advancements facilitated the shouldering of more ambitious undertakings, the voice of the radio was heard from every place man had left his mark.

On land—wires were stretched into churches, theatres, night clubs, auditoriums, circus grounds, parades and prisons—for just a few, in the first five years of broadcasting's existence. One station, among many, which became widely known for its enterprise was WGN in Chicago. As an individual broadcaster, the *Chicago Tribune* station competed on an equal basis with the two networks of the day, sending its own announcers to far distant news spectacles for on-the-scene coverage over its own leased wires.

In 1925 at a cost of \$1,000 a day for long distance wires, WGN broadcast the entire Scopes evolution trial from Dayton, Tennessee. The court proceedings on which the eyes of the world focused its interest were picked up in their entirety. The courtroom was rearranged to accommodate the microphone requirements, and the testimony of the witnesses, the utterances of the judge, and the pleas of respective batteries



Equipment and staff assigned to Dayton, Tennessee, by WGN to give day-by-day coverage of proceedings at the Scopes Evolution trial back in 1925.

of famous attorneys, headed by Clarence Darrow and William Jennings Bryan, were heard in and out of the courtroom. Here indeed was ambition for a youthful broadcasting industry not even in knee-pants.

WGN established the fact that wherever man walked on the face of this land, broadcasting could string its wires and bring its microphones. But it wasn't enough just to be broadcasting with two feet on the good earth, someone had to

come along with experiments of program originations from such moving objects as trains traveling at breakneck speed. It was KSD (St. Louis) which made the first test of broadcasting to passengers on a moving train. Ten years later, however, the Columbia Broadcasting System in 1932 set up its equipment in a B. & O. Limited with a dining car as studio, and presented "The Ever-Ready Radio Gaieties" as the train traveled along at top speed.

Going below the earth's surface, WHIS, Bluefield, West Virginia, took its listeners down into the interior of a coal mine. Out in Colorado, KOA, Denver, which some ten years previously had broadcast from the top of Pikes Peak, in 1944 went 4,100 feet below the Continental Divide and eight miles underground from the East entrance of the Alva B. Adams trans-continental water diversion tunnel.

On sea—the broad expanse of seemingly endless waters challenged human imagination. The idea of a voice spanning oceans on wings of electrified sound was difficult to comprehend, even long after such broadcasts became common occurrences. In 1922 WOR, New York, transmitted a talk by Sir Thomas Lipton overseas to England. Less than three years later the solemn tolling of *Big Ben* at midnight was received in return by WJZ, New York, and WRC, Washington.

Aboard ship the radio afforded a round of experiments tickling the listener's fancy. Back in 1922, passengers on the steamship *Yale* bound for San Francisco were known to have picked up Easter Services as broadcast by KHJ in Los Angeles. The successful transmission of a program from a ship to shore was accomplished through WEAJ, New York, in 1930. Drama from a ship at sea also was heard over the C.B.S. network back in the thirties when an air version of a new motion picture was presented from the main salon of the Furness-Bermuda liner, *Queen of Bermuda*. In May, 1934 commercial broadcasting began from ship to shore over WCAU, Philadelphia, while a month later the same service was undertaken by KPO on the Pacific coast from the Matson Navigation Company's liner, *Malolo*, enroute from San Francisco to Honolulu.

But that didn't satisfy the broadcaster's curiosity. How about *under the sea*? So—WIP, Philadelphia got that out of broadcasting's system in 1924. During the Navy Day celebrations in 1931, KJBS, San Francisco, placed its microphones into a Navy submarine for a pioneering broadcast. William Beebe in his airtight bathysphere took listeners with him in 1932 as he was lowered 2,200 feet into the ocean off Bermuda. What else could radio folk do with water? Well, contrary to what some believe, they drink it, too.

In the air—the blue yonder opened new frontiers to explore, and broadcasting in time overcame each of the many challenges which arose from situations peculiar to airplane flight. There was limited space for transporting the broadcast equipment. Motor noises had to be licked before even the crudest kind of a pick-up could be realized. In fact, the first successful transmission from a heavier-than-air craft did not occur until two years after KSD accomplished the feat with a lighter-than-air dirigible in flight during 1923.

On the morning of January 25, 1925, Hugh S. McCartney, chief engineer of WCCO, took off with a pilot in a plane from the 109th squadron of the Minnesota State Guard for a close-up of a solar eclipse. With storage batteries strapped to one wing and B batteries to the other, the pilot kept the plane gingerly on a level while McCartney, who was both engineer and announcer on the trip, began describing the eclipse at 7:30 a.m. and continued for 54 minutes. That same year in Chicago WGN broadcast a two-way conversation and description from an airplane during a military tournament, and WGY in Schenectady covered the race between Gar Wood's speed boat and a *Twentieth Century Limited* over a 75-mile stretch from Albany to Poughkeepsie along the Hudson river.

The next notable lighter-than-air broadcast, after the pioneering one of KSD in 1923, was a three-way conversa-

tion in 1926 between a dirigible to the roof of Cleveland's Hotel Allerton for WTAM studios and the Goodyear Plant in Akron. WTAM was on hand, too, for the first flight of the dirigible, *Akron*, two years later.

An epic news event, the arrival of Charles A. Lindbergh in Washington after his flight to Paris, was broadcast by WRC, bringing the heavier-than-air craft back into the headlines from the broadcasting viewpoint. Graham McNamee told of Lindbergh's landing at the Navy Yard (returning on a cruiser), Milton Cross was up in the Capitol dome, John Daniel at the Treasury describing the parade as it came down Pennsyl-

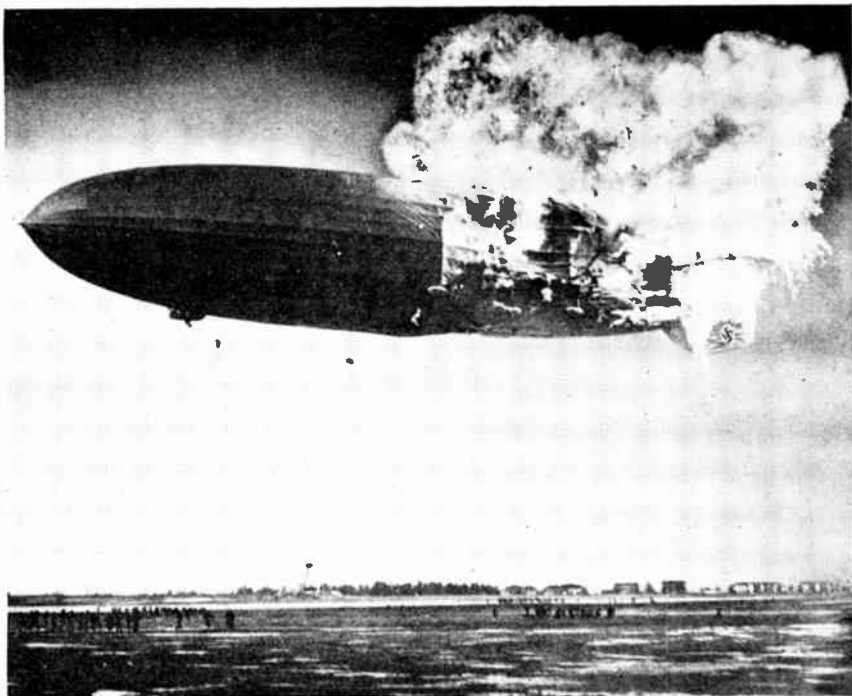


Stratosphere balloon flights afforded many an exciting moment over radio in the thirties. Shown above are balloons inflated for the 1937 flight of Dr. Jean Piccard as covered by KROC from Rochester, Minnesota, to Lansing, Iowa.

vania Avenue, and Phil Carlin broadcasting from the top of the Washington Monument.

During the early part of the thirties everyone was in a dither over the man in the stratosphere balloon. It was professor Auguste Piccard who started the competition going with a 10-mile ascent from Switzerland broadcast to America by short wave. In the years to follow one flight after another carried man, and radio equipment, too, higher and higher into the stratosphere. In 1934 the U. S. Army's balloonists staged a dramatic flight and broadcast with two-way conversation, until they were forced to throw the radio equipment overboard to lighten the load after a climb to 61,000 feet. In the next year, however, radio went along for the entire eight-hour flight of Capt. A. W. Stevens and Capt. Orvil A. Anderson whose 72,000 feet climb was broadcast by the National Broadcasting Company.

Special events history was made on May 6, 1937 when the voice of radio was at the scene for an one-in-a-million account of the Hindenburg crash at Lakehurst, New Jersey. The German dirigible, in making the season's first Atlantic crossing, broadcast along the way to both United States listeners and those in Germany. On arriving in this country broadcasters were present to give the event due coverage. When the



One of the highlight special events pick-ups of broadcasting's first quarter-century was the on-the-scene account of the Hindenburg disaster.

dirigible caught fire and burned over Lakehurst, Herb Morrison, announcer, and Charles Nehlsen, engineer, both of WLS, Chicago, were in the process of recording the flight. Morrison's sobbing account of the disaster went down into the special events annals as one of the most gripping on-the-scene broadcasts in a quarter-century.

One cannot hope to classify all of broadcasting's special events and stunts under conventional headings. Just about everything one could dream up has been tried at least once by

some broadcaster somewhere. Radio weddings came dime a dozen, with the first on record going to WWJ, Detroit, when on June 18, 1922 Wendell Hall, the red-headed music-maker, one of radio's brightest stars in those early days, participated in the capacity of bridegroom.

Many stations, too, have taken the equipment to the circus and given their listeners a three-ring account of the trapeze artists, the clowns and all the excitement that goes on under the *big top*. WFAA, Dallas, made a remote pick-up from the grounds of the Al G. Barnes Circus in 1923. Un-scheduled on the program was an escaped bear that roared out over the mike, hastily deserted for good cause by the announcer. In October, 1927, a *complete* matinee performance of the Ringling Brothers, Barnum & Bailey Circus was broadcast by WDOD in Chattanooga.

Few are the animals which have not appeared at one time or another before a radio microphone. Back in the early days of KHJ, Los Angeles, Baby Napoleon, star chimpanzee of movieland, responded effectively to a request for a speech by his youthful listeners. Within the week, Polywinkle, the famous talking cockatoo, took over where the "Babe" left off. Then, there were the singing canaries, appearing over too many stations to be listed here, affording hours of delightful entertainment to millions, particularly shut-ins. WWDC, Washington, when it comes to animals, even got so ambitious

in 1944 as to invite Coley Bay, a horse, up to its studios with Great Scott doing the interviewing.

"Man on the street broadcasts" if laid end to end—well, there's a million of 'em, a million! On no less than a dozen occasions one has heard or read about a certain broadcaster laying claim to the distinction of being first, but records seem to indicate that WIP in Philadelphia holds the prior rights as of July, 1926.

Speaking of "Man on the street broadcasts" brings to mind a certain George Watson who can date his announcing experience back to *those good old days*. George was in the process of carrying on such a broadcast for WBBM, Chicago. His point of vantage to buttonhole prospective interviewees was on Michigan Boulevard bridge extending across the Chicago River at the Wrigley building. George was doing fine until unexpectedly the bridge went up leaving him stranded with nothing more than a microphone. Thereby was introduced to broadcasting one of the first interviews of oneself on record. The audience loved it, and it was further evidence that such *disasters* as this invariably turn into hearty enjoyment for all through broadcasting's easy-going contact with the American listener.

For certain there is never a dull moment in radio's day when it comes to stunts. KDKA, even as far back as 1924,

¹With due apologies to Jimmy Durante whose voice is to radio what his nose is to the movies.

brought radio listeners the sound of a heartbeat and a kiss. The roar of the mighty cataract of Niagara Falls was caught by a WGR microphone in 1925. WJAS, a year later, carried on a two-way conversation for its listeners with a girl flag-pole sitter atop the Fort Pitt hotel in Pittsburgh. When Utah's first baby of a new year was born in Dee Hospital, Ogden, KLO was on hand with its microphone to register the doctor's whack and the youngster's squall. In Laconia, New Hampshire, WLNH just about outdid everything that went on before in the radio stunt category. The station took its microphone up to a robin's nest for a blow-by-blow description of the hatching of a baby red-breast—from the first crack in the shell until the robin was half way out, when the mother bird returned and rang down the curtain. Or, who remembers the sound effects man who slammed the door before Fred Allen got into the room—an incident in the early thirties which was to be used over and over again as a *stunt* by comedians in the years to follow?

Many times there is nothing more to the stunt than the pleasure that the station's listeners get out of the feat. In July, 1935, though, KWKH aired a unique broadcast which was of great economic significance to its audience. The stunt was the "bringing in" of an exploratory oil well located near the town of Rodessa, Louisiana, some 40 miles northwest of Shreveport. When it was announced that the well was about

to be completed, KWKH engineers strung more than three miles of ordinary telephone wire, over fields and through forests, from the nearest telephone line to the site of the well. Two announcers then took over to ready themselves for developments. Finally, after an all day wait, the job was finished, the well started flowing. A gusher! And KWKH went on the air with a vivid description, an eye-witness account, of the activities, highlighted by the actual sound of the gusher spouting forth its liquid treasure.

Yes, it's something like this—repeated time and again in a thousand different ways—that gives broadcasting its enviable position in everyday community affairs. There is something more than just a chuckle to the claim of WWVA, Wheeling, with the first listener whose radio dial will not tune in any other station. The woman wrote that the radio set had been tuned to WWVA so long the shaft of her dial was rusted to that spot.

The role of special events, yes, and stunts, too, gives to broadcasting the showmanship which is such an important ingredient in the American programming system. Step by step new equipment has been designed to provide the tools necessary to do a real special events job. At first broadcasting was without even a mobile unit to tackle anything more than the simplest out-of-studio assignments. With such new ad-

vancements as the portable wire recorders, the walkie-talkies, and others, the enterprising broadcasters in a highly competitive tomorrow will dream up new *stunts* which will make the past seem inadequate. But no matter what the tomorrow may bring, nothing can surpass the deep-down-inside thrills that went with the experimental years of knowing not where one was going, or what would result, but everyone having an exciting time—the broadcasters and listeners included.

CHRONOLOGY OF MILESTONES

Special Events and Stunts

1920: August 31—Political election returns, those of Michigan, congressional, and county primaries, by WWJ, Detroit.

November 2—Harding-Cox presidential election returns broadcast by KDKA, Pittsburgh.

1921: March 10—Theatrical broadcast direct from Davis Theatre stage on KDKA, Pittsburgh.

April 9—Collegiate presentation by KDKA, Pittsburgh.

July 9—Outdoor pick-up installation by KDKA, Pittsburgh.

December — Church chimes from St. Paul's Episcopal Cathedral by WWJ, Detroit.

1922: Remote pick-up of a dance orchestra, Charley Kerr from the Cafe L'Aiglon, by WIP, Philadelphia.

Factual questions and answers (quiz) on "Children's Hour" by Uncle John Daggett over KHJ, Los Angeles.

February 19—Ed Wym, *The Perfect Fool*, introduces to radio over WJZ, New York, the broadcast of a stage show with a live audience in the studio.

April 14—The County Clerks Association of California at their opening banquet of a convention welcomed by a magnivox from the studio of KHJ, Los Angeles.

April 16—Easter Service picked up on steamship *Yale* from KHJ, Los Angeles, and magnivoxed to assembled passengers bound for San Francisco.

May—Sound identification, a cow-bell, used by WBAP, Fort Worth.

June 7—With Douglas Fairbanks as reporter, daily reports of the doings of the Rotary International Convention in Los Angeles by KHJ, Los Angeles.

June 14—An American president, Warren G. Harding, on WEAR (now WFBR), Baltimore, dedicating the Francis Scott Key Monument at Fort McHenry.

June 18—Radio wedding with Wendell Hall, the red-headed music-maker as bridegroom, by WWJ, Detroit.

October 1—Transatlantic broadcast with Sir Thomas Lipton speaking on WOR, New York.

October 25—Broadcasting to passengers on a moving train tested by KSD, St. Louis

November—Voice of John Patt, announcer, recorded on a dictaphone record in London from WDAF, Kansas City, "School of the Air" program.

November 7—Radio wedding of Miss Bertha Anna McMunn and George A. Carver from Motor Square Garden on KDKA, Pittsburgh.

1923: January 1—Inaugural ceremonies of a New York State Governor, Alfred E. Smith, on WGY, Schenectady.

January 29—Calliope used on radio by KGW, Portland, Oregon, as part of its "Hoot Owl" lodge or secret order

meetings, a radio frolic with music, comedy and guest stars using a prepared script.

Audience show by remote control originates from KGW, Portland, with 600 persons sitting down to an 8-course dinner and listening to broadcast of a lodge meeting of the "Hoot Owls," put on from a stage in the manner of a floor show.

February 23—Remote broadcast from the grounds of Al G. Barnes circus by WFAA, Dallas.

February 26—Chicago stations institute *silent night* on radio in order that the DX fan can tune in that "far distant station from Omaha or Kansas City."

June 13—Baby Napoleon, star chimpanzee of movie-land, guest artist on KHJ, Los Angeles.

June 19—Polywinkle, the famous talking cockatoo, guest stars on the "Children's Hour" of KHJ, Los Angeles.

June 28—Successful two-way broadcast with a dirigible in flight on KSD, St. Louis.

August 2—Thirty minutes after the Associated Press flashed the news of President Harding's death, John Daggett goes on the air with a memorial which consists of an extemporaneous twenty-minute talk over suitable piano music by Claire Forbes Crane on KHJ, Los Angeles.

August 11—Memorial services for an American President, Warren G. Harding, who died in office is attended by many high-ranking government officials and broadcast by WRC, Washington.

August 20 — Transoceanic re-broadcasting between KHJ, Los Angeles, and KGU, Honolulu.

September 15—Program in observance of the anniversary of Mexican independence instituted by KHJ, Los Angeles.

September 24—Under auspices of the Democratic National Committee, Franklin D. Roosevelt speaks on "Why waste your vote" over WJZ, New York.

October 19—Guest star, a well known public speaker, faints before microphone of KHJ, Los Angeles.

November—Uncle WIP's "Toyland Parade," celebrating the welcoming of Santa Claus to Philadelphia on Thanksgiving Day, described by WIP, Philadelphia.

November—Paul Specht's orchestra begins regular broadcasts by remote control from the Alamar Hotel, New York, through WJZ.

November—Ten remote control points on broadcast by WHB, Kansas City.

1924: With Maryland National Guard taking over WFBR, Baltimore, it becomes the world's first broadcasting regiment.

The funnies read over WGN, Chicago.

Broadcasts from within the Charlestown State Prison begin on WEEI, Boston.

Complete opera rebroadcast over WTAM, Cleveland taken on a wire recorder in Germany.

Radio debate, featuring the Universities of Oregon and California with listeners voting the Oregon team the winner on KGW, Portland, Oregon.

Broadcast from the bottom of the sea by WIP, Philadelphia.

Listeners dance in open air to Ev Jones orchestra under the WTAM, Cleveland antenna by listening through crystal receivers mounted on their heads without wire connections.

February 6—Funeral services of a national personage, Woodrow Wilson, on WEAF, New York; WCAP, Washington; and WJAR, Providence.

February 17—Courtesy barbecue by Captain Edward A. Salisbury at his mountain ranch fifty miles north of Los Angeles attended by sixty thousand listeners invited by radio through KHJ, Los Angeles.

April 5—Heartbeat and radio kiss on KDKA, Pittsburgh.

April 10—Barnum & Bailey circus menagerie from basement of old Madison Square Garden on WGY, Schenectady.

Easter Sunday—Easter egg treasure hunt staged by WCAU, Philadelphia.

July 4—Special Elks' Show instituted by WNAC, Boston.

July 7—Elks' parade on WNAC, Boston.

October 31—"Republican Midnight Theatrical Revue" fed to WGY, Schenectady by WJZ, New York.

1925: Broadcast of a major trial from the court room, that of Scopes Evolution, by WGN, Chicago.

Two-way conversation and description during military tournament from an airplane to the studios of WGN, Chicago.

Clyde D. Wagoner directs special feature of a bridge game, with the Ely Culbertsons in Schenectady playing a team 6,000 miles away in Buenos Aires.

The roar of the mighty cataract at Niagara Falls on WGR, Buffalo.

January 25—Description of an eclipse from an airplane by WCCO, Minneapolis.

March 4—Fashion show broadcast from Copley Plaza Hotel banquet by New England Jobbers and Manufacturers Millinery Association on WNAC, Boston.

March 12—Rebroadcast of the *Big Ben's* gong atop the House of Parliament, as it strikes midnight on WJZ, New York and WRC, Washington.

May 25—Description of a race between a speed boat and the New York Central's *Twentieth Century* train between Albany and New York by plane-to-ground broadcast on WGY, Schenectady.

July—Major nationwide network broadcasts "Defense Test Day" with Army and American Telephone and Telegraph Company cooperating in testing communication system. Ceremonies broadcast from 28 stations, utilizing 70,000 miles of long distance wire.

October—Sunday evening frolic, an impromptu show produced by motion picture talent of Warner Brothers starts at 7 p.m. and lasts to all hours over KFWB, Hollywood.

1926: Two-way telephone conversation with girl flag-pole sitter atop the Fort Pitt Hotel on WJAS, Pittsburgh.

Three-way conversation between a dirigible to the roof of the Hotel Allerton to WTAM, Cleveland studio and the Goodyear Plant in Akron, Ohio.

May—Broadcast from a world's fair, that of the Sesqui Centennial Exposition on WCAU, Philadelphia.

May—Amateur Hour starts on WCAU, Philadelphia.

June 8—Hope Eden, a well known mind reader, gives a demonstration of her "powers" over WEEI, Boston.

July—Sound of the Liberty Bell from Independence Hall picked up by WCAU, Philadelphia.

July—Series of street interviews start on WIP, Philadelphia.

September—Square dance callers' contest, "open to all comers," on WLS, Chicago with representatives from ten states.

1927: March 11—Actual details of the construction of a home on WNAC, Boston.

June 11—Broadcast from the United States Capitol Dome and from top of the Washington Monument to mark Charles Lindbergh's return from his flight across the Atlantic on WRC, Washington.

September—Ventriloquist goes on the air in a regular series over WCAU, Philadelphia.

October—Complete performance of the Ringling Bros., Barnum and Bailey Circus on WDOD, Chattanooga.

October 11—Listener quiz, whereby tuners-in are invited to gather around their radios and vie with one another in first crying out the answers, introduced by KMTR, Hollywood.

December—The International Livestock Exposition on WLS, Chicago.

December 31—In honor of the New Year WMAQ, Chicago stays on the air continuously for 43 hours and 48 minutes.

1928: The first flight of the dirigible, *Akron*, on WTAM, Cleveland.

March 1—KGFJ, Los Angeles, begins 24-hour operation under the slogan of "The Twenty-Four Hour Station."

April—Sham battle on the air over WCAU, Philadelphia.

August—Competitive contest for announcers, the winner becoming a member of the station's staff, conducted by WCAU, Philadelphia.

November 2—Three-way radio talks between speakers at Sidney, Australia; Bandoeng, Java, and WGY, Schenectady.

1929: February 1—Band concert in Queens Hall, London, broadcast in the United States as a scheduled international rebroadcast over the National Broadcasting Company.

September—National Air Races from city's airport on WTAM, Cleveland.

1930: January 1—King George V welcomes delegates to the London Naval Conference and is heard in his first worldwide broadcast.

March 11—Two-way talks between Adolph Ochs and Mr. Sulzberger of the *New York Times* on WGY, Schenectady and Commander Richard E. Byrd and *Times* Correspondent Russell Owen, newly arrived from Little America, Anarctica, in Dunedin, New Zealand.

March 27—Ship broadcasts to listeners on shore through WIAF, New York.

March 30—Breakfast club show, the "Early Birds," starts on WFAA, Dallas.

April 21—Eyewitness account from inside prison walls is heard on the Columbia Broadcasting System as the

Ohio State Penitentiary fire takes toll of 318 lives in one of the worst prison disasters in the nation's history.

June 30—The voice of C. W. Wagoner is heard around the world through 2XAD, Schenectady.

1931: February 12 — Pope Pius XI addresses the world in an international broadcast inaugurating the Vatican City station HVJ, with the Pope's voice heard in America.

September 13—Mahatma Gandhi, *India's man of destiny*, explains the political plight in an American rebroadcast from London.

October—Rebroadcast from a Navy submarine in San Francisco Bay during the Navy Day celebrations on KJBS, San Francisco.

1932: Campaign speech of Franklin Delano Roosevelt on WTAM, Cleveland.

March 13—German presidential election returns—Paul von Hindenburg vs Adolph Hitler—rebroadcast in the United States.

February 22—Broadcast from Mt. Vernon, the home of George Washington, on WRC, Washington.

April 19—On Patriot's Day a shot "heard 'round the world" when Governor Joseph Ely of Massachusetts fires a revolutionary musket and gives reality to Emerson's lines about the Lexington shots on WGY, Schenectady.

April 24—With dining car as a studio, "The Ever-Ready Radio Gaieties," is broadcast on the Columbia Broadcasting System from a B. & O. train traveling at top speed.

August 12—Two-way conversation between a glider and land on WEAJ, New York.

August 17—Professor Auguste Piccard broadcasts to America by short wave before taking off in a balloon for trip into stratosphere, and on his return to the earth describes his record-breaking 10-mile ascent, from Switzerland.

September 22—William Beebe in his airtight bathysphere broadcasts as he is lowered 2,200 feet into the ocean off Bermuda.

November—Broadcast direct from a sound film track in a regular series of programs begins on WCAU, Philadelphia. KUJ, in Walla Walla, Washington starts the same stunt the same year.

1933: Chant of tobacco auctioneer from Mullins, South Carolina on WBT, Charlotte.

July 1—Drama from a ship at sea is heard over the Columbia Broadcasting System when an air version of a new motion picture is presented from the main salon of the Furness-Bermuda liner, *Queen of Bermuda*.

November—Broadcasting from top of Pikes Peak, Colorado, KOA, Denver, honors the man whose name the peak carries.

November 18—Unique regular series of C. B. S. broadcasts from South Pole begins unfolding the drama of Little America by Admiral Byrd and his aides in one of the most notable early extensions of radio's frontiers. C. B. S. engineers make programs possible both while Admiral Byrd is enroute and from Columbia's station KFZ at Little America.

November 20—Stratosphere balloon flight by Commander Settle of the Navy and Major Fordney of the Marines broadcast by WTAM, Cleveland.

1934: May—Commercial broadcast from ship to shore on WCAU, Philadelphia, beginning a series of ten such broadcasts to the Columbia Broadcasting System.

July 11-23—A series of regularly scheduled commercial programs from the Matson Navigation Company's liner, *Malolo*, enroute from San Francisco to Honolulu on KPO, San Francisco to the National Broadcasting Company.

July 28—U. S. Army's stratosphere balloonists stage a dramatic broadcast by two-way communication until they are forced to throw radio equipment overboard to lighten the load after a climb to 61,000 feet.

1935: Inter-borough or inter-suburb quiz program, East side vs. West side, employing two mobile units, broadcasting from opposite sides of the town in a competitive contest on WGAR, Cleveland.

Big courtroom trials start on WMCA, New York—*Morro Castle Fire*, 1935; *Trial of Jimmy Hines*, 1938; *Spy Trials*, 1938; *Sedition Trials*, 1943.

July—An exploratory oil well located near the town of Rodessa, Louisiana "brought in" on KWKH, Shreveport.

July 2—Sounds of Mt. Vesuvius, Italy, broadcast to America through microphone extended over the crater's rim.

September 13—Haile Selassie, Emperor of Ethiopia, broadcasts a special message on Italo-Ethiopian situation from Addis Ababa to listeners in the United States. Premier Mussolini's report on the situation (October 2) is rebroadcast in the United States.

November 11—Two-way communication maintained by the National Broadcasting Company between Capt. A.

W. Stevens and Capt. Orvil A. Anderson on 72,000 feet climb into stratosphere throughout 8-hour flight.

1936: Authentic Rebel yell on WBT, Charlotte.

March 1—King Edward VIII broadcasts first message to the world since death of his father, King George V.

May 1—The Zeppelin, *Hindenburg*, broadcasts to the United States and Germany on first Atlantic crossing.

May 27—British superliner, *Queen Mary*, broadcasts scheduled programs to United States networks on maiden voyage to this country.

June 6—At opening of Texas Centennial, orchids are scattered over audience as woman's program director of WFAA, Dallas tells of event.

July—Quartet harmonizes through the aid of headphones with the bass in Fayetteville and other three members in KUOA, Siloam Springs studio, 30 miles away.

September 5—Musical Presidential Poll on WWVA, Wheeling.

October 11—"Professor Quiz" gains nation-wide fame in starting career on the Columbia Broadcasting System.

December 11—Former King Edward VIII in farewell address to world via B. B. C. and Empire Short Wave System, and is rebroadcast in the United States and rest of world to what is believed the largest world audience ever to listen to a single speech.

December 31—Annual fire-works display by the Adaman Club on New Year's Eve broadcast by KOA, Denver.

1937: Coverage of ship arrivals by documentary recordings edited for broadcast on WMCA, New York.

Dramatic sign-off applied by WMCA, New York with prayer set to music.

January 1—Walkie-talkie as a broadcasting unit for special events is utilized by KMTR, Hollywood.

May 6—Crash of German dirigible, *Hindenburg*, at Lakehurst, N. J., is recorded by Herb Morrison, announcer, and Charles Nehlsen, engineer, both of WLS, Chicago, who are on the scene as disaster occurs.

May 12—Coronation of King George VI is broadcast throughout the world over British Empire System.

July 29—Broadcasts from interior of mine by WHIS, Bluefield, West Virginia.

1938: May—Radio program, "Night Owl," goes visiting interviewing residents over WWVA, Wheeling, West Virginia.

May 17—"Information Please," listener questioning the expert on a quiz program, starts on the N. B. C. Blue network.

July 21—Two-way broadcast conversation between London and Chicago takes place over C. B. S.—Between Chester Lauck (Lum) and Norris Goff (Abner).

October 15—Two-way broadcast conversation between New York and Los Angeles, using a new technical set-up takes place over C.B.S., with W. C. Fields in Hollywood, and Al Goodman's orchestra with other talent in New York. Described as "a trail-blazing innovation in two-way broadcasting."

October 27 — Complete Navy Day celebration from aboard a battleship through WIP, Philadelphia.

1939: February 17-21—Mardi Gras celebration in New Orleans broadcast over KXOK, St. Louis by flying transcriptions to the station.

May—Ohio State University students as a practical workshop inaugurate "radio day" by taking over WBNS Columbus for a day.

May 23—On scene of the Navy submarine *Squalus* disaster is WLAW, Lawrence, Massachusetts.

1940: Wild boar and bear hunt, with hunters using bows and arrows, staged at Tellico Plains, Tennessee, and broadcast by WSM, Nashville.

1941: Fox hunt from Bowling Green, Kentucky, on WSM, Nashville.

October 7 and 8—Coverage of Devils Tower episode by an interview on KFBC, Cheyenne, with Mr. Hopkins who parachuted on top of the Tower from an airplane.

1943: January 1—The cry of the first child born in a New Year on KLO, Ogden, Utah.

June 7—"Nest side" blow-by-blow description of the hatching of a baby robin on WLNH, Laconia, New Hampshire.

1944: January 26—"The Official Gallupoll" in a fifteen minute program each week on WHAM, Rochester.

May—Live cat mewing used as theme to introduce "Hep Cats Program" on WLAY, Muscle Shoals, Alabama.

June 6—Warning signal by fire whistles and sirens put into effect by KXO, El Centro, California, notifying residents of Imperial Valley that D-Day has arrived.

June 10—Broadcast originates 4,000 feet below the Continental Divide on KOA, Denver.

June 25—Boy Scout pack trip into Flathead Primitive area on KGVQ, Missoula.

October—Mechanical cotton picker on exhibit at the famous *Hopson Plantation* described on WROX, Clarksville, Mississippi.

October—Coley Bay, a horse, interviewed by Great Scott in studios of WWDC, Washington, D. C.

1945: May 19—Broadcast from a motion picture lot during actual filming of the motion picture, "Enchanted Voyage," at Bayou Liberty by WDSU, New Orleans.

October 3—Running account of a four-alarm fire, from station house to the actual fire itself, on KMBC, Kansas City.

October 30—Wire-recorder put into use by WHBF, Rock Island, Illinois, to broadcast from a helicopter.

There's Joy Again In Mudville

CHAPTER V

The mighty Casey may have struck out that eventful day, but there's joy again in Mudville for mighty broadcasting is at bat. Ten thousand eyes were on Casey when he went down swinging. Today, there would be sorrow across the nation in a million homes.

Following the first World War, excitement ran high in a golden era of sports. While the physically fit veterans had a lot to do with the increased participation in competitive athletics, the promotional result of broadcasting's colorful play-by-play coverage has had a great stimulating effect upon spectator interest. Even the so-called *weaker sex*, many of whom thought previously a mashie was something from out of the kitchen or a forward pass was to be expected on a hay-ride, have rapidly become authorities on the game.

Long before there was any thought given to the radio as an entertainment means, an experimental station at the University of Minnesota attempted in 1912 to radio football games using a spark transmitter and regular telegraph signals. Down in Texas numerous experiments were conducted in wireless telegraphy by the students and faculty of the Agricultural and Mechanical College. Two years prior to when the station was licensed as WTAW in 1922, one of the experiments included a play-by-play wireless report from the field of the Texas University and Texas Aggies grid game on Thanksgiving day.

Much of the early history of sports in broadcasting was written by KDKA during the summer and autumn of 1921. A blow-by-blow description of the Johnny Ray vs Johnny Dundee bout during April was a milestone in itself, but the Dempsey-Carpentier heavyweight championship fight on July 2, in that great wooden saucer at Boyle's Thirty Acres in Jersey City, was the real ear-opener to the importance broadcasting could be in the world of competitive sports. The lucky owners of crystal detector sets and one-tube receivers heard the blow-by-blow description in their earphones. At the final gong, they knew more about the details of the fight than most of those who had trekked through the heat and dust of that summer afternoon to sit at the ringside. Major J. Andrew White was the reporter for WJY—sister station of WJZ—with David Sarnoff at his elbow to assist in the description. Since remotes



Jack Dempsey, broadcasting's first heavyweight boxing champion of the world, is shown here at his training quarters listening to a "radio music box" being tuned in by Major J. Andrew White who was a short time later to announce Dempsey's championship fight with George Carpentier.

were unheard of at this time, the Major was at the ringside, and his accounts were transmitted over the wire to a J. O. Smith, who was the voice heard by 300,000 or so listeners.

It was in this year, too, that radio audiences had become accustomed to receiving baseball scores at the end of the game. In 1920 WWJ, Detroit, gave its listeners summaries of the

World Series, and by the time the next season got underway, such scores became quite commonplace on broadcasting's daily schedule. But radio wasn't satisfied with standing still until the end of a game to tell its listeners about it. Some unknown genius of yesterday hit on the idea of giving scores over the air as soon as runs were made; or, at least, at the end of each inning. This, of course, meant that the announcer in the KDKA studio had to know when runs were made, since action broadcasts were unheard of. So—a staff member sat in the top row of the bleachers near the fence at Forbes Field. As the inning ended, he wrote the results on a piece of paper and dropped the paper to a man stationed outside the fence. This man, in turn, raced to the nearest pay station and phoned the information to the studios. This was in 1921.

Another version of the same idea was tried out in the fall of that year when the University of Minnesota station, 9XI (later to become WLB and then KUOM), gave a running account of a Minnesota football game through notes brought to the station's studios by a relay of students from the sidelines at the field.

Play-by-play, as we know it today, developed rapidly in the fall of 1921. With the World Series an all-New York affair, the Giants against the Yankees, broadcasting microphones were present at the Polo Grounds. KDKA had a direct wire from Pittsburgh, and Grantland Rice, dean of sports writers, gave the play-by-play detail. One month later, to the

very day, KDKA had its microphones on hand for another on-the-scene pickup, that of Pittsburgh's 21 to 13 defeat of West Virginia in football. Announcer Arlin handled the microphone duties.

The mention of Arlin in the role of a sports announcer will always bring to the minds of old-timers around Pittsburgh one of his earliest baseball score summaries. KDKA was operating then from its first indoor studios. With Arlin at the microphone giving the scores of the day, a stray dog raced into the studios, upset the microphone—scrambling scores, notes and announcer—and then added his excited barks to the pandemonium.

The year 1921 also marked the inaugural broadcast of WJZ, instituted by Westinghouse at Newark, with the first program featuring World Series bulletins. When the New York Yankees finally evened things up a bit with the McGrawmen for series defeats both that year and in 1922, WJZ was on the field in '23 for a play-by-play report with Graham McNamee at the microphone for his first network sports assignment. The Yankees got back into the World Series again in 1926, losing out though to the St. Louis Cards in a thrilling seven-game series, and WJZ went just one step further with another origination to a network, nationwide this time.

Out in the middlewest broadcasting by this time was up to its neck in sports. In the first month of its operation in 1924, WGN, from Chicago inaugurated the broadcast of the great 500 mile Indianapolis Speedway classic, a breathtaking program which lasted nearly seven hours, and that year saw the average speed for the event boosted up to within a gnat's eye of 100 miles an hour. With a sound proof broadcasting booth beside the track and with microphones at the foot of the home stretch and the back stretch, all over the grandstands and in the pits, the station delivered a technical and thrillingly told story of the vast spectacle.

In the fall of that year the Tribune station, not content with broadcasting the football and baseball games in Chicago when there were more important contests elsewhere, inaugurated a series of football pick-ups which, over a period of almost a decade, no other single station could equal. WGN broadcast from every campus in the Big Ten and included in its coverage of great games the stadiums of the Universities of Nebraska, Pennsylvania and Southern California. It was no wonder that this, together with its special events activities, gave WGN the reputation of being the station which "broadcasts *from* greater distances than other stations broadcast *to*."

In 1925, along with another Indianapolis Speedway broadcast, WGN took its microphones to Louisville for the

Kentucky Derby. When Earl Sande brought *Flying Ebony* in with *flying colors*, WGN was on hand with a corps of announcing engineers and turf experts. Such broadcasts made the country radio sports conscious as never before.

After bringing the 1924 World Series to listeners in the Chicago area, WMAQ planned all during the following fall and winter for a pick-up of the local Chicago games of the National League teams for the next season. While the two teams finished well down in the standings that year, fan interest was way up with WMAQ broadcasting every home game. Incidentally it was a Miss Judith Waller, director of the station and a name to become a standout in the years to follow, who first sold P. K. Wrigley on the idea of broadcasting the games from Wrigley field.

Out on the west coast another memorable sports classic, the Rose Bowl New Year game, was to figure prominently in broadcasting's growing place in the sports world. On New Year's Day, 1925, KNX picked up the Notre Dame-Stanford game, the only year to date the Irish have smelled roses. WGBS also picked up the game by direct wire from Pasadena with Sigmund Spaeth at the microphone. It was the 1927 game however, which made sports history. With a coast-to-coast hookup requiring 4,000 miles of wire, KFI, with Graham McNamee at the microphone, made the first west-to-east trans-continental broadcast over long lines and left the football fans



His was a name which became synonymous with the highlight sports and special events broadcasts of the industry's toddling years—Graham McNamee before the microphone.

across the country limp with the thrills of a 7 to 7 tie between Stanford and Alabama.

It is only natural that sports should attract radio's inquisitiveness from its start. Here is a program feature made to order for a medium whose strongest attribute is *coverage as it happens*. Sports, too, challenges broadcasting's technical *know how* to solve the manifold problems which are ever pres-

ent in such spectacles. It is reasonable to say that just about everything in the record book has been attempted at least once during broadcasting's first quarter-century. Through knowledge that comes with experience, broadcasting's technique in sports reporting has developed in finesse and efficiency until the excellence of a Ted Husing tennis match, a Bill Stern football game, a Red Barber World Series, a Clem McCarthy horse race, or a Sam Taub fight broadcast is taken now for granted.

Instead of competing with the sporting event itself for audiences, the thrilling and expert promotional voice of radio has meant attendances far exceeding anything known in the past. The world of sports has meant much to broadcasting in its struggle for recognition—and in turn the radio has done much to put great emphasis on the wholesomeness of combat on the field of athletics.

CHRONOLOGY OF MILESTONES

Sports

Classified as to BASEBALL

1920: October 5—Baseball scores (those of the World Series) by WWJ, Detroit.

1921: August 5—On the scene, play-by-play of Pittsburgh Pirates vs. Philadelphia Phils from Forbes field by KDKA, Pittsburgh.

October—World Series baseball recreated by phone through WJZ, New York with Thomas H. Cowan broadcasting a series of games he never saw—the plays being phoned from the ball field to the announcer who reports them into a “mike.”

October 5—On the scene, play-by-play of World Series between New York Yankees vs. New York Giants, with Grantland Rice as announcer, by KDKA, Pittsburgh.

1922: Fall—World Series recreated from news wires by WJAG, Norfolk, Nebraska.

1923: May—College baseball game from Harvard University by WNAC, Boston.

October 11-15—On-the-field play-by-play description of World Series baseball with Graham McNamee in his first network sports assignment — originating from WJZ, New York.

1924: April 15—Baseball scores every 15 minutes throughout the afternoon by WJZ, New York.

1925: June 1—Every home baseball game throughout the season by WMAQ in Chicago and KHJ in Los Angeles.

- 1926: World Series originated to a nationwide network by WJZ, New York.
- 1927: Little World Series between Toledo and Louisville by WSPD, Toledo.
- 1928: September — Play-by-play of Rochester vs. Montreal game by wire through Western Union by Gunnar O. Wiig through WHEC, Rochester, New York.
- 1934: American Legion Junior baseball games by WBT, Charlotte, North Carolina.
- March — Transcribed interviews in spring training camps conducted by Lowell MacMillan for WHAM and then WHEC, Rochester, New York.
- 1937: April—Luther “Dummy” Taylor, deaf and dumb, interviewed over WCBS, Springfield, Illinois, by Sam Molen.

Classified as to BASKETBALL

- 1927: Fort Wayne Hoosiers and Brooklyn Vesitations game transcribed by Gunnar Elliot for WGL, Fort Wayne, Indiana.
- February 24—Basketball by KGEZ, Kalispell, Montana—between Kalispell and Whitefish high schools.
- 1939: Winter — Basketball recreated from Western Union wires by KUTA, Salt Lake City—between Utah and Colorado in Denver.
- 1943: March—KFBC, Cheyenne, and KMYR, Denver send their own sports announcer, Mark Schreiber, to cover by direct wire the national collegiate basketball finals from New York’s Madison Square Garden.

Classified as to BOXING

- 1920: September 6—Fight results of Dempsey-Miske bout over WWJ, Detroit.

- 1921: April 11—Blow-by-blow description, of Johnny Ray vs. Johnny Dundee, by Florent Gibson through KDKA, Pittsburgh.
- July 2—Heavyweight championship fight between Jack Dempsey and George S. Carpentier by Major J. Andrew White through WJY, Hoboken.
- 1923: May 12 — Ringside account of the Willard-Johnson heavyweight fight by Major J. Andrew White from Yankee Stadium through WJZ, New York.
- 1926: September 23—Dempsey-Tunney fight to all parts of the world with Major J. Andrew White announcing.
- 1927: May 20—Sharkey-Maloney fight over the Blue Network of the National Broadcasting Company by Major J. Andrew White.

Classified as to FOOTBALL

- 1912: Fall—Attempt made to broadcast football games using a spark transmitter and regular telegraph signals by University of Minnesota experimental radio station.
- 1920: November 25—Play-by-play of Thanksgiving game from the field between Texas University and Texas Aggies by what has become WTAM, College Station, Texas.
- 1921: University of Minnesota football games broadcast by 9XI (later KUOM) with relay of students carrying play-by-play notes from the sidelines to the studios.
- November 5—Play-by-play of the Pittsburgh-West Virginia game by a commercial broadcaster—KDKA, Pittsburgh.
- 1922: October 23—Remote pickup of a football game from Stagg Field, Chicago, by WOR, New York.

November—Penn-Cornell traditional games start over WIP, Philadelphia by long lines from the stadium to station's studios.

November 4—Famed Notre Dame football team covered play-by-play by WSBT, South Bend as the Irish defeat Indiana 27 to 0.

November 25—Harvard-Yale traditional clash on the air through WGY, Schenectady with Bill McGeehan, sports editor of the *New York Sun*, as commentator.

1923: October 13—Regular Saturday summary of football scores from throughout the country provided by Western Union for broadcasting by WJZ, New York.

1925: January 1—Play-by-play of Notre Dame and Stanford game out of the Rose Bowl by KNX, Los Angeles, and WGBS, by direct wire from Pasadena with Sigmund Spaeth at the microphone.

October—Football game recreated, using sound effects of cheers, crowd noises, bands, etc., by KQV, Pittsburgh with Paul Miller as announcer.

1926: Fall—High school football, the Thanksgiving game between Rayen and South high schools, broadcast by WKBN, Youngstown, Ohio.

1927: January 1—Rose Bowl classic between Alabama and Stanford originated to a coast-to-coast hookup, with Graham McNamee as announcer, by KFI, Los Angeles.

Classified as to GOLF

1926: April 4—Golf broadcast by WNAC, Boston.

1928: June—International tournament from Merion Cricket Club by WCAU, Philadelphia.

Classified as to ICE HOCKEY

1926: December 3—Play-by-play accounts of Boston Bruins hockey games start on WEEI, Boston.

December 10—Canadian-American hockey league game broadcast by WNAC, Boston.

Classified as to POLO

1923: September 12—Championship polo game at the Meadowbrook Club from Western Union accounts read by announcer in studios of WJZ, New York.

Classified as to RACING

1923: July 5—Special weather reports for International Balloon race out of Milwaukee by WGY, Schenectady.

1924: May—500 miles Indianapolis Automobile race by WGN, Chicago.

August 2—Eyewitness accounts of motor boat races on the Detroit River by WWJ, Detroit.

September 1—Feature race between Zev and Epinard from Belmont Park with Major J. Andrew White announcing for WJZ, New York.

1925: Kentucky Derby from Louisville by WGN, Chicago.

1927: September — Horse race results by WCAU, Philadelphia.

1928: June 21 — Annual Yale-Harvard boat race on the Thames River to National Broadcasting Company by WTIC, Hartford, Connecticut.

1936: May—Midget auto racing from Walsh Stadium by WIL, St. Louis.

Classified as to SKIING

- 1932: From top of Loveland Pass, west of Denver, announcer reports sensations as he travels down-ski course carrying a pack-set, shortwaving the message to a mobile unit which sends it to the nearest point of wire service for broadcasting over KOA, Denver.
- 1935: November—Special broadcasters journey to the Eastern slopes in New Hampshire to bring listeners description of the snow sport through WNAC, Boston.

Classified as to SWIMMING

- 1927: January—Stroke-by-stroke account of the mainland to Catalina Island marathon via short-wave and relayed to other stations east by KNX, Los Angeles.

Classified as to TENNIS

- 1921: August 4—Davis Cup matches by KDKA, Pittsburgh.

Classified as to TRACK

- 1936: August—Olympic Games at Berlin broadcast internationally through elaborate shortwave system and 40-nation switchboard. United States sends its own announcers.
- 1937: May 1—College track meet between Notre Dame and Ohio State by WSBT, South Bend, Indiana, using portable shortwave equipment.

Classified as to WRESTLING

- 1927: September—Wrestling broadcast by WNAC, Boston.

News As It Happens

CHAPTER VI

Exponents of the printed word were anything but happy after the momentary thrill of finding a youngster left on the doorstep. Through years of squatter's rights, printed media and contributing associations were openly reluctant to accept broadcasting in the role of disseminating information. This was no repetition of the auto replacing the horse, but rather a new means of mass communication—an inevitable step in the march of progress.

Broadcasting was soon to discover that as a general rule the old guard was anything but affectionate. Particularly in the sense of news reporting, the programming of radio came to loggerheads with the editorial columns of newspapers. The standards of successful news reporting in those early days were measured in terms of a *scoop*-getting there first with the news.

Excellence of journalism and the positive approach to hawking the merits of one's own product were lost in a wave of the competition's negativism.

There is no question that the amazing growth of radio broadcasting from the start was due, in part, to the aid given its efforts by the newspapers. As H. P. Davis of KDKA once said in an address ten years after the station was founded, "Thus the newspapers really fostered the growth of what later was thought might be a serious rival to them, but which feeling I am glad to say no longer exists." Even at broadcasting's first quarter-century anniversary such a flat statement can not be made, although the coming together of broadcasting and newspapers upon a common ground of understanding has progressed with the years. Possibly, the lack of participation by newspapers in the *coming thing* was largely responsible for the early misconception of broadcasting's place in journalism.

The first newspaper to devote daily space to the publishing of radio station schedules was the old *Pittsburgh Post*. In the issue of Saturday, September 10, 1921, there appeared the offerings of KDKA, and thereafter, each day's programs were printed. While continuing studies of newspaper reading have indicated a marked interest on the part of subscribers for such program schedules, there are some newspapers even to this day which refuse, in this one regard, to operate in the public interest, convenience and necessity.

KDKA was not yet a year old when it presented news by radio from the newsroom of the *Pittsburgh Post*. This was on September 20 in 1921. WJAG, founded by the *Norfolk Daily News* in Nebraska, wasted no time in assigning to the voice of radio the responsibility for disseminating news from wire services. Its noon-hour newscast, started in 1922 at 12:15, has been proved the oldest continuous service of its kind in broadcasting.



As one of radio's first commentators, the name of H. V. Kaltenborn has stood out during broadcasting's first quarter-century of development in news techniques for his "accurate, unbiased reports and brilliant interpretation of events."

It was only logical that with the reporting of spot news a need would quickly arise for news analyses. In 1922 a *Stranger* by the name of H. V. Kaltenborn appeared over WVP (formerly WYCB) operated by the Fort Wood Signal Corps, Bedloe's Island, with a discussion of the current coal strike which was to become the first editorial analysis of a news event ever heard on the air.

A year later the name of Kaltenborn turned up again in radio with a weekly broadcast over WEAJ, then owned by the American Telephone and Telegraph Company. Speaking as an editor of the Brooklyn *Daily Eagle*, his first subjects were on Lloyd George, prohibition and conditions in the Rhineland. Joining the Columbia Broadcasting System in 1929, the fame of Kaltenborn spread out beyond New York to that of national significance. During the Munich crisis, and throughout the war years with the National Broadcasting Company, to which he transferred in 1940, H. V. Kaltenborn became evening *must* listening in millions of homes over the country.

It was in 1933 that the Columbia Broadcasting System formed radio's first network news service, the Columbia News Bureau. Broadcasting at about this time was faced with the nation's press associations prohibiting live news for the air. The natural reaction was open opposition by broadcasters and a desire more than ever to give news. The Yankee Network in 1934

set up a news service, the first complete and independent news gathering staff ever organized by a broadcaster to carry on radio news. John Shepard, 3rd, who organized the service, underwrote Trans-Radio News in its beginning.

The Columbia Broadcasting System began to build its reputation in news coverage back in 1929. This was when Fred-eric William Wile was added to its staff. Mr. Wile, who previously had been a pioneer Washington political commentator on the National Broadcasting Company, represented C.B.S. with his famous "The Political Situation in Washington To-night." At the London Naval Conference in 1930, Mr. Wile arranged for the appearance on the network of distinguished speakers from leading countries.

With the gathering of war clouds over Europe the role of broadcasting in news reporting took on new responsibilities and importance. Lightning war meant lightning reporting, and this was broadcasting's longest suit. Headlines were being made in a dozen countries. The American public, having tasted of broadcasting's instantaneous news service, no longer was content with, being days, and sometimes, weeks late. To be right on the scene of goings-on would be better yet! *This* broadcasting had within its power.

The first international news round-up was staged by C.B.S. from key European capitals during the Austrian Ansch-



D-Day morning in the C.B.S. newsroom! Left to right are Major George Fielding Eliot; Jesse Zousmer, news editor; Bob Trout; and at the microphone, Quentin Reynolds.

luss crisis in 1938. Bob Trout was in New York, William L. Shirer and Ellen Wilkinson in London, Edgar Mowrer in Paris, Pierre Huss in Berlin, Edward R. Murrow in Vienna and the then U. S. Senator Lewis B. Schwellenbach in Washington. Thus, a new concept in news coverage came into being with Europe, and later the far Pacific, as close as the nearest radio receiver.

As the clamor mounted with the momentousness of world events, broadcasting responded with increased news schedules

and expanded facilities. Stations which never had given serious consideration to a comprehensive news set-up entered the field for the first time. News bureaus were established at the news capital of the world in Washington. The Yankee Network's regional organization opened its own Washington Bureau in 1939, and WGAR as an individual broadcaster of Cleveland followed suit in 1943. Networks and stations sent correspondents overseas to both the European and Pacific theatres of war. —And so it went across the country as station after station expanded their services to meet the increased demands and needs of listeners.

The place of news by radio is now well established. For *news as it happens* from *where it happens*, broadcasting has no equal. It has won its way into the public's ear as being conclusive and dependable. As in war, broadcasting in peace will pattern its news services to meet the needs of the times. The responsibility is not that merely of the metropolitan centers, but of stations in communities large and small. WMAZ in Georgia is just one example among many. The station employs five full-time newsmen for doing nothing else but comb the city of Macon for local happenings. WJTN in Jamestown employs three reporters to gather and edit the news for four daily broadcasts devoted exclusively to local news. In 1945 the cost of operating the WHO, Des Moines, News Bureau and Farm News department was over \$100,000. The station maintains a staff of twelve trained and experienced newsmen.

But what about educationally trained news personnel? The printed media had journalism schools to draw from with training curriculum designed to suit their needs. At Chicago in 1944 Karl Koerper, vice president and managing director of KMBC of Kansas City, introduced a resolution at the N.A.B. Executives War Conference for endorsement by broadcasters of the "Council on Radio Journalism." The Council, which was established by joint action of the N.A.B. Radio News Committee and the American Association of Schools and Department of Journalism, gave as its purpose:

1. To coordinate education for all fields of radio Journalism with the expanding requirements of this rapidly-developing industry for trained personnel.
2. To bring together for counsel and advice representatives of the educational institutions and the industry to the end that the educational programs of the institutions shall result in the adequate preparation of personnel for radio journalism.
3. To study and investigate such problems in the field of education for radio journalism as may be referred to it by the educational institutions or by the industry, or as may be proposed by the Council or its individual members.
4. To define and, insofar as is possible, gain acceptance for minimum standards for education for radio journalism.

5. To establish itself eventually as the voluntary accrediting agency for education programs in the field of radio journalism.

The resolution was adopted, and journalism instructors from nine universities and colleges served internships at qualified radio stations during the summer of 1945. The way was therefore opened for bringing educationally trained youth, trained especially for radio news broadcasting, into the ranks of station personnel.

The nation's leaders have proclaimed the right of *free speech* in radio as in the printed word. Broadcasting at the industry's 25th anniversary has won its way into the Washington News Galleries. It is now to be remembered, both by broadcasters and by the public in general, the struggles which made news reporting by radio possible. This, as well as *free speech* itself, should be zealously protected against those who want all others to think only as they do. Yes, even the Walter Winchells and the Drew Pearsons with their key-hole peeping and sensationalism have a right to be heard.

CHRONOLOGY OF MILESTONES

News

1921: September 10—Program schedules of KDKA, Pittsburgh printed in the old *Pittsburgh Post*.

September 20—News by radio from a newsroom in the *Pittsburgh Post* through KDKA, Pittsburgh.

1922: News from Associated Press by Karl Stefan of WJAG, Norfolk, Nebraska.

Associated Press news received and broadcast by WFAA, Dallas, as the only means of communication with Mexico City during the current revolution.

April 1—Local and state newspapers print stories obtained through WWJ, Detroit due to disruption of both telegraph and telephone wires by sleet and storm.

April 13—Daily radio column in *Los Angeles Times* by KHJ, Los Angeles.

July 26—Oldest continuous newscast at broadcasting's first quarter-century anniversary—the 12:15 p.m. news of WJAG, Norfolk, Nebraska.

1923: February 3—News resume of 15 minutes by Mr. Slocum of the *New York Tribune* over WJZ, New York.

October 23—Radio political commentator, H. V. Kaltenborn, starts his series of "Current Events" over WEAJ, New York, sponsored by *Brooklyn Eagle*. First subjects are Lloyd George, Prohibition, and conditions in the Rhineland.

1924: Washington political commentator, Frederic William Wile, is originated to a network by WRC, Washington.

Associated Press messages to the *Chicago Daily News* by KSD, St. Louis when a severe windstorm blows down telegraph lines.

1925: "Newspaper of the Air", including news, music and advertising, by KOIN, Portland, Oregon.

1929: "News every hour on the hour," by WOMT, Manitowoc, Wisconsin, signing contract with a press association for this service.

Radio news bureau installed by KGEZ, Kalispell, Montana.

1930: *Dallas Morning News* station, WFAA, becomes a 50,000 watt operation.

1931: "Five Star Final," dramatized news show, starts on WMCA, New York.

1933: Columbia News Bureau organized by the Columbia Broadcasting System.

1934: March 1—In view of nation's press associations prohibiting live news on the air, John Shepard 3rd organizes the Yankee Network News Service.

1937: Radio listening post to pick up foreign government stations for news by WMCA, New York.

June—Editorial digest, "The Editor Speaks," taken from newspapers, started by WMCA, New York.

1938: March 13—International news round-up from European Capitals by the Columbia Broadcasting System.

1939: May 15—Washington News Bureau, under direction of Frances W. Tully, installed by the Yankee Network News Service.

May 26—Associated Press board of directors lifts ban on use of A. P. news in sponsored broadcasts under specified rules.

1940: Hourly news bulletin service in conjunction with *New York Times* by WMCA, New York.

1942: April 18—News of the first American bombing of Tokyo by the C.B.S. shortwave listening station in San Francisco.

1943: November—Washington News Bureau by an independent station, WGAR, Cleveland.

1944: June 22—David M. Baylor arrives in London as correspondent in the European Theatre of Operations for an independent radio station, WGAR, Cleveland.

June 29—H. R. Ekins accredited to ETO as correspondent to Europe, giving WSYR, Syracuse staff commentators in both theatres of war, with E. R. Vadeboncoeur previously accredited to the Southwest Pacific on April 28, 1944.

July—Independent network's war correspondent in the European Theatre of Operations by the West Virginia Network.

July 13—Ban on middle commercials for sponsored news broadcasts invoked by WJR, Detroit, effective September 1.

November 4—*Berrow's Journal* of Worcester, England, breaks a 254-year tradition of printing only advertisements on its front page to publish story of WTAG's (Worcester, Massachusetts) project, "Worcester and the World."

1945: January 5—News credentials of the United Nations Peace Conference applied for by WOV, New York.

March—Carl George provides direct coverage for an independent station in the invasion of the Philippines representing WGAR, Cleveland.

March 8—Full hour of *ad lib* news analysis by Rene Bozarth, news editor, on V-E Day through KGFJ, Los Angeles.

May 30—Scheduled news period from nose of a flying fortress by WWDC, Washington, D. C.

August 14—On V-J day when Fort Wayne newspapers are not available due to labor difficulties, WOWO, Fort Wayne, publishes a "News Release" with all important happenings, chronology of war, local church service announcements, etc., and distributes 35,000 of the sheets by dropping them from planes over the city during the initial victory celebration and again the following day during the victory parade.

October—McClatchy Broadcasting Company on West Coast appoints a staff writer in Washington, D. C., to send its stations news of particular interest to their locality and arrange for interviews with authorities on problems pertaining to the areas served by the stations.

November 7—Radio's news coverage reaches a milestone with President Harry S. Truman formally dedicating new Radio News Gallery in Senate Wing of Capitol.

The Woman's Role in Broadcasting

CHAPTER VII

Women have had a surprising lot to do with broadcasting and its development. Not in the scientific laboratory where the woman's delicate touch is little in evidence! Nor especially in an executive sense with making the wheels go around in a radio station! But when it comes to a subtle feminine influence from the receiving end as listeners, women have had everything to do with broadcasting.

In the first place it is the woman who does most of the buying for the household. Hers is a life which revolves around the home in which the radio set is an integral part. She listens to the radio more hours each day than any other member of the family. As broadcasting's number one customer, it is therefore only logical that she is catered to with programming to suit feminine tastes. Consequently, the influence of

the woman in broadcasting is a fundamental one, for her preferences, reflected in surveys, determine program content.

As to woman's direct participation in the affairs of broadcasting, it is misleading to say that the transmitting end of radio is a man's world. This is, of course, a gross overstatement, merely a convenient comparison with the importance of feminine influence at the receiving end. For there are notable exceptions to the rule in every phase of broadcasting's operation.

On the executive side of the business, broadcasting has its Judith Wallers and its Dorothy Lewises. Miss Waller's career dates back to 1922 when she was called upon to organize and direct the station WGU, which became Chicago's WMAQ. With much publicity and fanfare WMAQ went on the air the evening of October 2, 1922. Miss Waller was very much a part of the inaugural broadcasts, directing two elaborate programs featuring comedian Ed Wynn during the period from 7 to 7:30 p.m. and various local opera stars and musicians from 9:30 to 10 p.m. At first WMAQ was not incorporated, and was treated merely as a department of the *Daily News*. Miss Waller was director of the station, assisted by William S. Hedges, who at the time was radio editor of the newspaper. Mr. Hedges later was made president and Miss Waller,



Miss Judith Waller, of pioneer radio stock, whose experience in broadcasting since 1922 qualifies her as a foremost authority. She is shown here with her secretary, Betsy Ross (to the left).

vice president and general manager. Miss Waller is particularly well known for her educational and public-service activities. Among her well-known programs is the famed "University of Chicago Round Table."

In the field of radio writing, broadcasting has its Inna Phillips and its Ann Hunnerts. Miss Phillips is a product, too, of Chicago. She was born on the city's north side, the tenth child of an every-day American family. Her childhood

centered about her own family, since she did not see much of other children. That was normal, but significant, for it helped provide much of the background for her radio writings.

Upon graduation from the University of Illinois Miss Phillips decided to become a teacher of speech. She was happy at her job of teaching dramatics and public speaking until 1930 when, while visiting her family in Chicago, she decided to attend a radio performance. There she met Pat Barnes who offered her an audition, and her earlier ambition to act was revived. Less than a year later she resigned her teaching position and returned to Chicago to act in several WGN dramatic programs.

Her advent into the writing of radio scripts was quite accidental, and done under protest. In 1930, she was asked to write a Memorial Day program. Although insisting that she was an actress and not a writer, she prepared a program which so impressed studio executives that they persuaded her to continue writing. This marked the beginning of her career as one of broadcasting's earliest and foremost script writers.

Responsible for many innovations in daytime radio, Miss Phillips was the motivating force behind the rise of daytime radio dramas in broadcasting. Her numerous serials became the most popular on the air—"Today's Children,"

"The Guiding Light". "The Woman in White", etc. One of radio's most prolific writers, Miss Phillips has turned out more than thirty million words a year, or the equivalent of about 27 books annually since she began authoring scripts those many years ago.

The average radio listener is little aware of the careful thought instituted by such writers as Miss Phillips in the presentation of story material which tends to stimulate sound social thinking and progress. Such daytime radio dramas initiate significant projects and present problems encountered in the various fields of social ethics, with the logical solutions, as well, in order that the results may be socially beneficial.

With the rise of the daytime radio drama a new colony of show-people came into being. The *soap opera queen* became the coarse term for leading ladies of the daytime serial. Here, however, arose a highly talented species of the dramatic art. Happiness, sorrow, fright—let us not forget the *screams*—became the radio actress' forte—relying upon voice picture alone. To the radio listeners the air names of *Aunt Jenny*, *Joyce Jordan*, *Sade*, *Judy* and *Janet* became daily visitors to millions of American homes. Behind such names were the Betty Winklers, the Agnes Mooreheads, the Alice Frosts, the Virginia Paynes, and a proud host of others.

In the talent end of the business, broadcasting also had its Vaughn De Leaths and its Kate Smiths. Going on the

air from a tiny wireless room atop New York's World Tower building, long before any regularly scheduled broadcasting had taken place, Miss De Leath contributed to radio the *blues* voice. Her unique style was in later years to become the trademark of another set, distinctive of broadcasting—the Mildred Baileys, the Dinah Shores, the Connie Boswells, the Frances Langfords and many more.

At the pinnacle of *Amos 'n' Andy* popularity, a new star was being born during that same quarter-hour on a



Kate Smith, one of the best known women in America, is shown here during her first broadcast over the Columbia Broadcasting System on May 1, 1931. Listeners down through the years remember her particularly for two songs, "When the Moon Comes Over the Mountain" and "God Bless America."

competitive network. In spite of the competition, nearly approaching that of being a national phenomenon, an unknown singer by the name of Kate Smith was scheduled by the Columbia Broadcasting System. Kate, through her thrilling voice and powerful personality, quickly gathered unto herself a large and loyal audience. She was soon to become a national institution and contributed much to the establishment of big league variety shows.

In general it could be said that the average woman's speaking voice is unpleasant to other women. For this reason, in part, the acceptance of woman announcers has not been widespread during broadcasting's first quarter-century. On the other hand, new program services came into being through which women were to have an almost exclusive proprietorship. This was particularly true in shopping, food and home-maker shows.

The first department store ever to publicize its services on the air was the Joseph Horne Company, one of Pittsburgh's leaders. In January, 1921, Mrs. Chester B. Story and Miss Elinor Barton appeared alternately in fashion talks over KDKA on Tuesday evenings from 7 to 7:15 p.m. Later on, talks on home furnishings were added, and finally all of the store's departments were advertised. During broadcasting's first decade, the participating shopper idea came into being. An enthusiastic *shopper* would scout the town for buys of the day, and the housewife would be subjected to fifteen minutes

or so of high-pressure selling. "Polly the Shopper" up at KSTP in the Twin Cities was an early success program of this type.

The progress of broadcasting for a share in the retail store's advertising dollar was slow during its first quarter-century. Much of the difficulty logically rested in creating proper vehicles for getting the housewife to react enthusiastically to this form of advertising as to others. There have been notable exceptions, of course, requiring common sense consideration of the problem at hand and then tailoring the program to fit the need. One such example of this was the instituting some dozen years ago of the "Joanne Taylor" daily quarter-hours over KMBC of Kansas City. Here is a program with all the listener appeal of a daytime serial, evolving around happenings in the John Taylor Department Store's personal shopping office. The first "Joanne Taylor", incidentally was Caroline Ellis, later to become nationally known for her "Caroline's Golden Store" and as the creator of *living dialogue* in radio.

Food buying and preparation constitute one of the housewife's major responsibilities. Here again broadcasting can be of invaluable assistance. In such programming activity, too, the woman's voice is to be preferred in most instances. Before the first quarter-century was out, stations across the country were presenting the Betty Crockers, graduate home economists, with daily programs on food preparation—in some instances, from the station's own model kitchen. Other stations

took their feminine listeners direct to food buying centers for valuable advice on the day's *best buys*.

The profession of broadcasting has afforded the woman with new opportunities of success on a par with man. During the past world war, it was necessary because of manpower shortages, to staff many stations with women personnel—announcers and technicians. There always have been the customary opportunities for women in usual office routine capacities, but as is generally agreed such feminine personnel during the war proved their capabilities for increased responsibilities in the future. Under the American system of station license assignments, those who inherit ownership and management may include among them in time an increasing number of women.

CHRONOLOGY OF MILESTONES

"The Woman's Role in Broadcasting"

1920: Vaugn De Leath goes on the air from a tiny wireless room atop New York's World Tower Building before any regularly scheduled broadcast had taken place—originating "crooning" method of singing.

A dignified, reticent wife of a Pittsburgh dairy magnate thinks there isn't enough church music on the air, and is willing to back her own opinion with dollars, but the audience isn't to know who is paying for the services. Thus begins a weekly half-hour of sacred songs, sponsored without commercial credit, on KDKA, Pittsburgh.

September 23—Mabel Norton Ayers of Cincinnati sings with phonograph accompaniment on WWJ, Detroit.

1921: Great operatic singer, Mme. Johanna Gadski, appears on WJZ, New York.

January—Joseph Horne Company, department store, presents Mrs. Chester B. Story and Miss Elinor Barton alternately in fashion talks, Tuesday evenings from 7 to 7:15, on KDKA, Pittsburgh.

February 18—Broadcasting from a hotel, Miss Alice M. Robertson, Oklahoma Congress woman-elect, talks on KDKA, Pittsburgh.

March 10—Miss Ruth Roye, soprano soloist, heard in a theatrical broadcast direct from Davis Theatre stage by KDKA, Pittsburgh.

December 17—Program consisting entirely of Christmas Carols presented by the *Pittsburgh Civic Quartet*, made up of four women under direction of Mrs. Will

Earhart, wife of the superintendent of music in the Pittsburgh Public schools, on KDKA, Pittsburgh.

1922: February—Ida A. McNeil starts as announcer and manager of KGFX, Pierre, South Dakota—still in this role at broadcasting's first quarter-century.

February 26—Helen Gray, 12 years old, of Montclair, New Jersey, appears in a half-hour program of children's songs as a child star on WJZ, New York.

April 27—Helen Guy, sister of a radio engineer of the station, is employed as a regular worker in a broadcasting station at WJZ, New York.

May 9—Heard for over a year on the air Bertha Brainard inaugurates a series of dramatic criticism over WJZ, New York.

September 15—Personal appearances on radio by motion picture stars, Madge Kennedy and Pola Negri, over WJZ, New York.

October 28—Bertha Brainard hired as a station representative for WJZ, New York to pick talent for Newark studios.

November 7—Radio wedding from Motor Square Garden broadcast by KDKA, Pittsburgh with the bride being Bertha Anna McMunn.

1923: Woman's program goes on the air as the "WIP Homemakers Club" over WIP, Philadelphia.

April 23—Marjorie Rambeau is presented from the stage of the 44th Street Theatre in the Shakespearian play, "As You Like It," by WJZ, New York.

April 25—Anna C. Byrnes and her orchestra presented over WEAJ, New York sponsored by Browning King & Company.

1925: *The Fadettes*, an all-girl concert orchestra, presented by WEEI, Boston.

January 1—Miss Lucrezia Bori of the Metropolitan Opera Company makes her radio debut along with John McCormack, famous Irish tenor, on WEEAF, New York, thereby inspiring other artists of distinction to go on the air.

1926: June—"The Classic Hour" starts its continuous series of weekly piano recitals continuing through broadcasting's 25th anniversary with Mrs. Aubrey Waller Cook as artist on KMBC of Kansas City.

1928: February 8—Mrs. Mia Howe is televised by John L. Baird, and her image is seen in a trans-Atlantic transmission to Hartsdale, New York.

1929: May 1—Under direction of Grace Abbott, chief of the Children's Bureau of the United States Department of Labor, presents a program, "Your Child," on the care of children and their health, through WRC, Washington, D. C., to the National Broadcasting Company.

1933: July 20—"Consumer Tips," a program of primary interest to women, broadcast by the National Broadcasting Company in cooperation with the General Federation of Women's Clubs.

1936: June 6—At the opening of Texas Centennial, WFAA, Dallas, woman program director flies to Mexico for a plane-load of orchids and scatters them over a listening audience in broadcasting a description of the Centennial grounds as the plane circles over the site.

1944: February 1—This is "Kate Smith Day" on the Columbia Broadcasting System as she makes 57 separate appeals to listeners, "selling" \$112,000,000 worth of War Bonds.

Advertising Provides the Wherewithal

CHAPTER VIII

Some of the people some of the time indicate an understanding and appreciation of advertising's place in our economic way of life. Then again, some of the people some of the time go quite berserk over any inadequacies of its execution. One cannot hope to enter here into a long-winded consideration of advertising's virtues or its imperfections. For sure, however, all of the people all of the time are affected, directly or indirectly, by advertising's influence to a degree far greater than the layman realizes.

Very briefly it should be pointed out that if other countries, friendly and hostile alike, admire us for any one thing, it is for our genius of mass production methods. This *know-how* to out-produce a world in the past war was not the sudden

accomplishment of an inspired cause. It was rather an emphatic illustration that our way of doing things, in a material sense, out-stripped all others. As ill-prepared for war as we may have seemed, the pattern was already cut out for us by past generations of peace-time production methods.

We will all agree that advertising increases sales, if only from a standpoint of informing the public of new advancements and ideas. The persuasiveness of advertising can be forgotten, although it is possibly the one quality on which the learned critic levels most of his ire. Simplicity of living is his credo. On the other hand, too many are those who lack the initiative to better themselves or their place in life. Through advertising the urge to reach beyond self-satisfaction is translated into action. Without advertising, housewives might still be washing clothes on a washboard, and only the well-to-do would be riding around in automobiles.

For, through increased sales, brought on by advertising, the economies of mass production are put to work. More sales over the counter mean increased manufacturing at the factories. Increased manufacturing means a lower per-unit cost of production, plus the added advantages of improvements in design and materials. It is no mere coinage of words that *advertising pays for itself*.

But what about advertising on the radio? The commercialism of American broadcasting is but a means to an end which is believed in the true democratic sense as the most efficient and financially sound method to arrive at a degree of maximum, high quality productiveness. Radio advertising, without making the listener dig down into his pocket for fees or taxes, brings to the American home yearly a billion dollar array of the finest the world has to offer in entertainment and information.

A twist of the dial, and the listener is whisked half-way around the world to the far corners of the earth for at-the-scene news reports. The listener can sit in the comfort of his home and enjoy the Saturday's top football games, the World Series and basketball games from Madison Square Garden. The learned men of every scientific and social interest bring the listener their knowledge in the quiet of his study. The Bing Crosbys, the Fred Warings, the Jack Bennys and the Bob Hopes—all entertain at fabulous fees, without cost to the listener.

Quite obviously during the infancy of broadcasting's first quarter-century only a few individuals, if any, could envision the far-reaching influence that radio would have on our everyday affairs. But to smile at the short-sightedness of the

politician for letting such latent power get out from beneath his direct dominance is certainly unjustified, for why should the spoken word of free speech, even if more basic, be shackled any more than the printed word?

One early radio enthusiast who proved for his own satisfaction the commercial possibilities of the *wireless* was Arthur B. Church, founder and today president of KMBC. Even as far back as 1915, as an amateur operator, Mr. Church was selling radio parts and supplies through his 9WU at Lamoni, Iowa, to fellow *hams* across the country. Commercialism, however, was not to catch hold in the *broadcasting* sense until 1922.

Up to this time such commercialism, as there was, existed in the sense of purchasing radio's facilities, with the stations receiving the revenue, but the time not put to the use of selling something to the listener. An instance of this was WAAT, leased by the *Jersey Review*, transmitting programs of news and music twice a week with a commercial rate of \$35 for two hours. New Year's Greetings on January 1, 1922 were purchased by the *Jersey Journal* and transmitted for one hour from midnight to 1 a.m. for \$50.

Broadcasting's mushrooming growth brought about conditions in the early twenties bordering upon the chaotic from a public communications standpoint. By the end of 1921, with only eight licensed broadcasting stations, there existed a situation under which no one was sure how the industry could be

supported. Yet, hundreds wanted to broadcast, and millions wanted to listen.

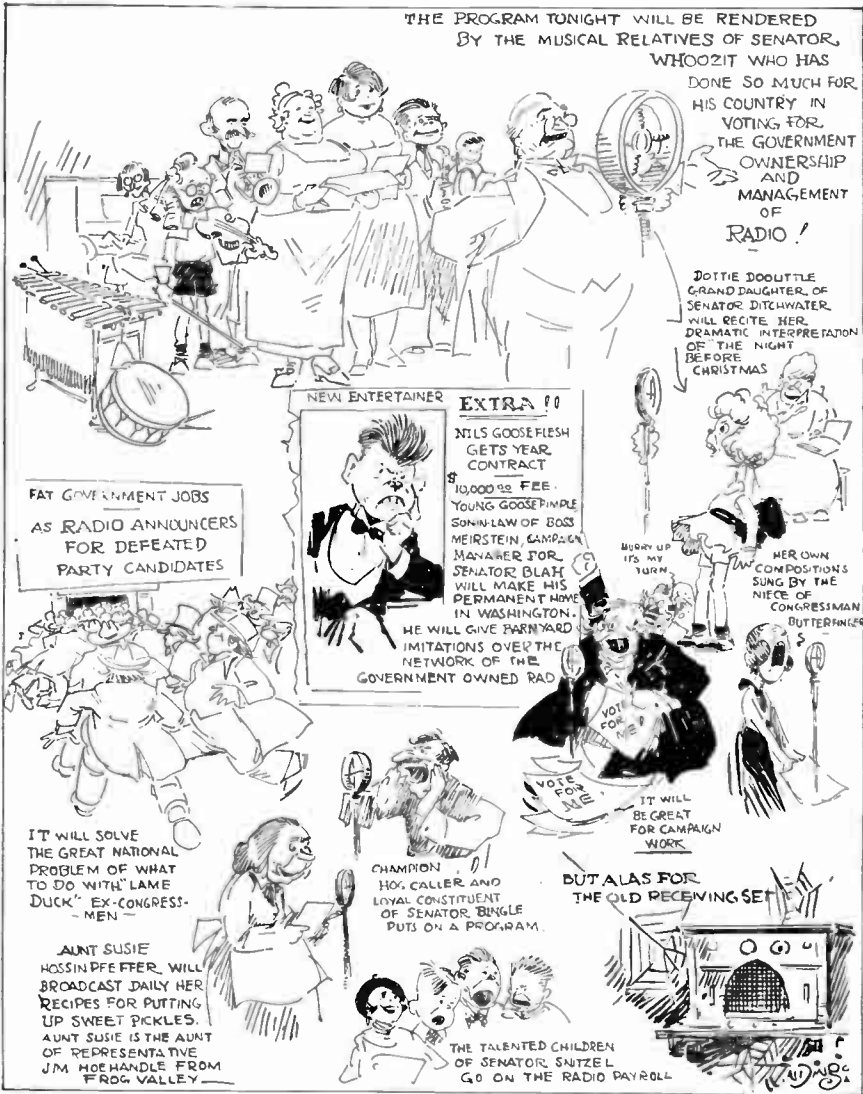
The American Telephone and Telegraph Company was besieged with requests to sell broadcasting equipment which it was unwilling to provide because of the inevitable and unprofitable congestion that would have resulted. The only practical solution to the company, as patent owners, seemed to be in the idea of sharing broadcasting's facilities among many program producers. Since the company alone, at the time, had the legal right to broadcast for hire, since it had wire lines (though not as yet equipped to transmit music) and since it had the skilled technicians who were engaged in developing radio telephony for telephone purposes, the A. T. & T. decided in the fall of 1921 to furnish the facilities whereby the public could test the *toll broadcasting* idea.

Thus, a permit was granted for the erection of a station on the roof of the 24-story operating building between Walker and Lispenard Streets in New York City. The station's call letters were WBAY. The A. T. & T. did not provide for programs of its own, but rather provided the channels through which anyone with whom it makes a contract can send out their own programs. Just as the company leased its long distance wire facilities for the use of newspapers, banks and other concerns, it was planned to lease its radio telephone facilities. One difficulty of the idea, however, was that the experiment started with no thought of providing *sustaining* programs. Of course,

the need for such programs was at once evident and the company found itself committed to entertainment ventures if it was to explore completely the broadcasting potential.

This was the only one of countless schemes dreamed up to make broadcasting pay its own freight in those early days. Out in Los Angeles KHJ established a policy during 1924 to give the station time between 8 and 10 p.m. each evening to an advertiser in the *Los Angeles Times*, provided he contributed an amount of \$150, or more, to be paid to the talent. The same year in Kansas City WHB established the "Invisible Theatre" through which listeners were sold *tickets* to an imaginary theatre as contributions to radio's daily program offerings.

Taxing broadcasting and the listener has long been a favorite subject of consideration ever since the full potentialities of the medium became evident. At the 10th anniversary dinner given to KDKA by the Pittsburgh Chamber of Commerce in 1930, one statesman, the Hon. James Francis Burke, had an original idea for taxing the listener. In some way, not revealed, he hoped to have receivers made in such a fashion as to require a key for their operation. Thus, by paying one dollar a year for the key, listeners could tune in certain major stations as their sources of entertainment. But when someone told him that after a program went on the air there was no possible way for preventing anybody within range from picking it up with an ordinary receiver, with or without a key, the idea went up in smoke.



Courtesy Des Moines Register and Tribune.

When we have government ownership of radio.

The event which broke the ice as far as commercialized broadcasting was concerned occurred on August 28, 1922 at 5:15 p.m. when H. M. Blackwell stepped before a WEAF

microphone to speak on the advantages of apartments in Jackson Heights, New York. The \$100 paid for that ten minutes on the air is possibly the most significant purchase of time in broadcasting annals, for it was the instrument whereby a great new American enterprise came to light. The way was opened now for making broadcasting a going financial proposition. Stations had the wherewithal to bring the best of entertainment talent to the microphone. Thoughts could be given to expanding the services of broadcasting in education, in civic affairs, and to lend a helping hand in times of need.

While broadcasters were enthused over the prospects of making radio an important factor in advertising circles, there were others none too pleased over a young upstart cutting in on the advertising dollar. At first it was felt that advertising in general would have to set another plate at the table and dish up the meals in smaller helpings. Time, however, proved the short-sighted fallacy of such reasoning. Broadcasting made its own place in the world, and the advertising dollar grew accordingly.

A new frontier thereby opened for ambitious youth who had what it took to go places in a fast-moving industry. For broadcasting was a young man's world of enthusiasm and imagination. The salesman in this media wasn't just a genius of the paste-pot. What he sold was an intangible object, demanding a ready and descriptive tongue. The newspaper space salesman, who traded in his pair of scissors and a mat service

for a rate card and a program schedule, and there were dozens in those early days of broadcasting's commercialism who did just that, discovered that the technique of selling radio entails new elements unlike those of other media.

In the first place—the persuasiveness of the spoken word! Here is advertising through which the most commonplace means of communication is employed—three-fourths of our communicative life being involved in talking and listening. Then, too, the timeliness of radio! With voice transmission an almost instantaneous process the selling copy is a thing of the immediate which, at a moment's notice, can be revised to meet emergency conditions of the weather and marketplace. To this can be added the timeliness of being able to strike while the skillet is hot, so to speak—selling the virtues of a shortening or a can of soup at just the moment when meal preparation or food buying is contemplated.

But these were only a few of the selling tools which the radio salesman found gave broadcasting its own distinctive place in the world of advertising. To these could be added others of a deeper psychological aspect, such as selling to prospective buyers as a family group. The open door of an *on* switch makes radio advertising a guest in the American home. As a guest, it does not talk to one member of a family group, off in the privacy of a corner of the room. For while only one in a family can read the same printed message at a time, the radio announcer talks to all within hearing. This quality in itself is

of fundamental importance, for purchases involving more than *change in one's pocket* almost invariably concerns all members of the group, not just an individual.

To the rapidly expanding list of qualified station time salesmen was added the national representative firm with offices in the larger cities to sell the facilities of many stations for a percentage of the business peddled. The first such radio representative firm was William G. Rambeau with Free & Sleining, Inc. (now Free & Peters, Inc.), following soon afterwards. Advertising agencies set up radio departments with specialized *know how* made available to their clients.

One development back in the early twenties, having had much to do with the rapid growth of broadcasting's acceptance by the advertiser, was the creation of network radio. The first experiment of simultaneous broadcasting from two stations, joined together by long distance lines, was that of a three-hour long program of orchestral selections, saxophone and cello solos, contralto and baritone vocalists—and a bird mimic. The program was broadcast on January 4, 1923 from WEAJ in New York to WNAC, Boston, and relayed by a public address system to the annual banquet of the Massachusetts State Bankers Association. This hardly could be called the advent of network broadcasting, for it was only an one-time experiment, but it did open a whole new realm of radio technique.

The first *permanent* hook-up was between WEAJ and WMAJ at Round Hills, Massachusetts, throughout the summer of 1923. Before WMAJ though received the New York station's programs, history for single features was made on a

larger scale than had ever before been attempted. The occasion was the annual meeting on June 7 of the National Electric Light Association which was held in Carnegie Hall, New York City. For over an hour, three out-of-town stations (General Electric's WGY in Schenectady, Westinghouse's KDKA in Pittsburgh and KYW in Chicago) broadcast the speech and music coming to them over long distance telephone lines from WEAF. Notable features of the program were the address by Julius H. Barnes, President of the United States Chamber of Commerce, and the singing of Miss Anna Case of the Metropolitan Opera Company.

From the commercial standpoint, the A. T. & T. Company with the gradual acceptance by advertising agencies of the *sponsored* idea, added to its WEAF experimental station in New York and a second station in Washington, D. C., under the call letters of WCAP. This station which went into operation on July 4, 1923, was installed to study the function of long distance lines. Out of this experiment arose the WEAF-WCAP-WJAR combination, the first commercial radio network. Some fifteen months later network service was started by WEAF as the forerunner of the *Red Network*¹, the five other stations including WJAR in Providence, WEEI in Boston, WGR in Buffalo, WCAP in Washington and WCAE in Pittsburgh.

¹ The American Telephone & Telegraph Company during 1923 drew up a chart for use by Long Lines engineers to show circuits specially designated for broadcasting as indicated by red pencil lines—which later involved into what became the *Red Network*. Similarly, different colors were used for charted layouts serving other groups of stations, the *Blue Network*, the *Purple Network*, etc.

In the months to follow listeners sat in on a rapid succession of public service demonstrations of the practicability of network operation. It was in the factor of transmitting the superior program material of the bigger cities to stations out of the entertainment capitals that networks assumed a position of utmost importance in the American broadcasting system. Advertisers found that from one central point they could advertise to listeners across the nation. The stations themselves by banding together could afford, by sharing costs, the best there was in entertainment and informative services. Though a modest operator in a small community, the little station could realize the prestige of bringing the Metropolitan Operas, the Arturo Toscaninis and the Barrymores to its listeners.

The first networks operated only in the evening because circuits could not be spared from standard telephone service. By the spring of 1925 there were thirteen stations participating in the network experiment. The first major nationwide broadcast, "Defense Test Day", was undertaken on July 4 of that year with the ceremonies broadcast by 28 stations, utilizing 70,000 miles of long distance wire.

September 9, 1926 became another historic date in the annals of broadcasting. The National Broadcasting Company was organized as a service of the Radio Corporation of America. It was announced that the aim of N.B.C. "will be to provide the best programs available for broadcasting in the United States,"

Announcing the National Broadcasting Company, Inc.

National radio broadcasting with better programs permanently assured by this important action of the Radio Corporation of America in the interest of the listening public

THE RADIO CORPORATION OF AMERICA is the largest distributor of radio receiving sets in the world. It handles the entire output in this field of the Westinghouse and General Electric factories.

It does not say this boastfully. It does not say it with apology. It says it for the purpose of making clear the fact that it is more largely instrumental, more selflessly interested, if you please, in the best possible broadcasting in the United States than anyone else.

Radio for 26,000,000 Homes

The market for receiving sets in the future will be determined largely by the quantity and quality of the programs broadcast.

We say quantity because they must be diversified enough so that some of them will appeal to all possible listeners.

We say quality because each program must be the best of its kind. If that ideal were to be reached, no home in the United States could afford to be without a radio receiving set.

Today the best available statistics indicate that 5,000,000 homes are equipped, and 21,000,000 homes remain to be supplied.

Radio receiving sets of the best reproductive quality should be made available for all, and we hope to make them cheap enough to that all may buy.

The day has gone by when the radio receiving set is a plaything. It must now be an instrument of service.

WEAF Purchased for \$1,000,000

The Radio Corporation of America, therefore, is interested, just as the public is, in having the most adequate programs broadcast. It is interested, as the public is, in having them comprehensive and free from discrimination.

Any use of radio transmission which causes the public to feel that the quality of the programs is not the highest, that the use of radio is not the broadest and best use in the public interest, that it is used for political advantage or selfish power, will be detrimental to the public interest in radio, and therefore to the Radio Corporation of America.

To insure, therefore, the development of this great service, the Radio Corporation of

America has purchased for one million dollars station WEAF from the American Telephone and Telegraph Company, that company having decided to retire from the broadcasting business.

The Radio Corporation of America will assume active control of that station on November 15.

National Broadcasting Company Organized

The Radio Corporation of America has decided to incorporate that station, which has achieved such a deservedly high reputation for the quality and character of its programs, under the name of the National Broadcasting Company, Inc.

The Purpose of the New Company

The purpose of that company will be to provide the best program available for broadcasting in the United States.

The National Broadcasting Company will not only broadcast those programs through station WEAF, but it will make them available to other broadcasting stations throughout the country so far as it may be practicable to do so, and they may desire to take them.

It is hoped that arrangements may be made so that every part of national importance may be broadcast widely throughout the United States.

No Monopoly of the Air

The Radio Corporation of America is not in any sense seeking a monopoly of the air. That would be a liability rather than an asset. It is seeking, however, to provide machinery which will insure a national distribution of national programs, and a wider distribution of programs of the highest quality.

If others will engage in this business the Radio Corporation of America will welcome their action, whether it be cooperative or competitive.

If other radio manufacturing companies, competitors of the Radio Corporation of America, wish to use the facilities of the National Broadcasting Company for the purpose of making known to the public their receiving sets, they may do so on the same terms as accreted to other clients.

The necessity of providing adequate broad-

casting is apparent. The problem of finding the best means of doing it is as ever perennial. The Radio Corporation of America is making this experiment in the interest of the art and the furtherance of the industry.

A Public Advisory Council

In order that the National Broadcasting Company may be advised as to the best type of program, that discrimination may be avoided, that the public may be assured that the broadcasting is being done in the fairest and best way, always allowing for human frailties and human performance, it has created an Advisory Council, composed of twelve members, to be chosen as representative of various shades of public opinion, which will from time to time give it the benefit of their judgment and suggestion. The members of this Council will be announced as soon as their acceptance shall have been obtained.

M. H. Aylesworth to be President

The President of the new National Broadcasting Company will be M. H. Aylesworth, for many years Managing Director of the National Electric Light Association. He will perform the executive and administrative duties of the corporation.

Mr. Aylesworth, while not hitherto identified with the radio industry or broadcasting, has had public experience as Chairman of the Colorado Public Utilities Commission, and, through his work with the association which represents the electrical industry, has a broad understanding of the technical problems which measure the pace of broadcasting.

One of his major responsibilities will be to see that the operations of the National Broadcasting Company reflect enlightened public opinion, which expresses itself promptly the morning after any error of taste or judgment or departure from that plan.

We have no hesitation in recommending the National Broadcasting Company to the people of the United States.

It will need the help of all listeners. It will make mistakes. If the public will make known its views to the officials of the company from time to time, we are confident that the new broadcasting company will be an instrument of great public service.

RADIO CORPORATION OF AMERICA

OWEN D. YOUNG, Chairman of the Board

JAMES G. HARBORD, President

and to accomplish its purpose N.B.C. had two key stations in New York—WEAF and WJZ. It was stated that the National Broadcasting Company would not only broadcast its programs through WEAF, but also it would make them available to other broadcasting stations throughout the country as far as it was practicable to do so.

The best available statistics indicated that 5,000,000 homes were radio-equipped, and that 21,000,000 homes remained to be supplied. The day had passed when the radio receiving set was a plaything; it had become an instrument of service—a household utility. There could be no doubt that the future of radio broadcasting would be dependent largely upon the character of the programs.

It soon became apparent that a single network service was not enough to satisfy the demands of the radio audience for diversified programs of national interest and importance. Station owners, particularly in cities where their competitors had made program service arrangements with the N.B.C. (*Red Network*) pressed for network affiliations. To accommodate this demand and the public interest, less than two months after the first N.B.C. network service began, a second network—the *Blue*—with WJZ, New York, as the key station, was formed. Soon there were to be others—the Columbia Broadcasting System on September 18, 1927, and the Mutual Broadcasting System as a cooperative four-station hook-up on September 30, 1934.

Gradually, the radio network stretched across the country from the East and from the West. The first commercial radio program to a network had been introduced back on February 12, 1924 when the National Carbon Company fed a network consisting of WCAP, Washington, and WJAR, Providence, from WEAJ in New York. On the heels of this innovation others were to follow quickly, and the day of the announcer being the whole star of the show went by the boards.

The inaugural N.B.C. program was broadcast from 8 p.m. until midnight November 15, 1926 from the Grand Ballroom of the Waldorf-Astoria. Those appearing on the program included Mary Garden, Will Rogers, Titta Ruffo, Weber and Fields, the New York Symphony Orchestra with Dr. Walter Damrosch as conductor, Harold Bauer, the New York Oratorio Society, Edwin Franko Goldman's Band, a grand and light opera company under the baton of Cesare Sodero, Vincent Lopez and his orchestra and the orchestras of Ben Bernie and B. A. Rolfe.

Over a thousand guests made up the visible audience. Microphones in the ballroom carried to a vast unseen audience the most ambitious radio program ever attempted up to that time. The ceremonies opened with a five-minute address by N.B.C.'s newly elected president, Merlin H. Aylesworth, who told of the plans and the purposes of the new company. He

promised that the evening's program was to give the assembled guests and the audience out in radio-land a glimpse of the goal that the National Broadcasting Company would seek to attain in the development of radio broadcasting.

An interesting aftermath of the program was a news item in the *New York Times* for November 17, which stated that N.B.C.'s christening party had cost \$50,000, one-half of which went to the artists who appeared on the program. "In revealing these figures yesterday to the Associated Press," the report continued, "an official of the company said it was expected to make advertising ultimately pay the entire expense of elaborate programs to come."

When the Atwater Kent Sunday evening radio concerts first heard from WEAf in 1925, N.B.C. had not as yet been organized. But it soon became a national favorite of those early days on the new network and *unheard* of prices were paid to artists for *singing just a few ditties on the air*. Beniamino Gigli, the Metropolitan tenor, demanded and received \$6,000 for singing three or four songs on one of the concerts.

Further along the Park Avenue of expensive programming went broadcasting on the night of January 4, 1928, when the \$67,600 "Dodge Victory Hour" presented in succession: Will Rogers speaking from his Beverly Hills home in Califor-

nia, Paul Whiteman's orchestra playing in New York, Fred and Dorothy Stone singing in an Erlanger Theatre dressing room between acts in Chicago, and Al Jolson singing from a Hotel Roosevelt room in New Orleans. This first "Victory Hour", on which E. G. Wilmer, president of the Dodge Brothers Company, also spoke, linked into one radio *studio* by means of 30,000 miles of wire, every state in the union. The four artists' fees for the hour period were over \$25,000, the telephone and mechanical facilities costing more than \$35,000 and the station time, \$7,600.

The arrival of "Amos 'n' Andy" on the scene was to set new standards in dramatic comedy. Surveys discovered the *surprising* thing that women do listen to the radio in the daytime. The five-a-week formula of "Amos 'n' Andy" was soon to be adopted by the daytime radio dramas. Advertisers were finding it decidedly profitable to utilize just about all the radio time except the squeal. But throughout the growing acceptance of this youthful advertising medium, careful attention was being given to keeping a balance between commercialism and sustaining time.

Under normal conditions it was found that well over 60 per cent of all radio time remained non-commercial—as high as 70 per cent for the networks! The length of the advertising copy on a commercial program was being limited to only a few



Programs such as this came into being with nation-wide sponsorship through network radio. The Cities Service Orchestra of 1927 with Jessica Dragonette, Ford Bond, Rosario Bourdon, and the "Men About Town" quartet!

seconds in proportion to the time provided for the entertainment—and such maximums were steadily reduced through peacetime and war years alike. For these few words on only a 40 per cent maximum of radio's time, the listener was entertained and educated without cost or tax, or the obligation to listen—though the value of the service was measured in the millions of dollars.

Surveys indicated that the way broadcasting was running its business met with the listeners' approval. While in

1930 the average radio family kept its radio on for 3.9 hours a day, ten years later 86 per cent of all radio families listened an average of over five hours a day—something like 122,000,000 hours every day. Surveys also were informing the advertiser which program formulas clicked and which didn't. It became quite evident, when the sponsor started laying his hard cash on the line for these high-priced programming features, the great variety shows and topflight comedians, that the radio could not exist in economic terms except as it was related through measurement to the behavior of people. Such measurements had to be conceived to provide a comparative appraisal of values as aids to buyer and seller in achieving an equitable meeting of minds in a specific contractual relationship. In the sustaining sense, too, the network and the station operator had to measure the effectiveness of their programming efforts and revise them accordingly.

During broadcasting's first quarter-century, many ways of making program measurements of listener acceptance had been devised. At the time of broadcasting's first quarter-century anniversary, one method had apparently been accepted as the basic technique for determining how many people listen—to what program—when. Many a humorous incident came from the telephone coincidental method of asking "to what station and program are you listening," but to the buyer of time such reports were serious business.



Hooperatings! 1. Telephone Interview, one of 9,500,000 per year. 2. Air-mail Special returns checked in. 3. Editor's check and balance against station program logs. 4. I. B. M. cards punched at rate of 175 per hour. 5. Cards sorted. 6. Lightning electric fingers tabulate and print audience totals. 7. Final printed reports running on Hooper presses. 8. C. E. Hooper.

C. E. Hooper, a pioneer researcher in the telephone coincidental method, having retained the same method of program popularity measurement since 1934, became an influential figure in the commercial aspects of broadcasting. His *Hooperating* provided a new word for the vocabulary of the advertising man, talent, and even the layman. Many a program has received its pink slip because it could not measure up to the *top fifteen* of radio shows as determined by *Hooperatings*. While some buyers go overboard in forgetting that the true effectiveness of a program at the point of sale is not measured directly by *Hooperatings*, they have become the by-word for many agency time-buyers to determine the acceptance of the program itself within the homes of America.

Other well known radio survey methods which found their beginnings during the past 25 years include fan mail analysis, the personal door-to-door interviewer, the *recall* survey on asking listeners to think back over a certain period of time and *recall* the programs to which they have listened, and the mechanical method of radio set attachments for recording on tape the tune-in peculiarities of the dial-twister.

Along with the word, *Hooperating*, another well-known commercial expression came into being. "The next program comes to you by means of an electrical transcription" is a phrase that graces a station's daily schedule many times throughout each program day. At first the average listener resented the thought of his entertainment and radio personalities being *canned* on a wax record. He balked at the thought of a substitute for the real thing. But with time the stigma lost its

sting as the listener realized that in many respects such a practice actually works to his advantage, and the transcription of modern-day cutting cannot be distinguished from the real thing on the air.

The national advertiser has used the electrical transcription to good advantage since about 1935. It was Cecil Widdifield of Schwimmer & Scott Advertising Agency who first sold the idea of *transcribed plugs* to the advertising profession. He contended that the twenty-second interval between programs could be utilized to good advantage by the advertiser. The transcribed announcement afforded him an opportunity to produce such *spots* with all the showmanship and wallop of a half-hour show. By putting the production on wax, it would be possible for the advertiser to assure himself that they would sound just as intended, no matter how small or how large the station. George Givot, famous comedian of the times as the *Greck Ambassador*, was transcribed in the first series of such *plugs*, and before long, listeners had spots before their ears at all times of the day and night.

As for transcribed programs, the national advertiser found that they were very effective to open new territories and back up dealers in a concentrated campaign over local stations not affiliated with networks. Or they could use them on stations with network affiliations where time cannot be cleared for the network broadcast. Or they could use them because they want a

split network of less than the full list of stations to select their markets and to concentrate their efforts accordingly.

The regional advertiser made use of transcribed programs for the same reasons, but on a more limited basis. Expensive line charges could be saved, and individual stations and markets again selected at will. As for the local advertiser, such transcribed shows could give him entertainment comparable to the networks at costs within local budgets. Possibly even then he could not buy such *name* stars as Fibber McGee and Molly, Edgar Bergen and Charlie McCarthy, or Dinah Shore—but he had many other success programs to choose from on the merit of the program itself not just upon the big name of the star.

There is no question that broadcasting has created talk in more ways than one since its inception so few years ago. Advertising has been one of the foremost topics. The industry always will have its critics in this respect, and that is good, for there is always room for improvement. Seeking better ways of doing things has been a fundamental tenet of broadcasters since the beginning.

By careful consideration of radio advertising the listener will find far less *objectionable* merchandise and services as to subject matter than in other media. The length of commercial copy in relation to the *entertainment* portion of the program always has been far below the standards for other media of 40,

50 and ever greater advertising percentages. But it is possibly in the content of the commercial copy, and its presentation over the air, that the listener can look the next quarter-century to a more careful consideration on the part of the broadcaster and the advertising profession.

Only the most rabid critic, with something personal to gain, is interested in *seeing the horse lost for the want of a nail*. Fortunately, the other alternative, governmental supervision of program content, has limped along in another country far behind that of the American system in listener appeal, scope of service, and efficiency of operation. So unsuccessful in fact, has been the experiment in England, whose claim to greatness was founded upon trade commercialism, that the debate for Americanizing the British system becomes more and more a possibility.

CHRONOLOGY OF MILESTONES

Commercial Aspects

(Including historical development leading up to establishment of American System of Broadcasting)

1909: School of radio instruction opens in the United States as the Marconi Institute—later incorporated as a part of the Radio Corporation of America—giving courses in every branch of radio.

1915: Arthur B. Church, president and founder of KMBC of Kansas City, uses "wireless" in a commercial way—merchandising radio parts to fellow ham operators on his own amateur station in Iowa.

1920: As secretary of Frank Seaman Advertising Agency, New York, Frank A. Arnold addresses trade, civic, and business groups all over United States on broadcasting as an advertising medium.

May—Jersey Review leases WAAT, Newark, and regular programs are given twice a week consisting of news and music for two hours with a commercial rate of \$35 per week for the time.

1921: Printed copies of speeches sent out by KDKA, Pittsburgh with costs defrayed by selling space on the printed booklets.

1922: January 1—New Year's Greetings purchased by Jersey Journal for one hour from midnight to 1:00 a.m. for \$50 on WAAT, Newark.

January 1—The first of a series of weekly newspapers called *Radio Broadcasting News*, published by KDKA, Pittsburgh, with G. Dare Fleck as editor.

March 31—Commercial station owned and operated by an educational institution—WWL, New Orleans.

April 11—Cash give-away to check listener strength offered over WWL, New Orleans.

July 25—"Commercial station," WBAY, New York, opened for public experimentally by American Telephone and Telegraph Company.

August 28—Commercially sponsored program of the Queensborough Corporation, a real estate organization, on WEAJ, New York.

October—The "Farmer's Noon Hour," a participating program, on KFBB, Great Falls, Montana.

Fall—Broadcast talent paid by WOAI, San Antonio.

1923: January 4 — Network experiment broadcast from WEAJ, New York, to WNAC, Boston.

March—Gimbel Brothers installs studio on the upper floor of its store to originate by wire sponsored entertainment to WEAJ, New York control room.

April 25—Browning King and Company sponsors Anna C. Byrnes and her orchestra in studio program on WEAJ, New York.

Summer—Permanent line connection between WEAJ, New York, and WMAF, Round Hills, Massachusetts.

October 14—Commercial radio network formed between WEAJ, New York and WJAR, Providence.

1924: Station time between 8 p.m. and 10 p.m. given each evening to an advertiser in the *Los Angeles Times* provided the sponsor contributes an amount of \$150 or more, to be paid to the talent, on KHJ, Los Angeles.

The right of discrimination in advertising is exercised by KQV, Pittsburgh in cancelling the account of the Pittsburgh Theronoid Company.

February 12—Commercial radio program sponsored by the National Carbon Company fed to a network of WCAP, Washington (and later WJAR, Providence) from WEAJ, New York.

March—The "Invisible Theatre", an attempt to defray broadcasting expense, established by WHB, Kansas City.

October 9—A metropolitan symphony orchestra, the Los Angeles Philharmonic, appears on a commercial program, sponsored by the White King Soap Company, over KHJ, Los Angeles.

1925: Commercial station, not operated by firm engaged in other business activities, is WAMD, St. Paul (forerunner of KSTP).

Commercial time sold to a city for advertising purposes by WQAM, Miami.

May 7—Personal appearance of radio stars before the *Static Club* by WJZ, New York.

1926: Kiddies Hour program starts on WKBH, La Crosse, Wisconsin, still sponsored on broadcasting's first quarter-century.

September 9—National Broadcasting Company is organized with WEAJ and WJZ in New York as key stations and Merlin Hall Aylesworth as president.

1927: January 1—Blue Network organized.

February—Horn and Hardart begins sponsorship of the "Children's Hour" which is still heard under its banner on WCAU, Philadelphia at broadcasting's first quarter-century.

September 18—Columbia Broadcasting System, headed by Major J. Andrew White, goes on the air with a basic network of 16 stations.

October 11—Quiz show sponsored by Winslow B. Felix Chevrolet Agency on KMTR, Hollywood.

1928: January 4—"The Dodge Victory Hour," costing \$67,600, becomes a national hook-up of major entertainment importance.

December 23—The National Broadcasting Company establishes a permanent coast-to-coast network.

1929: July 1—"Happy Hollow" starts on KMBC of Kansas City—a program of music and drama in which commercials are integrated.

1930: Market data book on listener surveys by WKY, Oklahoma City.

October—Official audit of station popularity conducted by Price, Waterhouse and Company for the Columbia Broadcasting System.

October 1—Direct sample offer and radio contest on WÉAF, New York.

1931: February—Announcers "farmed out" to smaller stations by WCAU, Philadelphia.

October 15—*Broadcasting* magazine is founded as trade publication of radio broadcasting industry.

November 1—Research department established by KMBC of Kansas City.

1932: "Rhythm" transcribed announcements using spoken verse with a rhythmic background introduced by Kasper-Gordon, Inc. Transcribed spots, both dramatic with sound effects and music, of 15-second duration, introduced by Kasper-Gordon, Inc.

June—Walter Mann and Staff makes an intensive survey of "Simultaneous Listening" for WNAC, Boston and WEAN, Providence.

June 27—Price quotations for commercials made by the National Broadcasting Company.

November 1—National dealer meeting by radio held by the Columbia Broadcasting System.

1933: Musical jingles introduced as transcribed announcements by Kasper-Gordon, Inc.

Transcribed spot announcements introduced by Kasper-Gordon, Inc.

1934: September 30—Mutual Broadcasting System starts as a cooperative four-station hookup.

1935: Cecil Widdifield of Schwimmer and Scott Advertising Agency sells advertiser to make national use of spot announcements.

June—Audiometer survey with meters installed in radio homes in cooperation with the Massachusetts Institute of Technology conducted by the Yankee Network.

1936: September-October—Radio is used extensively in Roosevelt-Landon political campaign with estimated \$2,000,000 or more spent for network and station time.

November—Wheeling Steel Corporation starts an employee broadcast over WWVA, Wheeling later fed to the Mutual and N.B.C.-Blue networks.

December 29—Mutual Broadcasting System, after operation as limited network for two years, expands transcontinentally by adding Don Lee Broadcasting System of California and other stations.

1937: March 15—Trend toward originations of movie talent programs from Hollywood as major factor in network operation is launched as General Mills, Inc., Minneapolis (Bisquick) starts "Hollywood in Person" series

on the National Broadcasting Company, followed later by Metro-Goldwyn-Mayer and Warner Brothers tie-ups on networks for major national advertisers.

1938: October 17—Comprehensive merchandising service by WLW, Cincinnati.

1940: April—Dr. Frank Stanton and Dr. Paul Lazarsfeld unveil their new *Program Analyzer*, a mechanical device to record listener reactions to radio programs, first put in regular use by the Columbia Broadcasting System the following year.

October 12—Commercial short-wave programs broadcast to South America by an individual station, WLW, Cincinnati.

December 23—C. B. S. President Paley announces plans for a radio network to link the Americas, following a visit to the countries of Central and South America.

1942: January 9—Blue Network Company, Inc., is incorporated as an independent organization.

May 19—Regularly operating network dedicated by C. B.S. to provide a two-way service between the Americas. Affiliated with C. B. S. in this intercontinental hookup on broadcasting's 25th anniversary are 114 stations.

July 30—Census Bureau county-by-county breakdowns show 82.8% of all occupied dwellings in the United States are equipped with radios when 1940 census was taken.

August 28—Average given wage for some 20,000 full-time employes in broadcasting stations and networks was \$45.15 in 1941.

December 25—Coca-Cola breaks sponsorship records with 12-hour Christmas program on 142 Blue stations, featuring "Victory Parade's Christmas Party of Spotlight Bands."

1943: Policy adopted providing for sale of time for controversial discussion by WMCA, New York.

May 6—Home radios reported by 91.9% of the nation's families, although 4.2% reported sets out of order, according to survey made by *Life* magazine.

October 14—A network is sold—the Blue Network Company, Inc., to the American Broadcasting System, Inc., owned by Edward J. Noble.

December 22—Analysis of radio employment and compensation prepared by F. C. C. shows average weekly compensation (October 17, 1943) to 24,515 full-time employees of \$52.32.

1944: January 3—Largest number of radio homes in history (32,500,000) estimated for 1944 despite wartime freezes plus tube and parts shortages.

March 28—Singing commercials banned on WQXR, New York.

July 13—Ban on middle commercials for sponsored news broadcasts invoked by WJR, Detroit, effective September 1.

August 29—Standard plan of station measurement—later named Broadcast Measurement Bureau—is supported by N. A. B. Executives War Conference. Project later approved by American Association of Advertising Agencies and Association of National Advertisers. Plan entails one million postcard survey biannually at estimated cost of \$1 each.

October 9—"Welcome Home Auditions," providing opportunities in the acting, musical, announcing and technical phases of radio to all returning service men and women interested in a radio career by the National Broadcasting Company.

December 30—Blue Network Company, Inc., merged into its parent, American Broadcasting Company, Inc.

1945: January 30—Radio's weekly payroll averages \$60.52 per full-time employee according to F. C. C. analysis.

February 1—Transcribed announcements and singing commercials banned by WWJ, Detroit.

March 11—Chamber music recitals from Town Hall sponsored by the *Book-of-the-Month Club* on WQXR, New York.

June 4—Radio's biggest customer, Procter & Gamble, Cincinnati, spends \$11,000,000 a year for time alone with talent expenditures of an equal amount according to first published study of premier radio account made by *Broadcasting* magazine.

September 17—Major steel company, Jones and Laughlin, buys 45 minutes across the board, Monday through Saturday, on KQV, Pittsburgh. Presents "Jal-Time," a radio program to replace the "house organ" publication of a major industrial corporation.

November—"Blinp", filled with helium gas, used by WCAO, Baltimore as an advertising promotion stunt.

A Friend in Need Is a Friend Indeed

CHAPTER IX

Time erases the wounds of trouble, and we quickly forget not only the tribulation but sometimes the benefactor who volunteered a helping hand in the duration of need. With this nation of peoples faced daily by emergencies of one description or another, to meet such needs is a continuing process, multiplied hundredsfold by the many segments of our complex society.

While one individual, in his limited existence within a single community, may think that the need for lending a helping hand is only an occasional demand, there are others, many others, who are at the same time experiencing difficulties that to them seem few and far between.

Broadcasting, as a ready means for marshalling necessary assistance with the speed of a thousand Paul Reveres, has

fulfilled the demands thrust upon it by emergencies, great and trivial. In fact, radio communications which begat broadcasting, found its inspiration for existence in service to mankind. It is difficult these days to imagine sailing beyond the sight of friendly shores without the ever ready voice of the wireless at hand to hurry assistance in case of unforeseen trouble.

During broadcasting's first quarter-century, life ran its customary round of disorder. Nature contributed its usual quota of floods, windstorms and earthquakes, with man figuring predominately in economic ills, fires and disease. To tell how broadcasting served in every instance would write a story many volumes in length. We can sample but briefly from the more representative, reminding the listener that this is just a bare beginning.

• LAW ENFORCEMENT

With the advent of broadcasting it was only natural that this quick means for mass communication should be seized upon by those who strive to evolve order out of disorder. KDKA in Pittsburgh just a few months after first going on the air in 1920 offered its facilities to the local police for aiding in the apprehension of criminals. Detroit's WWJ in the following year figured importantly in the locating of a missing boy, William Dora.

In regard to the latter, Mayor James Couzens expressed the opinion, on the tracking down of the boy in Ohio, "The use of the *Detroit News* radiophone was of great help with its first success in locating a missing person. Until the time comes when we can establish our own sending station, the general and public-spirited offer of help from the *News* will be gladly accepted. I have also watched the development of radio, and I can clearly see its immense possibilities in the capture of criminals fleeing the city".

Out in San Francisco KJBS even went so far as to equip police cars with radio receiving sets which picked up the emergency calls broadcast by the station. These calls took precedence over any program on the air at the time, and, of course, provided the station's listeners with many a real thrill. But, of more importance, the system proved so efficient that the police department of that city became quickly convinced that radio communication was a vital necessity in law enforcement.

As a graphic illustration of radio's potentialities in the apprehension of criminals, we have only to turn to the Schnaidt case in South Dakota for one example of how commercial broadcasters have operated beyond the call of duty in the everyday affairs of the communities they serve. The sordid story of Earl Young's criminal career, his phenomenal escapes, and the unprecedented participation of three radio stations in the man-hunt with the ultimate capture of Young, reads like a

fiction story of a murder mystery. But the awarding of nearly \$4,500 for information leading to the arrest and capture of the killer climaxed a very practical demonstration of the power of radio.

KSOO's activity in connection with the "Young Case" began the morning of Thursday, July 28, 1938, when the station's news bureau broadcast the news that a school girl, seventeen years of age who was caring for a small child, had been assaulted and so brutally beaten with a revolver the previous night that the weapon was damaged and left behind by the attacker. The news went on to announce, too, that another Sioux Falls school girl, who had been similarly employed, had disappeared. This girl, Betty Schnaidt, an attractive brunette who was also seventeen years old, had either left the house where she was taking care of a child in the absence of its parents, or she had been abducted. There were no clues to indicate what had happened to Betty. There was no evidence to signify foul play. So, the first item broadcast regarding her disappearance was merely a news bulletin. Later in the day missing person notices were broadcast, and on the Sioux Falls KELO's evening broadcast the girl's father made a personal plea for information regarding the whereabouts of his daughter. In spite of intensive investigation by police and wide publicity by KSOO, and its sister-station KELO, no helpful facts or clues were uncovered.

By Saturday evening public sentiment toward action was crystalized at a citizen's meeting directed by the Sioux Falls Chamber of Commerce. It was decided at that meeting to organize a search the following day, in prospect of uncovering some shred of evidence concerning the girl's fate.

At two, Sunday afternoon, responding to radio appeals over KSOO and KELO, several searching parties were organized—one consisting of various service bodies such as the Legion, V. F. W., D. A. V., and Boy Scouts, and estimated to number over five thousand men. These searching parties scoured the fields and ditches, farms and woods about Sioux Falls without avail. By Sunday evening the subject of Betty Schnaidt's disappearance was apparently uppermost in the minds of the majority of Sioux Falls citizens.

In an effort to extend the scope of interest in the case, station officials decided to organize a citizens' committee to sponsor listener contributions to a reward fund which could be paid to persons giving information regarding the whereabouts of Betty Schnaidt or information leading to the arrest and conviction of an abductor, in the event it was found she had been forcibly taken away. At midnight, Sunday, the Mayor of Sioux Falls, the Chief of Police, the County Sheriff, States Attorney, and officials of the radio stations met to discuss the feasibility of the radio reward fund plan. It was unanimously resolved by the group to organize a citizens' committee to carry

on this work. From sign-on at 6:30 Monday morning, throughout the day on KSOO and continuing during the evening on KELO, appeals for contributions to the Betty Schnaidt Reward Fund were broadcast. By late Monday evening pledges and actual contributions amounting to \$1,500 had been received by the Sioux Falls banks, all of which were designated as depositories for the fund.

Early Monday evening while a desperate family, an aroused city and countryside, and a corps of baffled law enforcement officials waited for some tip that might open the case, a young farmer bound for a swim in Lake Berry near St. Charles, South Dakota, came upon the mutilated body of a young girl. A companion noticed that the body and clothes tallied with the description of Betty Schnaidt he had heard that day over station KSOO. While two men guarded the body, another hurried to St. Charles to notify the county sheriff who in turn contacted Sioux Falls police.

Traveling to the scene along the same route as officers, Gene Dennis, KSOO's special events man, reached the body even before police. He verified identification and phoned first news of the finding of the body to KSOO and the Sioux Falls Police Department. KSOO-KELO had operated on a 24-hour schedule to corroborate the efforts of all law enforcement bodies on the case. On receiving Dennis's call at the station early Tuesday morning, the shocking news was broadcast to thou-

sands of officers and citizens who had kept their radios on all night.

When the criminal's car and other effects were found, the F. B. I. officials identified the suspect's fingerprints as those of Earl Young, 26 year old escaped convict from Lebanon, Pennsylvania, with a record of more than a dozen criminal assaults on women. Young, before his identity had been discovered, attempted to steal a car near the scene of his crime, had evaded arrest at that time, ironically enough shortly afterward had received a meal and lodging from an unsuspecting sheriff, and finally made his getaway on a stolen bicycle, later switching to a stolen car.

Meanwhile, the stations continued to operate in the public interest by serving as a medium for communication of official instructions to federal, state and local authorities throughout the area where Young was being sought. As new clues made the killer's trail clearer, long distance calls from a wide radius poured into Sioux Falls police, South Dakota F. B. I. and KSOO-KELO telling of several suspects bearing resemblance to the scar-faced, much tattooed Earl Young. Citizens and officers in the criminal's probable path waited, armed to the teeth.

At times officers were within two hours of the fugitive, but as he entered territory where his identity was not so well

known, the trail cooled. With reports of the criminal's whereabouts becoming less frequent, station officials sent a conference call on the N.B.C. teletype to all affiliated stations in the central part of the nation, asking them to broadcast immediately an accurate description of Young.¹

One of the stations broadcasting the description was KTHS, Hot Springs, Arkansas. Listening to the station were Captains Jerry Watkins and Ben Rogers of the Hot Springs Police Department. At midnight, the same day of this broadcast, the officers saw a man resembling Young in a beer parlor. Further investigation confirmed their suspicions. Young was followed to a hotel, when in attempting to arrest him, they were forced into a gun battle that resulted in fatal wounds for the desperado. When he died a short time later a new chapter in the battle against crime was dedicated to radio and its alert and public spirited listeners.

Such a story is just a typical example of how powerful the voice of broadcasting can be if it is efficiently and tenaciously put to the task at hand. In 1931 WTAD in Quincy, Illinois, broadcast a bank robbery by means of an airplane which followed the robber's car along the highway, relaying the course of the car to WTAD, which in turn put the information on the air, keeping all towns informed as to their exact location. The

¹ Before the days of radio, how simple it would have been at this point for Earl Young to fade out of the picture as far as South Dakota was concerned, never to be heard of again.

result was the capture of the desperadoes before they were a hundred miles from the robbed bank.

Radio has figured importantly in the development of modern policing methods. Law enforcement agencies in turn have developed radio's use to serve their needs. While commercial broadcasting has been relieved of direct responsibilities of the early days, its efforts are now directed along corrective lines. Juvenile delinquency during the latter part of broadcasting's first quarter-century mounted to new heights, and the mass informative qualities of the radio afforded a ready means for combating the problem. Radio stations from one end of the country to the other, each in its own way, have turned their facilities to the task.

KBUR established a youth center, called *The Spider Web*, to help in the fight against the juvenile delinquency in Burlington, Iowa. The Spider Web has been equipped with club rooms and facilities for youth to dance. Sandwiches and soft drinks were provided after school and up to nine o'clock at night. The only funds available to operate the center came from an annual amateur program which the youngsters put on themselves. The staff of KBUR wrote the program including special music and arrangements, special scripts, all costumes and scenery—and then supervised the selling of tickets.

Even before World War II emphasized the seriousness of juvenile delinquency in this country, WMBS in Uniontown,

Pennsylvania, concerned itself with the growing problem by a campaign in April of 1939 to enlighten listeners throughout its service area. The first programs were given by the county probation officer and were instrumental in the development of a gradual popular interest until in 1942 a clinic was established in Uniontown, made up of five volunteers to take active charge of twenty cases. They investigated the history and background of each delinquent and made recommendations to the court. Before the year was out, the success of the plan was evident. Additional cases were assigned to the clinic, and it wasn't long until there were six such clinics in the county, made up of over 150 members from every profession and walk in life. These members were supervising some 150 individual cases. In 1944 there was a 20 per cent drop in delinquency throughout the county, while the increase for the years 1939 through 1942 was 400 per cent.

In Kansas City KMBC considered the problem from an attitude that to talk openly of juvenile delinquency was to advertise rather than remedy the condition. A youth club was formed, which within a year enrolled over 20,000 youngsters, some of whom naturally could be considered tomorrow's delinquents. Five-day-a-week club meetings at a peak tune-in period for youth were conducted with sugar-coated morality injected throughout programs receiving high listener acceptance. Week-

ly certificates of merit were awarded the youth or youth groups of the area who accomplished outstanding constructive good for the community.

• DISASTERS — FIRE

When the infant broadcasting industry offered its services to law enforcement agencies, the fire departments, too, came in for a share of this twentieth century advancement in communications. Again out in San Francisco, KJBS put such experiments to extensive test providing the city's fire trucks with emergency news and instructions in proceeding to fires. This service continued for some eighteen months until San Francisco installed its own short wave transmitter. But the practicability of broadcasting in the field of fire-fighting was not at an end.

One-half of the nation's timber lies in the territory about Portland, Oregon. During the past war, the country was suddenly awakened to the importance of our forest wealth, but its protection was not alone a war necessity. Much of the future of this nation rests in the proper utilization of its timber. In 1943 KOIN prepared a dramatized story of forest fires around the "Tillamook Burn", one of the most serious forest conflagrations in American history. This radio effort to make a country conscious of the stake it has in its timber lands was presented coast-to-coast over the Columbia Broadcasting Sys-

tem. The attempt was repeated again in 1944 with the program, "Calling Pistol Butte".

In the meantime KOIN was doing something about setting up practical machinery in its own woodyard to warn citizens of the Portland area when the season of the year had arrived in which the danger from forest fires was the greatest. Station break announcement periods every hour and half-hour, or every fifteen minutes if necessary, would be utilized.

Suddenly in August of 1944 the dreaded peak was reached, and the plan was put into operation for three days until the threat subsided. Foster Steele, Assistant Forester for the Mt. Hood National Forest, in commenting on the service announced, "I am glad to say that we have had no man-caused fires during this period since your station started helping us."

Across the continent in the New England states, WTIC, was having its hands full with another kind of disaster by fire—the Ringling Bros.-Barnum and Bailey circus fire of July 6. The holocaust shocked the nation and brought tragedy to scores of homes. The smoke and flames from the burning *big tent* plunged the city into mourning. WTIC immediately placed its facilities at the disposal of the Red Cross, police, fire and other relief agencies. Needless to say, regular programs were cancelled as the entire station staff devoted itself to the task of spiking



Behind the scenes of the Ringling Bros.-Barnum and Bailey circus fire of July 6, 1944 at Hartford, Connecticut, the unseen voice of broadcasting was bringing order out of chaos.

wild rumors, passing on accurate information and reassuring families throughout the community.

Service in the public interest was the uppermost thought in WTIC's swiftly planned coverage of the disaster. The incident proved that radio has humane objectives that can be

achieved in times of great trial largely because of the huge listener confidence placed in the medium by an audience that has learned to accept the honesty and reliability of broadcasting's public service role.

• DISASTERS — WIND STORM

On March 18, 1925 when Chicago's WLS was eleven months old, a highly destructive tornado hit southern Illinois and southern Indiana. Big Ford and Little Glenn and the Solemn Old Judge, George Hay, had just put on *Lullaby Time* and had sung the little good-night prayer for the children. News bulletins concerning the tornado followed.

The telephone rang and a man inquired, "Will you accept five dollars for relief of the storm sufferers?" George Hay went back to the microphone, and speaking from a throbbing, sympathetic heart, told the audience that here was a real test of humanity. He asked every listener to make a little contribution for the destitute in the stricken area.

Contributions began to come in by telephone and telegraph. At eleven o'clock on that Wednesday evening, instead of signing off, George Hay and Ford and Glenn took off their coats and started on an all-night session. Actors and performers in local theatres, feeling the excitement of the distress call, trooped in to volunteer their services, to keep the program going. At three o'clock in the morning, after telephones had been ring-

ing all night and messengers running in with handfuls of telegrams, \$6,000 had been pledged to the WLS storm relief fund. At eight o'clock in the morning the program was still going, and they had \$11,000. At eleven o'clock, after seventeen hours, the boys flopped on settees in the studio, and Edgar Bill and George Biggar took over the microphone.

Edward J. Condon was already on his way to Carbonale to establish the first WLS storm relief station. Checks had been handed to the Red Cross. In less than twenty-four hours after the storm struck, money was being spent, and food, blankets, clothing and medical supplies were on the way. The program went on. The telephone switchboard at the Hotel Sherman was clogged. Five operators were taking down names and addresses. A rush call from southern Illinois said an X-ray machine was needed. The announcement went on the air. A doctor volunteered and within an hour had loaded his machine into an automobile furnished by the Chicago Motor Club, and was on his way.

Tom Rowe, chief engineer, said, "We never left the control knobs for twenty-eight hours straight." Ralph Emerson was there night and day, playing the organ. So was Grace Wilson, singing for contributions. At six Saturday morning, \$50,000 had been reached and passed. All day Saturday and Sunday money kept flowing in. Thus, the first of many WLS

drives for disaster funds got underway, accumulating before the turn of broadcasting's first decade \$337,490 contributed by some 90,988 WLS enthusiasts.

The WLS tornado was not the last in which broadcasting would play an important role. Year after year in some part of the country, the dependable voice of radio warns against impending disaster, re-establishes communications with the stricken areas, assists in relief work and provides in many instances the funds for rehabilitation. The tornado, too, is not the only threat from the skies to plague mankind. The hurricane on the eastern seaboard is to residents in that part of the country what the tornado is to the middlewestener.

The good people of Florida can tell one all there is to be known about hurricanes. They can paint too, very glowing pictures about broadcasting's service in these times of emergency. One such typical blow was that of Monday, November 4, 1935. WIOD, Miami, went on to a half-hourly storm information schedule. Available weather bulletins were broadcast along with information on how citizens can protect life and property during the hurricane. During the height of the storm, Chief Engineer Milton Scott and his staff had to repair and replace the station's antenna in order to keep the station on the air. This hazardous feat was accomplished in a sixty-mile wind. In the studios announcers had to work by candlelight

when the city power failed. Earle Barr Hanson, musical director of WIOD, gathered together professional entertainers from the various night spots, and this group played a musical accompaniment to the storm during the interludes when the weary announcers were taking a rest. At 11:30 p.m., the station signed off, after the weather bureau had given assurance that the worst was over. Ironically enough, the station power failed at the last moment as the announcer was saying, "Goodnight".

Up the eastern seaboard to the New England states which were in 1938 the scene of one of America's most destructive disasters—the hurricane of September 21! Again this is the story of only one station among many which figured prominently in serving a whole section of a country in the time of disaster. It is to be remembered that during this hurricane there were 680 lives lost and the destruction of property was well over \$500,000,000.

When the hurricane struck on that memorable Wednesday afternoon, the electric power-line connecting the WTIC transmitter on Avon Mountain was dashed to the ground, rendering Hartford's 50,000-watter temporarily helpless. Luck and quick work by WTIC technicians soon remedied the situation. The station's 7.5 meter shortwave transmitter was immediately made available to the American Radio Relay League for personal messages and for flood and hurricane reports that were coming in rapidly over Trans-Radio Press wires to Trans-

Radio's Central Connecticut Bureau in the WTIC studios. At 9:58 that night, power was restored and WTIC began an intensive twenty-four hour service to the people of southern New England through its normal channel.

Personal messages concerning the safety of separated members of families were broadcast as fast as they came in, along with authoritative news-flashes on conditions throughout New England, up-to-the-minute weather reports, verified statements from the Red Cross, schools, Department of Public Health, Department of Motor Vehicles, police, National Guard, the Governor and the Mayor.

Governor Wilbur L. Cross, Hartford's Mayor Spellacy, Colonel John J. Shepard of the Red Cross and WPA Administrator Vincent Sullivan were presented on the air with personal messages of news and advice concerning the gravity of the situation. Periodic short-wave pickups from flood areas were relayed to WTIC's transmitter, and rebroadcast. Station representatives were dispatched to points along the Connecticut shore, and brought back specific information concerning cottages that were damaged. These reports were broadcast for the benefit of shore-property owners, prevented by floods from getting near their shore-homes.

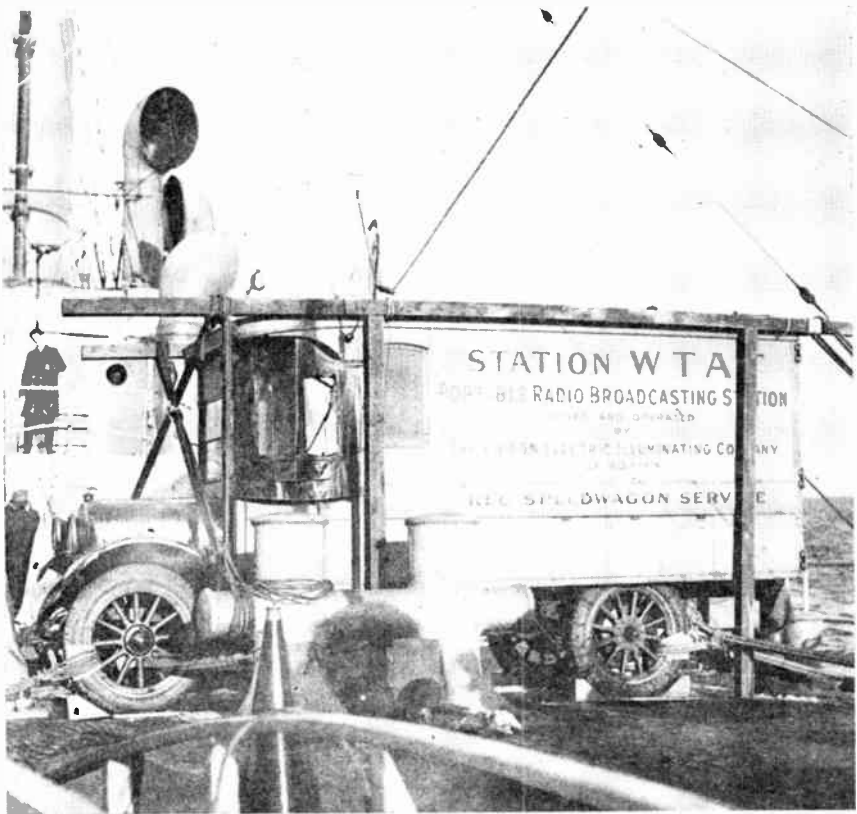
Periodic broadcasts were presented from the top of the Travelers Tower, tallest building in New England, giving

eye-witness accounts of the changing scene in the valley below as the swollen Connecticut River and its tributaries spread rapidly over the landscape. Throughout the entire catastrophe, WTIC's efforts were carefully directed along corrective lines. All news reports were verified before being broadcast; all *scare stuff* was eliminated.

- DISASTERS—FLOODS

By 1927 the importance of broadcasting to serving the public need was firmly established, but the idea of taking its facilities to the scene of a disaster did not at first make a demand upon broadcasters. In 1927, however, when reports of the Vermont flood reached Boston, the need was there, and WEEI did something about it by sending its portable transmitter into the heart of the flood zone to take over where telephone and telegraph services had been washed away.

An antenna was hung from the top of the flagpole on the White River Junction school building, and several batteries, collected from home-set owners, provided the extra power needed to relay signals back to Boston. Two-way contact with the Boston studios was quickly established. WEEI's observers were able to direct relief efforts and quiet hysteria of New Englanders who had been told that "the whole north country is wiped out". By routing trucks over back roads, the station helped, too, to overcome a serious gasoline shortage and prevented the stopping of milk deliveries to Boston.



One of broadcasting's first mobile trucks shored aboard ship on its way to Vermont for an on-the-scene coverage of a disaster by a radio station—WEEI of Boston.

In later years floods on more than one occasion were to give broadcasting many a sleepless night. It wasn't until 1937, right after the advent of a new year that rampaging waters were to put the power of broadcasting in a crisis to a real test. The Ohio River is long and treacherous, and when flood waters swept down by through the Ohio Valley, radio stations all along

the route rolled up their pant legs and waded into the challenge with a recognition of responsibility. But it was at Louisville where the disaster in all its violence descended upon a metropolis with far-reaching consequences, felt the world over.

Louisville entered the flood picture at exactly 11:29 a.m. Thursday, January 21. WHAS broadcast the first warning to the annually, even semi-annually flooded areas of Louisville, namely Shippingport, in the western part of town, and the "Point" in the eastern section. Incidentally, Shippingport was the first settlement in this part of Kentucky, and marked the early and small beginning of what now is the City of Louisville.

During the afternoon—with the Ohio River rising, WHAS, rendered its customary service, decided to broadcast from the scene as a matter of news to listeners. Accordingly six announcers and five engineers spread out over the affected areas, which included New Albany and Jeffersonville, Indiana, across the Ohio River from Louisville. Like so many firemen, garbed in hip-boots, raincoats and hats, these WHAS boys went out for the spectacular, only to realize on arriving in the flooded districts, that dire tragedy stalked. Nearly all broadcasts were punctuated with assistance in moving refugees. Mayor Miller's first broadcast on flood conditions was made from a little grocery store, whose occupants were at the moment being moved out.

Friday, January 22, the heavens seemed to open wider—rain poured in torrents, and the Weather Bureau predicted that the western section of town would be seriously affected. This meant that the police radio, situated in this area, would be incapacitated. Here was a duty for WHAS, regardless of commercial commitments. Citizens and neighbors were in peril. There was never a question—merely a gathering of the executives of WHAS to pass on the word to staff members that commercial programs would be abandoned, and the station would turn over all its facilities to rescue work until the emergency was over.

Saturday, January 23—a ray of hope—sleet completely covered the ground! A freeze was hoped for in the belief that the crest would be passed without further damage. But Sunday broke with spring rains, melting the two inches of sleet to add to the rainfall. Still, the city officials were optimistic. However, by early Sunday afternoon, everyone who was working on flood relief knew that the battle was on in earnest. And at 4 p.m. the Louisville Gas & Electric Company reported to WHAS that they could not guarantee power after 8 p.m. that night. Here was real tragedy. The only means of warning citizens in hitherto unaffected areas to move—the only method of reporting emergency cases—the only means of communication (for telephones in many sections of the town had gone out with the flood waters) had been threatened. Here it was that tired

but active minds of WHAS executives went into action. Almost at once, by means of teletype, the Volunteer Inter-City Network for Flood Relief in the Ohio Valley, was formed. Immediately announcements went on the air from WHAS, that in case of power failure, citizens were to tune to WSM, 650 kilocycles, the Nashville station having promised to carry WHAS flood bulletins.

The Volunteer Network was composed of WSM in the south; WFBM in Indianapolis, to the north; WLAP, Lexington, Kentucky (in the Heart of the Bluegrass); and WCKY in Covington, to the east. Thus all boundaries of the flooded area carried direct from WHAS all news pertaining to the flood, which was picked up on battery radios placed in relief boats, trucks, in hospitals and relief stations.

Louisville and surrounding territory were in total darkness. Workers and announcers at WHAS used kerosene lamps and candles to carry on. But not one desperate message must fail to reach the air. Every call might mean a life, perhaps many lives. WHAS had become the nerve center of a community that was straining every force to save its citizens from impending doom.

By Monday, January 25, after a three-way telephone conversation between WHAS, C.B.S. and N.B.C., a network was formed making a blanket coverage of the United States

and Canada, plus the British Broadcasting System and subsequent foreign networks, which tied in approximately 5,000 short wave stations throughout the world, the largest ever established in the history of radio with all directions and information provided by the signals emanating from the candle-lit studios of WHAS.

Voluntary sound equipment throughout Louisville directed by WHAS went as near to the flooded areas as possible,



It was a slender thread that literally pulled hundreds from the flood waters about Louisville in the Ohio Valley catastrophe of 1937. The story of WHAS is very much that of other broadcasters up and down the rampaging Ohio River who served the needs of those within reach, without regard to personal well-being or life itself.

there to amplify WHAS directions, through loud speakers, to rescue workers.

Thousands of people all over the country who listened night and day to WHAS will be unable to forget the messages that poured out in a ceaseless stream over the air. Those terse messages gripped the heart of the nation. Here are a few of them, selected at random: "Send boat to—S. 45th street. Two children desperately ill."

"Important. Paralyzed woman, 80 years old. Send boat immediately to—S. 27th."

"City Hall calling. 50 children marooned at—Church. Get them out immediately."

"Attention police cars. Insane man with revolver at Eleventh and Walnut."

"Seven people marooned on house top on Lower River Road between—and—. Can't hold out much longer."

"Attention Dr. Holmes at Carrollton, Ky. Plane leaving now with vaccine. Be on lookout. Landing cannot be effected. Will drop vaccine from plane."

"Ambulance to Portland Library. Meet power boat with sick child, suffering contagious disease."

“Jeffersonville Relief Station. 14 people marooned in house at—Mechanic Street. Woman in throes of childbirth. Send boat immediately.”

The vast job of putting out approximately 115,000 such broadcasts, which included 187½ hours of uninterrupted service from 6 a.m. Sunday, January 24, until 2:30 a.m. Monday, February 1, was handled by the WHAS regular staff and volunteer workers from the Courier-Journal and the Louisville Times. Seven technicians, not only sat at the controls, arranged for telephone loops and maintenance of equipment, but likewise manned teletypes, and installed power units in hospitals, relief stations, hotels, any place where light was needed urgently.

At the transmitter, the normal staff of technical engineers were in uninterrupted contact with the Southern Bell Telephone and Telegraph Company, Louisville Gas & Electric Company, and the Kentucky Utilities Company.

Fifteen telephones hastily installed in WHAS besides eighteen in the newspaper offices, were manned by the regular office force of WHAS and Courier-Journal and Times volunteers, with a central copy, or clearing desk, through which every message was passed to avoid duplications, and keep the messages to a minimum without impairing content. Thirty hours without relief, during the early part of the disaster, was the record set up by many of the WHAS staff. During all this time funds

running into the millions of dollars were collected by appeals over the station.

Even so great a tragedy was not without its touch of humor. When the flood reached the Mississippi, KMOX was on the scene from St. Louis with a special events crew headquartering between Cairo and New Madrid. A sharecropper on seeing his exhausted but still matter-of-fact friend open the door to the headquarters, and knowing that he had been in the path of the water rushing in the spillway, asked:

“Hello, Ezra, are you all right?”

“Sure.”

“Did you save anything?”

Ezra shakes his head and mutters one word, “No.”

“Not a thing?”

“Well,” replied Ezra, “I got my shotgun. Now if the weather clears a little, I guess I’ll go back and get my wife.”

• DISASTERS—ECONOMIC DEPRESSION

While it is quite likely that few Americans have forgotten the depression of the thirties, how many have a vivid memory of what broadcasting meant to so many in those seemingly hopeless days? Again this is only one story among many, but it typifies broadcasting’s approach to the problem, as limited as a smaller station’s facilities may be.

Things never happen overnight in Paducah. This cheerful little southern city had never allowed itself to be caught in the gush of events that occur quickly. So it was with the great depression of the thirties. Life went smoothly on in Paducah despite the market crash. Few were jobless and few homeless. The word *depression* was something viewed with a vague idea of want and need.

But when the spectre of want finally did haunt Paducah, it made itself felt in all its misery. The railroad shops, heart and pulse of Paducah's employment, cut down to only a skeleton shift. The river front was no longer the scene of bee-hive activity. The hosiery mills, the strawberry fields, the tobacco barns all became ominously inactive, and the ranks of those seeking WPA employment swelled by the hundreds. Indeed, it was a bleak Christmas in sight for hundreds of families in Paducah that winter of '36—no food, no coal, no clothing, nothing in the way of a Christmas toy for children who had not even shoes. Then, it was time to enlist the mercy of human-kind to come to the rescue.

The Paducah Chief of Police, William E. Bryant, who had become an almost legendary character because of his size (which has been estimated by some to total 300 pounds), established a *Mile of Dimes* in front of Paducah's Post Office. Two officers remained on duty daily, enlisting just one dime from

passersby, but with Christmas just two weeks away the miles of dimes were only a few feet of dimes. Then, the Chief wondered what a radio appeal might bring. It was worth a try anyway.

So each night for two weeks before Christmas Eve, the facilities and personnel of WPAD were turned over to Chief Bryant. Going on the air at nine o'clock each night and staying on even past the midnight hour, the Chief's persuasive appeal brought out the best in everyone. A call would come in from "so and so who would give \$5.00 if the Chief would sing, 'It Ain't Gonna Rain No More,' or if someone would play, 'Wooden Head Puddin' Head Jones', or if the engineer would sing a duet with the announcer." Whatever it was, it was done, and a police car was dispatched to pick up the cash donation. It was not an uncommon occurrence each evening to be presented with sandwiches and hot coffee from some cafe whose customers would *chip in* to send refreshments along.

As for the toy situation, it was taken care of, too. Appeals for old toys to be repaired by members of the Paducah Fire Department brought in hundreds of dolls, buggies, bicycles, wagons, scooters, trinkets, etc., which were all painted and made like new by the firemen. Just to go around that Christmas Eve and morning with the Police and Fire Department and their volunteer workers to distribute the baskets, the clothing, the toys and the cash donations was worth every minute of effort that was put into the work.

Paducah began to come alive, and was just struggling to its feet again when like a bolt of lightning came the most destructive blow ever leveled against the city, the 1937 flood. It took many months for Paducah even to begin to recover from the effects of this devastating flood, and even when 1940 rolled around there were 1,600 families in Paducah on the relief and W.P.A. rolls, and 80 per cent of these needed outside help. How to feed these people? That posed quite a question, but *they were fed*. Another series of radio appeals, each night for about two weeks, and here are the figures to show what the appeals did—the *Soup Kitchen* was a vacant downtown building owned by the city manager and donated for the purpose. The head chef was Paducah's jailer, whose specialty was beef stew. In the 35 days of its operation covering the most bitter period of the winter, the *Soup Kitchen* served over a million meals! Fed daily between 700 and 800 families, besides transients! Furnished fifteen entire carloads of coal to those who otherwise would have been cold! Besides that families were clothed with shoes and other necessities! Even medical care was provided when needed!

But suffering during the depression was not confined to just one section of the country. In the south, F. W. Borton, president of WQAM, and a member of the Miami Civitan Club, originated a full hour Sunday night program known as "Shadows and Sunbeams". The program was strictly a radio charity.

The *Shadozes* were the needy people; the *Sunbeams*, the listeners who donated to the needy.

A Rev. Everett S. Smith, presiding on the program, would give the case history of one seeking help. WQAM found it necessary to employ three persons just for the purpose of investigating such claims and do the usual amount of work it would take to handle such a program. After Rev. Smith had commented on the case, five telephone people would answer the calls offering assistance. A truck had been secured to handle the gifts donated, and the City of Miami donated the use of a warehouse to house the furniture, food, clothing and other contributions.

The amount of money received on each broadcast approximated \$500 a week—as well as 60,000 pieces of furniture a year, 70,000 garments and so many grocery orders it was impossible to keep a record of them. Needy living in shacks with no stoves, ice boxes, beds—received the items they required. Roofs were repaired, a Georgia mule was obtained for a farmer, wheel chairs for invalids, eye-glasses, medical attention and so on and on.

Up in Shenandoah, Iowa, when the banks closed and the farmers were unable to buy the seeds they needed, Earl May, president of the May Seed Company as well as station KMA, went on the air and announced, "Let's not worry about banks.

This country is still solvent and sound. Your checks are good with me. You order the seeds you want; send a check to cover; and your seed will be sent to you immediately. I'll take all the risk because I have confidence in this country." Thousands of farmers ordered the seeds they wanted.

- DISASTERS—DISEASE

The power of broadcasting has been enlisted time and again during the past quarter-century to wage the battle of prevention and the relief from disease. The role of broadcasting in Franklin D. Roosevelt's *National Foundation for Infantile Paralysis* crusade against the dreaded disease is known across the country. Stations large and small have contributed their facilities to putting each year's *Mile O' Dimes* campaign over the top.

For instance in St. Louis, KMOX, with the start of 1941 of installing one campaign stand in downtown St. Louis *Dimes Square*, increased its efforts year by year until in 1945 there were 35 city and outlying district stands. Broadcasts originated daily from the downtown stand during the campaign. Many stars of the entertainment world were featured along with the city's civic leaders. Scarce goods of the war times, such as steaks and cigarettes, were auctioned off to the highest donator of dimes. Most important of all the money collected went up from \$14,400 the first year to \$94,851.46 in 1945.

Broadcasting's part in fighting disease at times can become a very real and immediate thing. In the summer of 1944, poliomyelitis struck at the Carolinas. In certain cases the throat and neck muscles refused to respond to treatment. The doctors recalled that harmonica playing is a perfect throat exercise, so they wired New York for harmonicas. None of the musical instruments was to be found in all New York, nor anywhere else. Within twenty-four hours of an all-out radio appeal, WBT listeners started harmonicas by the dozens into the station's Charlotte studios. The original request was for 35—over 450 were delivered.

Early in June of 1945 Texas became alarmed when an epidemic of the dreaded poliomyelitis started in the Gulf Coast towns and slowly crept inland. General fear increased with each weekly report of new cases, more deaths, and a growing list of stricken cities. Parents, public officials—and even doctors—cried out for information about the prevention and treatment of this malady which baffles the medical profession. Ever alert to its public responsibility, KRLD in Dallas responded to this danger with a weekly broadcast directed by medical experts. Nationally known doctors and health authorities charted the course of the epidemic on a state "polio" map, warned communities in the path of the *Crippler*, and gave advice on known prevention and treatment methods. These broadcasts stimulated a co-ordinated state program that produced amazing results.

Since the beginning of an awareness of their existence, sex diseases have been taboo in public discussions. Broadcasting has done much to bring the issue out from behind whispering doors in the open where enlightenment is necessary to stamp out disease. In 1941 WMBD of Peoria periodically presented public health speakers on the subject of the rapid spread of venereal diseases. By the summer of 1945, this campaign was brought to a climax in a series of ten programs of an educational nature, entitled "Know the Facts About VD Control." One program discussed the Venereal Disease Clinic and how it operated in the city of Peoria. Within twenty-four hours nine people had visited the clinic for treatment. They stated they had heard the program on the air and hadn't realized before then that there was a Clinic interested in their public health. Bold language, hard words and blunt approach made these programs different. No punches were pulled and perhaps many listeners were shocked, but the series did the job for the community.

Like the good neighbor it is, broadcasting seldom has shirked its duty in times of emergency. If the need is there, customary programming commitments are quickly cast aside. Commercialism is forgotten in the sweat of the crisis. Certainly, a quarter-century of such devotion to a self-imposed responsibility is evidence enough that the American System of Broadcasting is aware of its obligations without need for policing by rule or law.

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

Emergencies

- 1921: July 22—Services to the police as an aid in the apprehension of thieves offered by KDKA, Pittsburgh.
- 1922: February—At the request of the Detroit Police Department, WWJ, Detroit, broadcasts an appeal for a missing boy, William Dora, age 14.
- March 17—Traverse City, Northern Michigan town, snowbound for 10 days, reports radio (WWJ, Detroit) only means of communication and entertainment.
- April 1—Associated Press unable to send out news to city and state newspapers, due to disruption of both telegraph and telephone wires by sleet and storm. These newspapers print the stories obtained through radio (WWJ, Detroit).
- 1923: June 1—Daily broadcasting of “Texas Sheriffs’ Wanted Men” starts on WBAP, Fort Worth.
- 1924: February 5—Severe windstorm blows down telegraph lines which the Associated Press uses for communications between St. Louis and Chicago. KSD, St. Louis, broadcasts A.P. messages to the *Chicago Daily News* during the emergency.
- 1925: March 18—Tornado hits southern Indiana and southern Illinois. WLS, Chicago, goes on the air night and day with appeals for contributions to the distressed. In two weeks WLS listeners contribute \$216,904.
- 1926: For a Florida tornado disaster, appeals over WLS, Chicago, bring in \$18,708 in contributions by listeners.

February 12—To test radio's ability to disseminate information in time of national emergency, citizen officers of 91st Division of Organized Reserves are given orders in sealed envelopes and instructed not to open them "until further notice." Without advance announcement, word to open the envelopes is flashed over KPO, San Francisco, a week later by Col. E. V. Smith, and the first reply comes in two minutes after the broadcast, thus showing the efficiency of radio in a crisis.

1927: For Mississippi floor relief appeals over WLS, Chicago, bring in nearly \$87,000 in contributions.

November—Attempt to broadcast news from the scene of a disaster, the Vermont flood, made by WEEI, Boston.

1928: For a Florida tornado, appeals over WLS, Chicago, bring in \$4,800 for relief.

During the textile strike of this year, WNBH, New Bedford, Massachusetts, offers both sides full expression of their views.

April—Heavy snows take down Pennsylvania telephone and telegraph lines as well as power lines and railroad communications. WFBC, Altoona, handles railroad traffic during the emergency.

1929: During the Half Moon Fire disaster, which destroyed over 150,000 acres of forest land northwest of Kalispell, Montana, and made homeless about 48 families, KGEZ, Kalispell, is a valuable aid in disaster relief work.

A daily spot is set up for use of law enforcement officers by WDAY, Fargo. One of Fargo's policemen makes the daily report, and all other police officers in the area serviced by the station are tuned in to the station for these daily police reports.

Early morning emergency announcement service during heavy snowfalls instituted on "Musical Clock" program from 6 to 9 a.m. by WGR, Buffalo.

October—When a deadly hurricane bears down on the east coast of Florida, WQAM, Miami, remains on the air all night with volunteer talent to keep up the spirits of those in fear, along with broadcasting hurricane advisories as to instructions on safety, official messages from the Governor regarding evacuation of the flood-threatened districts, etc.

December—Police cars are equipped with receiving sets by KJBS, San Francisco, to pick up its emergency calls on the apprehension of criminals. These calls are given precedence over any program that might be on the air at the time.

1930: With telephone and telegraph lines down due to severe sleet storm, WDAY, Fargo, North Dakota, and KFYZ, Bismarck, join in offering their services to the railroads. Dispatchers are set up in both stations, and two-way communication is established. This service continues 24 hours a day for three days. Emergency telegrams are broadcast as well.

When a devastating tornado strikes the little town of Bethany, Oklahoma, the County Red Cross Chapter ponders the problem of quick relief. WKY, Oklahoma City, volunteers to turn over its facilities, cancelling all existing programs and to go after badly needed funds. The result is \$34,000 in cash, and this, mainly from the citizens of Oklahoma City and county. Then follows within a few days a Community Fund solicitation in Oklahoma City for \$374,000.

When 1,000 families are driven from their homes in southern Illinois and southern Indiana by flood waters, and more than 2,000 suffer severe losses, appeals over WLS, Chicago, bring in \$17,000 for food, clothing, medical aid and farm supplies.

“Shadows and Sunbeams”, a strictly radio charity, is created by WQAM, Miami, which brings the city’s needy close to \$75,000 in cash and countless jobs, items of clothing, food and furnishings.

May—Emergency news and instructions transmitted to city’s fire department by KJBS, San Francisco.

1930-31: When there is great distress and much actual hunger, WLS, Chicago, and its listeners make possible a food station on west Madison street, where thousands of meals are served to hungry men and women, free of charge. The lower floor of the Prairie Farmer building is turned into a clothing station, piled high with garments sent in by the listeners, all to be carefully distributed to suffering people during the never-to-be-forgotten winter.

1931: A bank robbery broadcast by WTAD, Quincy, Illinois, by means of an airplane which follows the robbers’ car along the highway—resulting in the capture of the robbers before they are 100 miles from the bank.

1932: March—Radio broadcasting facilities mobilized to aid in search for kidnapers of Charles A. Lindbergh, Jr., in flashing news bulletins and in making appeals to the kidnapers.

1933: When the banks close and farmers are unable to buy the seed they want, Earl May, president of the May Seed Company, goes on his KMA in Shenandoah and accepts farmer checks at his own risk so that they could do their planting.

March—Beginning at 9:07 p.m. on March 10 and extending through March 12, KGFJ, Los Angeles, cancels block time commercials in favor of public service in a move to cover the California earthquake. Its entire facilities are turned over to the American Red Cross and civic authorities. Rescue effected of 237 people directly

located by KGFJ, including 47 Canadians, "tracked down" at the request of the Canadian government.

1935: Cancelling all commercial schedules for three days and nights KBTM, Jonesboro, Arkansas, as the only means of communication, guides hundreds of isolated farm families to safety as the Mississippi River and its tributaries flood eastern Arkansas and southeast Missouri. Tons of food and clothing are donated through appeals over KBTM.

Providing power from its mobile transmitter car for lights to work down in the mine, KMBC of Kansas City on scene of Moberly, Missouri, mine disaster, saving two miners—with one dying.

Gift budget of \$2,700 raised over KGEZ, Kalispell, Montana, for rescue work of earthquake-stricken Helena.

1936: February 2—Man-on-the-street program, known as the "Sidewalk Snoopers", is utilized by WGST, Atlanta, for informational purposes, such as weather information in heavy winter periods, forest fire information, etc.

March—Heavy rains causing floods, WFBG, Altoona, Pennsylvania, directs rescue work as well as collections for relief.

March—Radio stations, networks and amateurs perform meritorious public service in flood disasters hitting eastern and midwestern areas.

March—For 92½ hours WWVA, Wheeling, West Virginia, remains on the air during the city's greatest flood. The WWVA transmitter is set up on U. S. Lock No. 12, four miles north of Wheeling and every 30 minutes during the emergency, the mobile unit is cut in for the river stage, rate of water rise and official expected crest.

When the depression hits Paducah, WPAD throws open its facilities to the city's chief of police whose "Mile of Dimes" campaign provides baskets of food, clothing, and toys to hundreds at Christmas-time.

1937: January-February—Radio performs greatest humanitarian role in disastrous Ohio-Mississippi floods, winning plaudits of President Roosevelt, Red Cross and nation's listeners for its rescue and relief broadcasts which generally are accredited with reducing toll of life.

As contribution to flood relief, WLAC, Nashville, clears off all daytime programs for six consecutive days to direct fleet of 26 pick-up cars throughout city to addresses of listeners calling station to offer food and clothing. Eighty-four truck loads of supplies are gathered and delivered to the refugee camp.

During the Ohio River flood, WLAP, Lexington, Kentucky, cancels all scheduled programs, sustaining and commercial, and operates four days and nights continuously without interruption, routing of radio equipped trucks, passenger cars, and ambulances to flood areas from Lexington, the hub of Central Kentucky's highway system. It also serves as the official communication medium in arranging for food, clothing and housing of the thousands of refugees who pour into the Blue Grass area from the flood districts.

General manager's office is turned into an emergency studio, and the Red Cross sets up headquarters in WOPI, Bristol, Tennessee-Virginia studios during the Ohio Valley flood. For ten full days and most of the nights, the station remains on the air to help the unfortunate victims of the flood.

With Huntington and the surrounding Tri-state area literally submerged by an Ohio River flood crest of more than 69 feet, WSAZ, Huntington, West Virginia, stays on the air with messages of encouragement, safety warn-

ings and directives, even though the station has to move its equipment to the top floor of the telephone building.

As an aftermath to the Ohio flood, in which WPAD, Paducah, Kentucky, continues serving the public need even after being washed out of its studios to an empty private garage in a dry, hilly section of town.

In one evening alone during March WGAR, Cleveland, raises \$30,000 for the relief of Ohio River flood victims through appeals broadcast over the air during a special program which continues for several hours.

January 24—February 5—Floods of southeastern Missouri is covered by KMOX, St. Louis, giving four times daily remotes direct from the levees including accounts of evacuation of 5,000 sharecroppers, truthful reports on the sufferings of evacuees, blasting of the riverside of the levee to relieve the pressure on the city of Cairo and actual participation in the rescues from tops of houses and barns.

March 19—New London School disaster in the East Texas oil fields, with about 300 children killed, covered by KFRO, Longview; KOCA, Kilgore; and KGKB, Tyler.

May—Two boys are wading in a creek when one steps into a hole and calls for aid. His companion pulls the boy in danger to safety, but falls back into the hole and drowns. The family is in destitute circumstances. WFBG, Altoona, Pennsylvania, puts on a half-hour show to collect funds to pay for his funeral. Suffice to say, the amount collected is in excess of the need, and the entire proceeds are turned over to the family.

December 28—Excessive loss of life in the Kings River flood prevented to a large extent by speedy evacuation of area threatened, through warnings broadcast by KMJ, Fresno, California.

1938: St. Francis River levee at Marked Tree, Arkansas, threatens to break, and an appeal over KBTM, Jonesboro, brings 500 volunteers on the double quick to save the levee.

Tornado strikes South Pekin, Illinois, with roads blocked and lines down. Rescue work is hampered by a lack of communication. WMBD, Peoria, moves onto the scene, and with its short wave equipment, directs the rescue work.

January 1—Mobile unit KABG put into use throughout inundated area for purposes of rescue and communication during the Los Angeles county flood by KGFJ, Los Angeles.

February 18—Tornado rips through Rodessa, Louisiana, killing many. The KWKH, Shreveport, mobile unit, KILB, is rushed to the scene where it is used to help in the direction of relief work and to carry on other necessary communications with the outside world.

March 20—A radio broadcast over WWVA, Wheeling, brings a mother and father to a Pittsburgh bedside, where the baby son was fighting for his life. The parents had left Pittsburgh in search of work and were not aware of the baby's illness until they heard the broadcast over WWVA.

July-August—Brutal murderer of Betty Schmaidt, a 17 year old Sioux Falls girl, tracked down by KSOO-KELO, Sioux Falls, South Dakota.

September 21—The Yankee Network weather service, an independent weather bureau, has the only complete record of the famous hurricane of this year, since the instruments of the Boston Weather Bureau had blown away.

With telephone lines down and other agencies failing due to disastrous hurricane, WTAG, Worcester, acts as a

clearing house for official announcements, special bulletins for and from public authorities, and personal messages to separated families.

Throughout the emergency, WTIC, Hartford, operates along corrective lines, giving verified reports with all "scare stuff" eliminated. Station representatives are dispatched to points along the Connecticut shore, bringing back specific information concerning cottages that were damaged. These reports are broadcast for the benefit of shore-property owners prevented by floods from getting near their homes.

WLAW, Lawrence, Massachusetts, throws over its facilities to transmitting personal messages as well as flood and hurricane reports.

WNBH, New Bedford, Massachusetts, saves hundreds of lives and is able to get on the air within some 48 hours although the transmitter building is flooded, the aerial blown down, and the station generally incapacitated.

1939: April—Juvenile delinquency clinic set-up by WMBS, Uniontown, Pennsylvania.

Flash flood occurs in a small Kentucky town of Morehead, some fifty miles northeast of Lexington. All means of communication are destroyed, and WLAP, Lexington, mobile transmitter is dispatched immediately to the spot to establish communications.

1939-40: Donations from WPAD's listeners establishes a soup kitchen from which over one million meals are served and fifteen entire carloads of coal besides clothing, shoes and other necessities—even medical care when needed.

1940: July—Money and some 75 truck loads of commodities collected and delivered to destitute families of a hail storm and tornado by WHO, Des Moines.

1941: Campaign against venereal disease increase in Peoria started by WMBD, Peoria, Illinois.

St. Louis "Mile O' Dimes" campaign, conducted in support of the National Foundation for Infantile Paralysis under joint sponsorship of St. Louis Globe Democrat and KMOX, starts out with goal reached of \$14,400 in 1941, which through aggressive promotion is increased to \$94,851.46 for 1945.

February 6—Weather bulletins during winter season to advise students of schools closed by bad road conditions a part of WBTA, Batavia, newscasts from inception on the air.

1943: June—Potential panic, and human lives saved in aftermath of disaster when KFXJ, Grand Junction, Colorado, broadcasts rescue operations throughout three-and-a-half-hour bombardment of city, the result of ammunition cars laden with 75 mm shells exploding.

July 24—Documentary drama dealing with the Detroit race riots presented by the Columbia Broadcasting System, written and produced by William N. Robson. The program titled, "An Open Letter on Race Hatred", concludes with a stirring postscript by Wendell Willkie.

August—During the street riots in Harlem, WNYC, New York, sound trucks roam the streets broadcasting messages from prominent Harlem citizens over the public address amplifiers to calm the disturbances.

1944: Seventeen Teentown Clubs situated in widely separated locations in St. Louis, East St. Louis, and St. Louis County organized through efforts of KMOX, St. Louis.

February 1—Youth center, known as the *Spider Web*, is established by KBUR, Burlington, Iowa to fight against juvenile delinquency.

May—When Norfolk, Nebraska, becomes completely isolated due to a flash flood, the only communications connecting the community with the outside world is between WJAG in Norfolk and KOWH in Omaha.

July 6—In the best traditions of radio, WTIC, Hartford, immediately places its facilities at the disposal of the Red Cross, police, fire and other relief agencies in the Ringling Bros.-Barnum and Bailey circus fire.

August—Elaborate plan of station break announcements turned over to Forest Fire fighting goes into effect and continues for three days on KOIN, Portland, Oregon, until threat subsides.

September 14—During a hurricane, fire alarm boxes in the Bronx and Queens are knocked out of order, and WNYC, New York, remains on the air most of the night, coordinating police and fire department units should any eventually occur.

October 21—Broadcasting from the scene of the East Ohio Gas Company explosion in Cleveland, WGAR's mobile unit is the only communications contact within the area for a period of several hours.

1945: April 12—When a series of hop, skip tornadoes turn their fury on several Oklahoma towns, KTUL, Tulsa, and KOMA, Oklahoma City, turn their facilities over to establishing communications and aiding in relief work. Information is relayed to Red Cross rescue units, calling for blood from other cities, and assisting materially in the identification and locating of small children separated from their parents in the storm.

June—Weekly broadcasts directed by medical experts instituted by KRLD, Dallas, to warn communities in the path of an epidemic of dreaded poliomyelitis creeping inland from Gulf Coast towns, with advice on known prevention and treatment methods.

True Greatness In Little Things

CHAPTER X

A friend in need may not necessarily be the true test of broadcasting's greatness. What kind of an unscrupulous character would that neighbor be who stands by and watches your house burn to the ground, or leave unanswered your drowning call for help? Being a good neighbor in times of emergency is the innate responsibility of all mankind.

The true greatness of broadcasting's service to the home and nation finds its being in the multiplicity of little things rendered on a day-in and day-out basis. In the short span of only a quarter-century many of these services are accepted by the listeners without a second thought, almost in the attitude that such is to be expected of life as we know it today.

In arriving at a full appreciation of the importance of broadcasting's everyday service, the listener is apt to confine his

yardstick of measurement to the two or three stations that come within his scope. It is forgotten that the stations which we have come to know and accept as our own should be multiplied hundredsfold, since the American System of Broadcasting is the composite story of a thousand or so stations, each with its own market peculiarities and ways of going about meeting the problems that arise from day to day.

Would the radio listener who never wandered out of the wheat fields of Kansas ever think of a station with nightly programs to entertain the fishermen away at sea and tell him of his family and community news? This is what our middle-western friend would find if he visited Gulfport, Mississippi, and tuned into its radio station, WGCM. The service, called "The Boatmen's Program", is a half-hour of recorded music and news from home. Emergency messages of death, illness and the like also are broadcast at all hours.

And in turn would our Gulfport fishermen realize the importance of daily weather reports to school children and the traveling salesmen of the north central part of the country with its heavy snows and blizzards? Two regional networks to the north provide such a service to their territories. Every morning eight announcers, one at each of the Wisconsin Network's stations, gather official and unofficial weather news including road conditions, temperature, snow or rainfall. The announcer

at WFHR, Wisconsin Rapids, opens with a routine announcement and then gives the forecast for the entire state. This is followed by the local weather picture with each of the eight stations called in for their respective reports. A similar service was introduced in Minnesota and the Dakotas by the North Central Broadcasting System with daily summaries of a like manner by member stations.

Imagine if you will, the cowboy of Wyoming having an understanding of the importance of a weather report to the cranberry growers of New England. Yet, through WEEI's twice daily frost warnings, thereby giving growers the opportunity to flood the cranberry bogs, hundreds of thousands of barrels of the berry have been saved for Thanksgiving tables. In a like sense WKAR of the Michigan State College at East Lansing issues weather forecasts for use by producers of maple syrup. The Forestry Department and the U. S. Weather Bureau determine the time of the earliest run of sap which carries the highest sugar content, from which is produced the best quality syrup. Since the very early runs were often not anticipated by the producer, they were lost in most cases—that is, until WKAR started broadcasting its informative bulletins.

But our cowboy out on the western plains would realize how important is KXEL's service in Waterloo, Iowa, of hiring a full-time practicing livestock veterinarian to give its farm

listeners the benefit of his experience in the care of their livestock. Out where habitation is measured by the individual instead of by cities, the rancher may have a fuller appreciation of "Hospital News" by KGFX of Pierre, South Dakota, which gives brief reports on the state of patients in the local St. Mary's hospital. He would know right off that the real value of such a service rests in the fact that many persons in that part of the country are without telephones, and have mail sometimes only once or twice a week.

The farther man is off the beaten track of civilization the fewer may be his needs, but certainly these needs take on a more concentrated importance for they can be the difference between life and death. Sheep herders in their covered wagons, without telephone and beyond the service of the telegraph, get advance information on blizzards breaking fast over bitter Montana ranch lands. But there can be a lot more to such a service, as attested to by these stories of KFBB's "Wireless Party Line",¹ out of Great Falls.

The shift of the wind to the northwest and the change of the sky to a leaden grey were danger signals to Mrs. Brown. That morning it had been positively springlike when Farmer Jim Brown hopped into his truck and headed for Great Falls. But now, as the first few flakes of a spring storm traced their circular patterns on the bare ground of the farmyard, Mrs.

¹ As told by W. Preston Wright in *Magazine Digest*.

Brown dropped her household duties, saddled the children's pony, and rode out to drive the cattle into the corral adjoining the barn.

Later that morning she saw little drifts forming in the yard, and she knew that the drifts on the road would be mounting. She could not help wondering whether Jim and the children would get home safely. One never knew what might happen in highway conditions such as would develop before the day was out.

She turned the radio on and kept it tuned to KFBB. There, she knew, she would get news about the storm. The 12:15 news period opened with the latest information on the war. Usually that was followed by developments in Washington, but today came the ominous report:

"A special storm warning has been issued by the Weather Bureau. Stockmen are warned that temperatures of ten degrees below zero may be expected by morning. The Highway Department says snow is drifting rapidly and roads are likely to be blocked. Children in rural schools should not attempt to go home this afternoon."

Mrs. Brown was now worried. Maybe Jim would try to get home despite the weather. Perhaps that new driver of the school bus would risk the route in spite of the warning. She

kept near the radio most of the day, half-listening to the regular programs of entertainment and instruction, and then at last she was rewarded:

“Your attention for a special announcement. All rural children attending the County High School at Fairdale will remain in the dormitory overnight on account of the storm.” Mrs. Brown sighed with relief. At least Joey and Janey would be safe.

It was 6:15 before she heard the list of special community events for all northern Montana begin. That was something she usually gave her rapt attention, but tonight was not like most other nights, with Jim perhaps out in the storm in his old Ford.

Suddenly the announcer broke off the regular period to say: “We have a special message for Mrs. James Brown of Fairdale community. Mr. Brown is safe at Great Falls and will remain here overnight. I will repeat the special message for Mrs. James Brown . . .”

“Thank Heavens!” exclaimed Mrs. Brown.

A couple years previous to this a farmer and his wife went to Great Falls to see the fair and discovered that they had left their reserved seats for the grandstand at home. The farmer remembered that a neighbor was planning to be in town the

following day, when the tickets would be good. But the neighbor had no telephone. The KFBB announcer at the fair grounds was informed. At 6:15, just after the regular news period, a message went out. The neighbor was called by name. He was told to go to "Bill's house, take off the kitchen window screen, take the blue sugar bowl out of the cupboard, and get the tickets." At 8 the next morning Bill and his neighbor met, and the tickets were delivered.

Each spring brings a series of requests for special service from the Great Falls Post Office. Mrs. Henderson of Fort Shaw may be a bit startled to hear her name called by the loudspeaker on a Saturday afternoon. The announcer simply wants to tell her that a shipment of baby chicks has arrived; that no trains will run to her station until Monday, but that she may pick up the chicks if she will come to town any time Saturday night and knock on the side door of the post office.

"Good afternoon, neighbors, how're y'all" is the friendly informal sign-on that brings listeners of the Gulf Coast area around Beaumont, Texas, to their radios at noon-time for KRIC and Jack Neil's daily 15-minute local news report, "Gulf Coast News." To call the program a *local news report* is describing it only in a broad sense, for just about everything goes on "Gulf Coast News."

The program is a sort of a back-porch visit between friendly neighbors with not only news of the people and events

in the community, but helpful hints on daily living, requests to buy, sell and swap unusual items, and appeals for worthwhile projects for individuals or groups. No attempt is made to follow a definite pattern, and the reporter may, without warning, burst into a song or stop to comment on the latest styles in women's hats, a subject about which he has very definite opinions. Little mistakes that might wreck the average radio program are capitalized upon—such as a new negro porter bursting into the studio during a broadcast, and being introduced to the Gulf Coast listeners.

Hardly a day passes but that someone receives help, in one way or another, as a result of the broadcast. A neighborly interest has developed among and between the listeners, whether they know each other or not. The *help your neighbor* idea of the program grew out of the problem of war-time shortages. The reporter began receiving requests for certain hard-to-get items, and asked for them on the program. The response was enthusiastic, and resulted in a buying, selling and swapping of articles that quickly became a regular feature of the program. The reporter found such items as a wheel chair, a jew's harp for a little boy bedfast from a bad burn, living quarters for a serviceman's wife and children, electric fans, bird cages, and occasionally, that most often requested luxury of the times, an electric ice box. So interested did the listeners become in each other's needs and problems that often they refused to sell the items asked for, but gladly gave them away.

A baby girl arrived in the world, and her parents had been unable to buy diapers for her, because there were none to be found. In desperation they wrote of their plight to *Neighbor Neil*, and in less time than it takes to tell, a couple, whose children had outgrown the three-cornered type, gladly offered to give the baby girl more than enough diapers to last through babyhood. Undoubtedly the most unusual request the Gulf Coast reporter ever received was one for mother's milk for a two-pound premature baby girl in an incubator. As always, the listeners came to the rescue, and a grateful mother and father felt their baby's life was saved because of the friendly interest of the program's listeners.

On rare occasions the program requests money for some worthwhile person or project, and because each case is thoroughly investigated and proved worthy, the money always comes in, often much more than the amount expected. A hopeless paralytic who earned his living selling newspapers on one of the busiest downtown corners needed a new gasoline hand car, his only means of getting around. The money was soon raised, with enough left over to pay his room rent for a whole month.

A widow with six children was suddenly called to the bedside of a son in Boystown. She didn't have enough money to live in Omaha, the nearest city, and pay transportation back and forth to see her son, who was critically ill. The situation was brought to the attention of "Gulf Coast News", and before

Jack Neil finished telling the story on the noon broadcast, a listener called in with \$25, and a steady stream of letters poured in with donations, some of the listeners bringing in personally their contributions.

Missing persons are sometimes found through the medium of this KRIC program *in the public interest*. Relatives of a person who had just died were found. Blood donors have been obtained on numerous occasions. A dog or cat returned to a heartbroken child who had lost his pet! Families leaving the city often found good, permanent homes for their domestic animals. Once a stray homing pigeon on a neighbor's roof top was set on the right path. There are no limitations as to race, color or creed in the services performed. Once a little boy wanted a scooter very badly, but had no skates with which to make it. A negro boy called not only to offer the skates, but to come to the boy's house to make the scooter for him.

Frequently, information can be obtained from Gulf Coast listeners when other sources fail to supply it. A man lost his eyesight and appealed to various social and welfare agencies for details of where and how to go about getting a regulation walking cane and a seeing-eye dog. He was unsuccessful until he finally brought his problem to KRIC. The man was not asking for charity, but numberless neighbors offered canes, and several of them, knowing the cane must be white, volunteered to paint it for him without any cost. Though a regulation cane was not

immediately available, the Gulf Coast family rallied to the cause, and with their aid the blind man did learn where he might secure a cane, and how to go about applying for a seeing-eye dog.

Such a program as this demonstrates not only the fact that America is still America, and people still respond to genuineness, sincerity and helpfulness, but broadcasting's stake in the affairs of the community it serves can run a lot deeper than one imagines from surface-observation. Wherever and whenever there is a drive on for a worthy cause, one finds broadcasting up to its neck in putting the campaign across.

Many a child has been made happy at Christmas through the efforts of radio stations in communities across the country. WLAP in Lexington, Kentucky, originated and has maintained an organization known as the "Good Fellows Club." This radio sponsored project, which by liberal use of radio time and the facilities of the entire station's staff, solicits and provides thousands of baskets of food and many thousands of toys to poor families.

In the south WWL in New Orleans established an annual Orphan's Christmas party. Each year several hundred children are brought to the station for a special broadcast beginning with Christmas Carols, followed with a show presented by a staff orchestra and entertainers. Gifts are then distributed from under a Christmas tree by a Santa Claus, along with all

the trimmings that go to make a complete old-time Christmas party.

To the east, WWVA in conjunction with the Civitan Club of Wheeling, holds a yearly party for children who otherwise would have no hope of enjoying Christmas. The children are brought to Wheeling's public auditorium. High school bands, WWVA entertainers and other local celebrities put on the Christmas program. Ice cream and cake are of course in order, and the next day, all the children are given toys gathered by appeals over the station, and repaired by the city's fire department.

And in the west, KXO in El Centro, California, was quick to take over when wartime conditions resulted in the disappearance of Santa Clauses from Imperial Valley retail stores. The station rounded up frozen novelties, oranges, apples, cookies, nuts and hundreds of toys for some 1,200 children (they expected 500). Many children who came from remote rural areas had never seen a Santa Claus.

Foremost among KHMO's numerous public service efforts in Hannibal, Missouri, is an annual series of programs to raise money for the local Children's Home where orphans and needy children are housed and cared for. First drive in the annual endeavor was staged in 1941 when nearly \$500 was donated to help The Home carry on its splendid work in the community. In broadcasting's 25th anniversary year, over

\$4,000 was realized from citizens, business houses and industrial plants. Money given to the worthy cause is used to replace equipment and for actual operating expenses. The broadcasts originate from The Home during the month of December of each year with local talent utilized in the week-long campaign. KHMO's is the only organized campaign to help financially the Children's Home.

Realizing that many thousands of children in Chicago and Cook County were being deprived of the educational and recreational values of at least one day at Chicago's *A Century of Progress Exposition*, due to the impoverishment of their families or the fact that they were inmates of Orphan's Institutions, WLS listeners were appealed to for funds to make such trips possible. Contributions were received from listeners in 18 states and three provinces of Canada, totaling \$3,000.61. The underprivileged children, who profitted accordingly, totaled 9,177.

Campaigns for civic betterment are an everyday occurrence in the public spirited operation of a progressive radio station. WMRN is credited with providing the drive which carried a bond issue for a new hospital in Marion, Ohio. Such was the story, too, of WLAW in Lawrence, Massachusetts, whose support of the Bon Secour Hospital Building Fund of that city filled an important responsibility in assuring an oversubscrip-



Homer Griffith, the "Friendly Philosopher", who talks a homely and friendly philosophy over WLS, was host to many children on a journey to A Century of Progress in Chicago and all of the concessions on children's day. The picture shows a group of the youngsters at the Pony ranch on Enchanted Island. They are attended, left to right, by Cowboy Herb Hudson, Chief Running Buffalo of the Pima Tribe of Arizona and Homer Griffith.

tion for the undertaking. KGVO, in cooperation with the Junior Chamber of Commerce, raised \$10,000 in public subscriptions for construction of a municipal swimming pool in Missoula, Montana.

When the 100th anniversary of Peoria, Illinois, was marked in 1945, it was WMBD which came forward with a

7-point plan for future improvements of that city. The station presented a series of eight half-hour programs in cooperation with the Peoria Association of Commerce explaining the plan. Such community activities as the building of a new bridge was included along with a new City-County building, new railroad terminal, state legislation, Peoria's park system, Peoria District Fair Association and improvements in local transportation. A full dramatic cast and a staff orchestra were used to keep in step with the ambitiousness of the plan itself.

In Chicago WENR saw the need for an effective campaign against careless driving. A campaign under the program title of "Highways Are Happy Ways" was introduced which publicized motoring news as well as giving hints about careful driving. On each program a cash award was given to a man and a woman driver who during the week were reported for courteous driving—license numbers submitted by WENR employees who saw a car with a courteous driver.

Even as far back as 1927 KVOO was conducting an ABC Safety Club in Tulsa. The purpose of the club—to interest children from three to twelve years of age in the necessity of safety. Special emphasis was, and still is, laid on their trips to and from school, and the need to watch for traffic. Other safety talks are included such as playing with matches, getting burned by hot water from faucets—in short, the kiddies are warned against everything that might endanger them within or out of the home.

To protect those within its influence against the fraudulent salesmen and solicitors, WQAM introduced a series of 27 weekly programs in cooperation with the Miami Chamber of Commerce. It was reported reliably that many shysters had left Miami off their itineraries because of the campaign. A daily WNYC service in New York is the broadcast of the "Missing Persons Alarms", giving descriptions of men and women, boys and girls who have left home or cannot be located by their families. These broadcasts have contributed to the New York Police Department's Missing Persons Bureau record of 96 per cent efficiency in restoring missing people to their homes.

One of radio's earliest *missing person* thrills dates back to 1925. A. J. McCoy had gone out for a walk in 1885 and just plain disappeared. Forty years later, in a final desperate effort, his family had WEEI ask for "information about his whereabouts." Within an hour a Chicago boarding housekeeper sent a telegram to Boston. It said, "Believe Al McCoy who stayed with us three years ago is man WEEI mentioned. Now lives somewhere in San Francisco." A transcontinental phone call to an Albert J. McCoy, listed in the San Francisco directory, solved the mystery. The McCoy's were united.

Yes, indeed, broadcasting's service in the public interest is a great patchwork quilt of doing little things day after day in hundreds of important ways. WLAW in Lawrence,

Massachusetts, presents Miss Ethel Parker in news and notes vital to the interest of the blind. WSAM of Saginaw, Michigan, prints radio program schedules in braille for the blind.

Back in 1934 a Christmas morning freeze broke the natural gas line, feeding about ten thousand homes in Macon, Georgia. By cancelling commercial programs where necessary and giving the Gas Company free access to the air, WMAZ was able to secure volunteer plumbers and workers to repair the breaks by 2 p.m. The Gas Company, however, was afraid to restore service because the pilot lights had gone out on some fifteen thousand automatic appliances, and it would not be safe until all of them had been turned off. For six hours WMAZ passed on the information. At about 8 p.m. the Gas Company turned on the gas with not one report of gas leakage, nor a single fire or accident.

As can be well imagined, these are only a few isolated examples of the countless little ways in which broadcasting served the American public during the past quarter-century, its first. Thinking back over the examples given, it should be noted, too, that most of the stations cited are not the glamour boys—the New York, Chicago or Los Angeles 50 kilowatters. With their qualified staffs of a man and a boy for every job, it is to be expected of them that wherever the need exists, the American public will find them willing and able to be of service.

No—the really small town 250 watter can not be left out of broadcasting's development, or the story would be incomplete. We're even thinking of the *Uncle Esra* operation where the station manager takes his trick at the microphone or drops down to see the corner stationery store about paying up the \$32.50 it owes—or at least send up some more office supplies. Even under such an operation, these broadcasters, almost to the station, have contributed their facilities and energies, many times beyond the call of duty, to make judicious use of the responsibility placed in their hands as a great force for good to mankind.

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

Little Things

- 1919: Weather reports from the United States Weather Bureau begin on 9XM—later WHA, University of Wisconsin, Madison, Wisconsin.
- 1921: November 18—Bedtime stories for children presented by KDKA, Pittsburgh.
- 1922: February 1—Shipping news given by WJZ, New York.
- February 21—Arlington Time Signal broadcast by WJZ, New York.
- February 21—Daily weather forecasts by a commercial broadcaster, WJZ, New York.
- March 14—Series of health talks begins on WJZ, New York, with Dr. Thomas Darlington discussing "Health and Efficiency."
- April 28—Financial letter by the magazine of Wall Street starts on WJZ, New York.
- May 6—Daily weather forecasts and bulletins through courtesy of the Government Weather Bureau presented by KHJ, Los Angeles.
- June 14—"By kiddies for kiddies" program begins on KHJ, Los Angeles.
- July 14—Regular weekly children's story begun by Thornton Burgess on WJZ, New York.
- 1923: February—Children's program, "Uncle Wip", introduced by WIP, Philadelphia.

July—"Hospital News" starts on KGFX, Pierre, South Dakota, whereby brief reports are given on the state of patients in the local St. Mary's hospital.

1925: August—Exclusive meteorological service headed by E. B. Rideout instituted by WEEI, Boston.

1927: "The ABC Safety Club" is started by KVOO, Tulsa, Oklahoma, to interest children from three to 12 years of age in the necessity of safety.

March — "Always be Careful Club", presented by WSAN, Allentown, Pennsylvania, leads to organization of the Lehigh Valley Junior Safety Council.

October—"Morning Musical Clock", giving the time, weather reports and other information, starts on WCAO, Baltimore.

1928: January 3 — Network series of broadcasts on health starts on N.B.C.-Blue, presenting Dr. Royal S. Copeland four days each week for a half-hour broadcast.

1929: "Lost and Found" program service starts on KGEZ, Kalispell, Montana, which it is estimated in 1944 returned to the owners \$27,000 worth of lost merchandise at a cost to them of only \$345.

February 17—KMJ, Fresno, starts broadcasting of frost warnings to growers in the San Joaquin Valley. Service later expanded to other McClatchy stations.

May 1—Program of child care and health under direction of Grace Abbott, chief of the Children's Bureau of the United States Department of Labor, originated under title of "Your Child", to the National Broadcasting Company by WRC, Washington, D. C.

December 1—"Coast to Coast on a Bus" originates from WJZ, New York, as a network children program series.

1930: News from home broadcast direct to commercial fishermen employed in their work in the Gulf of Mexico by WGCM, Gulfport, Mississippi.

September 9—"Rochester's Medical Broadcast", the program of the Medical Society of the County of Monroe in New York, starts its weekly quarter-hour series on WHAM, Rochester.

1932: March 30 — Daily broadcasts from the North Side Municipal Court begin over WHB, Kansas City.

December 18—Civitan Christmas Party for underprivileged children starts on WWVA, Wheeling, West Virginia.

1933: July 20—General Federation of Women's clubs cooperates with a network, the National Broadcasting Company, to present a program of primary interest to women. The United States Department of Agriculture considering the program, "Consumer Tips", an important step, also lends its cooperation.

1934: Realizing that many thousands of children in Chicago and Cook County are being deprived of the educational and recreational value of at least one day at *Chicago's Century of Progress Exposition* due to the impoverishment of their families or the fact that they were inmates of orphans' institutions, WLS, Chicago, listeners are appealed to for funds to make such trips possible. Twenty-five such trips to the Fair result with 9,177 underprivileged children on hand.

Christmas morning freeze breaks the natural gas line serving about 10,000 homes in Macon, Georgia. By cancelling commercial programs where necessary and giving the Gas Company free access to the air, WMAZ, Macon, is able to overcome emergencies before damage or loss of life results.

1937: July 22—John Moses and Budd Sweeney inaugurate a "Mr. Fixit" program on WHKC, Columbus, which receives special commendation for disseminating public service information and in accident and fire prevention.

October—Independent weather bureau staffed by trained scientists under the direction of Salvatore Pagliucca, chief meteorologist, founded by the Yankee Network.

1938: WMAL, Washington, D. C., assists in the creation and sponsorship of the Mile O'Dimes campaign which through the years has been the incentive for the fight against infantile paralysis.

February—Series of weekly remote broadcasts from the Texas State Prison System at Huntsville, Texas, program prepared and presented by the prisoners, on WBAP, Fort Worth.

Spring—Official Lone Scout Troop of the Air presented by WPAR, Parkersburg, West Virginia.

June — "Nature Sketches" originated in the Rocky Mountain National Park and featuring Park Naturalist Raymond Gregg, starts on KOA, Denver.

1939: Program series starts direct from fifty communities in the one hundred mile radius of KFPY, Spokane, featuring each community's local musical groups and civic leaders.

1940: Miss Ethel Parker starts a program series by and for the blind over WLAW, Lawrence, Massachusetts.

1941: Annual series of programs started by KHMO, Hannibal, Missouri, to raise money for a local children's home in which orphans and needy children are housed and cared for,

1942: September 1—Daily weather roundup by member outlets of the Wisconsin Network, starts.

1943: "Radio Rochester" is formed of stations within a single city to combine their facilities for broadcasting civic, governmental and important events simultaneously for the listeners' benefit.

Special weather forecast informing farmers the exact day that the weather is warm enough to start the maple sap flowing instituted by WKAR, East Lansing, Michigan.

1944: Hundreds of thousands of barrels of cranberries are saved through WEEI, Boston's exclusive frost warning service for cranberry growers.

"St. Louis Speaks", a public discussion program before live audience in station's playhouse, starts on KMOX, St. Louis.

Regular series for minorities, "New World A-Coming", initiated by WMCA, New York.

Summer—City's only outdoor swimming pool is taken over by KVFJ, Fort Dodge, Iowa, which hires the pool's entire personnel, establishes free swimming lessons for the Red Cross, staging two water carnivals and a bathing beauty contest. The project winds up the season "only \$400 in the hole".

October 1—"Worcester and the World", a six-month undertaking to build better understanding in the central New England area of the peoples and problems of the United Nations, begins on WTAG, Worcester, Massachusetts.

December 23—With no Santa Clauses in Imperial Valley stores, KXO, El Centro, California, stages a Kiddies Santa Claus Party with gifts, oranges, candy, etc.

December 31—"Main Street Speaks" goes on the air as conceived by Ken Miller, KVOO, Tulsa, Oklahoma, news editor, to give smaller communities each week an opportunity to tell of their hopes and plans, resources, and accomplishments.

1945: Through the cooperation of management, WLAW, Lawrence, Massachusetts, makes available its facilities to officials of the Bon Secour Hospital Building Fund, thus filling an important position in assuring an oversubscription for the undertaking.

"Save-A-Life" highway safety campaign instituted by KOMA, Oklahoma City—credited by Safety Commissioner Gentry to "saving a life a week."

September 3 — Collaborating with the Boston Better Business Bureau, WEEI, Boston, begins a series of programs entitled, "Fraud, Inc.," dealing with swindles currently threatening the savings of returning veterans and civilians.

November 9—Monthly radio program schedules printed in braille for the blind by WSAM, Saginaw, Michigan.

From Soap Box To the Fireside

CHAPTER XI

It took a war to emphasize the importance of radio in its influence on our mundane existence. There is no longer any question that in radio, human beings have their most effective medium for the mass transmission of ideas. Like all other potent energies this power can be harnessed for the good of mankind, or for its detriment. Here is reason enough for always scrutinizing carefully the forces that control its destiny.

Dictator nations in setting up their machinery for world power seized upon radio as a ready and effective means to market their ideologies. When the invasion was on, the fortified blockhouse was no longer the primary focal point of the attack. An important objective now was the gagging of radio's voice and its quick restoration for the invader's own communications and propaganda.

One has only to probe the warped minds of the conquered dictator peoples to satisfy himself that black can be sold as white if you go about utilizing the full power of propaganda by radio. There is no question now as to the persuasiveness of the spoken word. In the days of the street corner soap-boxes, what the radical had to say was of little consequence, for his audience was limited in number to those who could stand about him. And then there was always the other voice on another corner expounding counter-theories and disbeliefs. Such always has been the prerogative of the *American Way*. Free speech in radio must be preserved beyond political censorship, direct or indirect, with the same show of confidence by government that is expected of broadcasting, to operate in the public interest, convenience and necessity.

Broadcasting stepped into the spotlight on the sensationalism of a Presidential election, that between Harding and Cox. Throughout the fateful night of November 2, 1920 the usual crowds stood outside before bulletin boards to see the returns—and in a driving rain at that. A fortunate few early radio fans, equipped with crystal sets and earphones, were hearing the same returns in the comfort of their homes. Such audiences, making up in enthusiasm what they lacked in numbers, kept the KDKA telephones busy with demands for “more news and less music.” The broadcast experiment was a national sensation, acclaimed by newspapers all over the country.

To KDKA also goes the distinction of introducing political campaigning by radio. William A. McGee, who sought the nomination for Mayor of Pittsburgh on the Republican ticket, talked from a station built for the purpose in a building occupied by the old Pittsburgh Post, on Wood Street and Liberty Avenue. So novel was the idea, that receiving stations were set up in auditoriums throughout the voting area. One such receiver was located in St. William's Church on Bessemer Terrace, East Pittsburgh, and residents of East Pittsburgh and North Braddock were invited to hear the candidates.¹

June 21, 1923 was an historic day in the use of broadcasting for bringing the government and its political personages to the people. For the first time a President of the United States talked to his people through the medium of the radio. Warren G. Harding stopped off in St. Louis on a cross-country tour to the Pacific coast and into Alaska. Presidents of the United States had spoken to Americans on great public questions since George Washington's time, but President Harding became the first to have such an address broadcast and heard by an unseen listening audience. The subject of his talk was America's participation in the *World Court*, the most important public issue of the day.

Ten minutes after the President finished speaking, a long-distance call was received from a listener in Winchester,

¹ P. S. Magee won.

Indiana, telling of *perfect reception*. The call was followed by telegrams from Chicago and other cities in Illinois, Iowa, Kentucky, Kansas and nearby states. Messages and letters, acknowledging reception of the broadcast and expressing appreciation of KSD's service, continued to arrive for several days following the broadcast.

Many of the letters told how the writers had put their receiving sets on the porches of their homes, and how as many as 100 neighbors had gathered around to hear the President's voice. Crowds of listeners also heard the address, while standing in the streets outside the Coliseum in which Mr. Harding was speaking, through loudspeakers of several radio receiving sets on automobiles which were parked nearby.

But that is only half the story. Before President Harding's speaking rostrum that day were two broadcasting microphones. For ten days, prior to the President's scheduled arrival in St. Louis, electrical engineers, experts in amplification apparatus, had worked to perfect the appliances and circuits necessary to transmit the President's words over telephone lines for simultaneous broadcasting by another radio station. This was the first time an experiment had been made in extending the microphone circuit to a station 1,000 miles away—and the experiment was a success. The station at the other end of the circuit was WEAJ, New York, then known as *The American*

Telephone and Telegraph Company. At the request of the St. Louis Chamber of Commerce other stations in the country agreed to remain silent as a courtesy to the President of the United States while KSD and WEAJ were sending out his speech.

National political conventions, from 1924 on, have afforded listeners with a colorful, action-packed feature that, as can well be imagined, proved a nation-wide sensation the first time attempted. It was the Chicago Tribune that made first inquiries of the A. T. & T. as to the availability of long lines for picking up, by radio, the Republican convention, which at the time of the request, was being considered for Chicago. As pointed out to the operators of WDAP (the station later to become WGN), it would be necessary to deal with the Republican National Committee because of the wide importance of the event. From out of these preliminary considerations, however, arose a special network of sixteen stations in twelve cities to cover the Republican Convention, finally staged in Cleveland from June 10 to 12, and the Democratic Convention from New York's *Madison Square Garden* on June 24 to July 9 by another network of eighteen stations from fourteen cities. All the color—the speeches, the personalities, and the results of balloting brought to the ears of millions another important milestone in the rapidly expanding growth of broadcasting's service to an eager audience. An announcer, fast becoming in his own

right the *people's choice*—Graham McNamee, was at the microphone for both conventions.

While the listening public was cognizant of the historical significance of these events, there was a lot more to the accomplishment than met the ear. The telephone companies had their lines set up to accommodate the conventional telephone subscribers, but the use of such equipment for hooking up radio stations for the widespread broadcasting of political events threatened to interrupt or impair the standard subscriber service. As W. E. Harkness, assistant vice president of the Bell Company, pointed out, "Our business is the supplying of telephonic communication to all the people. Our plant and lines are designed for this purpose, and their use for the connection of broadcasting stations with a central point of transmission is but an incident which cannot be permitted to interfere with our regular service." Such an *incident* was soon to become an everyday occurrence, and the telephone services were quickly expanded to answer this new need which descended upon the industry *like old man river* in a flood.

To this, too, could be added the significant step of each broadcasting station, involved in the special networks, standing their own share of the line costs which was to have no little bearing on the ultimate establishment of permanent *chains* at a later date. Then there was the enthusiasm of the individual stations over the increase in prestige throughout their service

area which resulted from the participation in broadcasting important events, such as a national political convention, from far-away places.

The 1924 election year, after Calvin Coolidge and Charles G. Dawes were named the Republican nominees—and John W. Davis and Gov. Chas. W. Bryan, the Democratic choices—involved into what became generally known as *radio's first national election*. The instrumentality of broadcasting was taken into each party's camp with open arms as a ready means for talking simultaneously with millions of potential voters across the country. Radio history again was made on October 23 when President Coolidge's talk before a convention of the United States Chamber of Commerce was broadcast by a network of 22 *stations*. On election eve there were 27 *stations* carrying the final campaign address with the west added to the network—including Denver, Seattle, Portland, San Francisco, Oakland and Los Angeles.

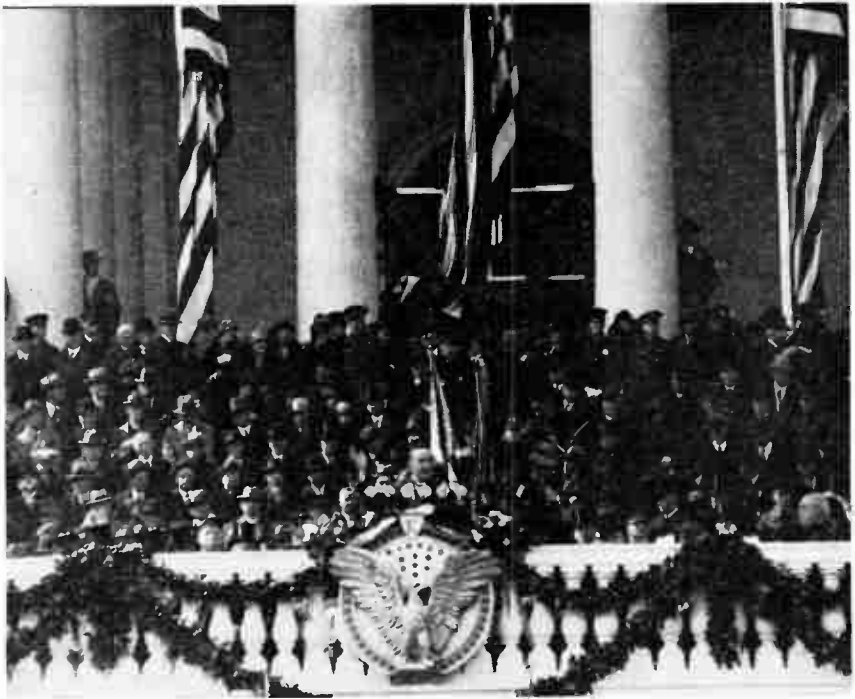
At the time of the Harding-Cox election in 1920 there were only 400,000 radio sets in use—and the number of ballots cast was 26,705,346. Four years later, with Coolidge winning the election, the number of sets had been increased by over 2½ millions and almost a like increase was found in those going to the polls.

Contrary to general belief, the first inaugural address ever broadcast by a United States President was delivered be-

fore radio microphones in Washington, not by Harding, but by Calvin Coolidge four years later. There had been plans by KDKA for getting Harding to record his speech in advance, and a copy thus would have been played at the station's transmitter in Pittsburgh. In fact, Pittsburgh papers of that date stated that the speech would be heard in the form of a gramophone transmission. The listeners though, had to be content with an excellent rendition by Leo H. Rosenberg, the man who announced the election returns on KDKA the previous November 2, and W. W. Rogers, alternating in giving the inaugural speech, obtained in advance, at approximately the same moment Harding was delivering it in Washington.

At the time of Coolidge's inaugural there were only two stations in Washington, WRC and WCAP, the latter a Chesapeake and Potomac Telephone station which soon afterwards went out of existence. The two stations operated on a time-sharing basis. The morning of the inaugural being *WRC time*, it fell to this station's lot to pick up the ceremonies and broadcast them locally. WCAP, however, also picked up the event and relayed it to WEAJ for transmission to 20 other stations throughout the country.

As limited as broadcasting's election coverage of the mid-twenties may seem today, it was most decidedly ambitious for the times, and set the stage for the elaborate efforts of presi-



The broadcasting of Calvin Coolidge's Inaugural of 1925 climaxed radio's entrance into the field of national political campaign coverage.

dential elections to follow. With the establishment of permanent coast-to-coast network nation-wide *stumping* from a single point could be taken in the stride of broadcasting's everyday operation. The city, county or state candidate had his individual stations just down the block, and regional hook-ups if needed, to carry campaign promises to more constituents in a single broadcast than could be reached in hundreds of personal appearances.

But the way ahead for the full-fledged acceptance of broadcasting into the sanctum sanctorum of governmental life was one beset by many a diplomatic hurdle. Of course, there were the individuals here and there who could be enticed before the microphone. Of particular importance were the early debates on the subject of the *Volstead Act* over WEA and WGN. In due course, the *Timbuktus* across the country walked the paths of Presidents, into the sanctity of the White House—along Pennsylvania Avenue—into the House and Senate Chambers. Later there were spurs to be won in the press galleries for a place of equality, in name and fact, to cover the stories emanating from this world news capital.

Broadcasting with the election of Franklin D. Roosevelt in 1932 found in him a champion. His was a voice that spoke well of the high regard in which he held the power of broadcasting. Within the month of his inaugural, President Roosevelt was going to the people, confiding in them the problems of the nation, in the first of his famous “fireside talks.” To his vast audiences were explained the banking moratorium, farm relief, the drought, the progress of his administration and kindred subjects. Broadcasting became a vital tool in the functioning of government through times of stress. It was on May 9, 1939 that President Roosevelt described radio as “free as the press” except for such controls as are necessary to prevent complete confusion on the air. On his death, April 12, 1945, it was



Franklin D. Roosevelt, sometimes referred to as a radio president, in one of his first "fireside talks" which brought the affairs of the nation to the people through the medium of broadcasting.

only fitting that broadcasting should make the announcement to a shocked world and handle with dignity his funeral.

At the completion of broadcasting's first quarter-century anniversary, Harry S. Truman of Missouri is at the helm of this nation's destiny. It is the same man who said¹ to this writer, while United States Senator, "Radio has made the

¹ In 1944.

United States one great auditorium. In no other way can men instantly talk to all of this nation's 130 millions. To safeguard our basic democratic principles, radio must be utilized to its fullest extent. Then the ancient demagogues of the Old World will find no place in our way of life."

CHRONOLOGY OF MILESTONES

Programing in the Public Interest

Politics

1920: August 31—State, Congressional, and County primaries are broadcast by WWJ, Detroit.

November 2—Harding-Cox Presidential election returns broadcast by KDKA, Pittsburgh.

1921: September 12—William A. Magee, candidate for city's mayor, uses radio for a campaign speech by talking over KDKA, Pittsburgh.

1922: February 23—Talk by Governor Nathan L. Miller of New York State on WGY, Schenectady.

June 14—Voice of a United States President, Warren G. Harding, broadcast by WEAR (now WFBR, Baltimore) as a dedicatory speech at the Francis Scott Key monument, Fort McHenry.

1923: April 18—Debate on subject of "The Volstead Act" broadcast by WEOF, New York.

June 21—President of the United States, Warren G. Harding, talks to his people via radio through KSD, St. Louis and WEOF, New York.

August 2—George D. Hay, as radio editor in charge of Commercial Appeal's radio station, WMC, Memphis, scoops all United States radio stations on news of President Harding's death.

November 2—Address by Lloyd George of England broadcast by WEOF, New York.

November 11—Former President Woodrow Wilson in his only public address after retiring from the White

House broadcast by WEAJ, New York; WCAP, Washington, and WJAR, Providence.

December 4—Opening of the United States Congress broadcast by WRC, Washington, D. C.

December 6—Presidential message to Congress on a record-breaking number of six stations—WEAF, New York; WCAP, Washington; WJAR, Providence; KSD, St. Louis; WFAA, Dallas; and WDAF, Kansas City.

December 10—Warren G. Harding's memorial speech originates from the White House by President Calvin Coolidge through WEAJ, New York.

1924: Washington political commentator, Frederic William Wile, is originated to a network by WRC, Washington.

April 10—Debate between members of Congress on controversial public issue, with Senator Capper of Kansas favoring the Volstead Act and Representative Hill of Maryland opposing, broadcast by WRC, Washington.

April 22—President Calvin Coolidge's address to Associated Press broadcast on 11 radio stations.

June 10-12—National Republican Convention broadcast from Cleveland by WTAM to a network of 16 stations;

June 24 to July 9—the National Democratic Convention from New York's Madison Square Garden by 18 stations. Graham McNamee is announcer for both conventions.

July 8—Municipally owned and operated WNYC, New York, goes on the air as a non-commercial station.

October 30—Coast-to-coast broadcast of a political rally, Republican national rally, originated by WJZ, New York, to WGY, Schenectady; WRC, Washington;

KDKA, Pittsburgh; KFNF, Shenandoah; and KGO, San Francisco.

1925: Importing two leading exponents of the wet and dry issues, Clarence Darrow and Wayne B. Wheeler, WGN, Chicago, stages a debate on prohibition in its own studios.

March 4—Inaugural ceremony of a United States President, Calvin Coolidge, on WRC, Washington, D. C., and KLZ, Denver, the latter with a cost of \$1,080 installing private lines direct from Washington to Denver.

1926: Charles Hodges develops for New York University and WOR, New York, a program of international relations, broadcasting group discussions and interviews of authorities on world politics.

Special World Court debate between Senators Walsh, Reed, Borah, and Lenroot presented by direct leased wires through WGN, Chicago, from Washington, D. C.

1927: February 27 — Coast-to-coast Presidential broadcast from the floor of Congress featuring Calvin Coolidge's Washington Birthday address at joint session of Congress originated by WRC, Washington.

1928: Entire National Republican Convention from Kansas City, and the Democratic Convention from Houston, Texas, the latter at a cost of approximately \$10,000 a day, broadcast over direct wires by WGN, Chicago.

1929: March 4—Microphones placed in the Senate Chamber, where Vice President Curtis is inaugurated, for broadcast pick-up by the National Broadcasting Company.

1932: June—Every minute of the National Republican and Democratic Conventions are broadcast by WGN, Chicago.

August 22—Politics with free time on the air for uncensored broadcasts becomes a feature on WHA, Madison, in following state political campaign. Party representatives meet and mutually agree to time allotments and rules of conduct.

1933: March 9—Election of Speaker of the House, Henry T. Rainey, broadcast from floor of House Chamber by WRC, Washington, D. C.

March 12—Franklin D. Roosevelt's first "fireside chat" to the nation by Washington, D. C. stations.

1935: May 22—President Roosevelt delivers his message vetoing Patman bonus bill at joint session of Congress at which radio microphones are permitted.

May 30—"America's Town Meeting of the Air", forum type program encouraging spontaneous questions from the audience directed to the speakers, inspiring open and frank discussions on pertinent subjects, begins on WJZ, New York.

1936: January 3—President Roosevelt addresses joint session of Congress called at 9 a.m. in order that nation might listen by radio.

June—Record-breaking hook-up carries political conventions—Republicans at Cleveland, June 9, and Democrats at Philadelphia, June 23.

September-October—Radio is used extensively in Roosevelt-Landon political campaign, with estimated \$2,000,000 or more spent for network and station time. National hook-ups and stations cover elections thoroughly November 3.

1937: September 28—Congressional debate dramatized from the Congressional Record starts over WHA, Madison. Scripts are prepared by Dr. Jennie M. Turner.

- 1938: Election returns of both primary and general elections gathered by KGEZ, Kalispell, Montana—such returns being supplied to A. P. and U. P. wire services, as well as the six local and regional newspapers.
- 1940: November 5—Radio establishes a new high in presidential election coverage, turning over practically its entire facilities for reporting results of Roosevelt - Willkie balloting, as well as Congressional and State elections.
- 1942: December—International goodwill broadcast between Governors of California, Earl Warren, and of Lower California, Mexico, General Toboada, presented by KXO, El Centro.
- 1943: September 11—Staging its own United States-Mexico Goodwill program, KRGV, Weslaco, Texas, presents a dramatic exchange of good-neighbor talks by Governors on both sides of the Rio Grande.
- 1944: February 24 — United States Department of State adopts radio as a medium for bringing foreign policy regularly and systematically to the American people with its program, "The State Department Speaks", over the National Broadcasting Company.
- November 7—Greatest audience in history hears Presidential election returns which swept Franklin D. Roosevelt into his fourth term.
- 1945: April 12—*First radio president*, Franklin D. Roosevelt, dies with radio flashing the news to the world.
- April 25-June 26—Stations cover the United Nations Conference with the National Broadcasting Company through KPO, San Francisco, recording all plenary sessions and commission meetings open to the public.
- November 7—Radio's news coverage reaches a milestone with President Harry S. Truman formally dedicating new Radio News Gallery in Senate wing of Capitol.

Farming Comes to Town

CHAPTER XII

To the city dweller, living on a farm was simply in another world. Imagine burying yourself out of sight of civilization with all the inconveniences of primitive living and working from sun up to sun down. This was much the *paved street* conception of farming at the time of broadcasting's arrival on the scene in the twenties.

In recent years farming has been slowly *coming to town* in a figurative sense until today in some sections of the country the city limits sign is the only telltale evidence that we are entering *that other world*. It would be an exaggeration to say that broadcasting has had everything to do with this transition, but certainly it has been a strongly contributing factor.

Before the acceptance of the radio into the American home, rural and urban alike, the farm was shut off from out-

side influences except for an occasional Saturday in town or a pilgrimage to the county fair. Broadcasting, however, quickly cast its influence over rural living, as it was known then, and through its voice, the farmer became aware, not only of the scientific marvel of radio itself, but of other advancements in ways of better living.

The farmer heard through his battery set that electricity could make his life not only more enjoyable, but more profitable as well. He learned, too, that the old two-seater could be traded in for inside plumbing, and Mrs. Farmwife could do the family washing in a machine. Almost unconsciously the distinguishing characteristics of speech began to disappear, and the farmer shaved off his goatee. Radio's voice was bringing the farthest segments of a nation's peoples closer together to a common ground of living and understanding.

Agricultural broadcasting had its beginning in code, over short wave. The first broadcast was presented on December 15, 1920, over station NAA, operated by the United States Bureau of Standards. These market reports, compiled by the Department of Agriculture, were relayed by wireless from Washington, D. C., to Bellefonte, Pa., St. Louis and Omaha. Each of these cities served a territory within a radius of about 300 miles, and some 2,500 radio operators located in these regions took down the reports and helped transmit them to farm-

ers by posting in railroad stations, post offices and country stores.

Shortly after the Department of Agriculture inaugurated the sending of market reports by wireless, the Bureau of Markets of the department sought the cooperation of KDKA in telephonic transmission of market reports. KDKA duly went on the air May 19, 1921 with a program expressly for farmers. As stated in an article from the July, 1921, issue of *Radio News*, these radiophoned reports, "would greatly simplify their receipt by farmers and others direct, inasmuch as the operation of a radiophone set does not require a knowledge of wireless codes."

Up at the University of Wisconsin, 9XM (later to become WHA), had introduced a daily schedule of telephonic weather reports. Soon new services were added, among which were market and produce reports for farmers, and bulletins on road conditions. The popularity of market news broadcasts was growing rapidly in all parts of the country. By March, 1922, only a little over a year from the date of the first short wave broadcast by NAA, 75 out of the 129 standard stations were broadcasting from one to a dozen reports a day. These reports were picked up by listeners in over two-thirds of the United States.

Among the first words that WBAP in Fort Worth learned to speak on May 2, 1922 were wheat, rye, hogs, cattle

and cotton. In those early days WBAP was necessarily scouting around for programs which would be of interest and benefit to its listeners. Grain, cotton and livestock reports were a natural for the area, so they were tried out and proved to be successful.

The original studios of WBAP were in the building of the Star-Telegraph, the mother company. The first grain and livestock reports were obtained by the studios from the exchanges through the telephone and were read over the air by the studio announcer. The time involved in getting the information and putting it on the air frequently was so great that quotations had changed before they were aired. That wasn't good, so WBAP set about correcting the fault.

An agreement was made with the Exchanges for lines to be installed there on the spot. Broadcast periods were arranged so that openings, noon sales and quotations, and closing markets could be given promptly. That did it. The first lines were run to the Grain and Cotton Exchange within a matter of weeks after the station opened. E. B. Wooten, secretary of the Fort Worth Exchange, was engaged to read the quotations, some of which were being written on the board while he was broadcasting. In those days, country towns and isolated spots had few if any telegraph and telephone accommodations. It became the habit of country banks and mercantile establishments

to write down the markets as delivered over WBAP—a service for the residents of the area.

The handling of livestock reports from the Livestock Exchange was begun in June, 1924. U. S. Department of Agriculture Reporter Sterling Emens was the pioneer there. From the Livestock Building each morning the estimated receipts at southwest markets were given—Fort Worth, Houston, San Antonio and Oklahoma City, and at Chicago and Kansas City. Also given were total receipts at twelve major markets, the opening hog market at Fort Worth, Kansas City and Chicago, and the opening sheep market at Fort Worth. Such morning reports gave the cattlemen in Texas an idea of the day's receipts and enabled listeners to plan their trips to the markets. They have proved to be of especial value to local sales, auction rings, country traders, buyers and sellers at the major markets as well as to packers at purchase points.

Just as stockmen and farmers are vitally interested in the daily market reports so are they concerned about the weather. Texas weather really is a subject for concern. The extensiveness of the Lone Star State makes it impossible to predict merely *Texas weather*. The forecasts must be divided into at least four parts—the Panhandle, the South Plains, the Rio Grande Valley and East Texas. And even after splitting up the state in that fashion, you have a lot of it left over.

Weather experts say without hesitation that Texas weather is more difficult to predict than any other in the nation. To handle the problem the Government has in Fort Worth one of the largest of regional bureaus in operation. From this bureau government forecasters give regular reports—such reports serving two purposes. They provide the very latest possible information, an important consideration in the light of the known vagaries of the Texas weather. And they provide the authenticity essential to those to whom the weather often is a deciding factor in business survival. Unquestionably, millions of dollars have been saved to Texas ranchmen and farmers because of the availability of last minute radio weather forecasts.

At first thought, the layman, unfamiliar with the market conditions of Chicago, would never think of the country's second largest metropolis as a major influence in the agricultural picture of the nation. However, more than a million head of livestock are shipped every month to the Chicago market. Twenty important smaller centers are in the states served by WLS. Chicago is also the greatest grain market in the world, supplied by the rich grain fields of the midwest. While livestock and grain are the two *big money crops*, the Chicago area also includes a great dairy industry, vast fruit orchards, vegetable gardens and other food suppliers.

When the *Prairie Farmer*, a farm paper, purchased radio station WLS in the fall of 1928, Burr ridge D. Butler, on taking over the new property gave an inkling that here indeed would be radio's *Agricultural Voice*. "I am fired with the deep responsibility said Mr. Butler, over WLS, which rests upon me as I sit here and think of you millions of farm families sitting about your living rooms, listening to this inaugural program. Every day you will be there listening—and every night. To give you help in your business by sending you over the air prompt and accurate markets, to help in your production by giving you the best and latest in farm practices, to brighten the home with appropriate musical and educational programs for the mornings and afternoons, to be with you in the evening with restful, inspirational and educational music and talks—to do this every day of the year—and all of the years to come wherein I am given the privilege of serving—to do this I pledge you my utmost endeavor."

Mr. Butler and WLS have lived up to this pledge. Market news service as given by WLS since the very beginning has been one of its highlight program features. Listeners have heard regularly the early estimates on livestock receipts, the early flash on the trend of the market and complete reports later in the day. All of this has come directly from the Chicago Stockyards, supplemented by news from other markets.

In the year 1929 southern Illinois and southern Indiana had the largest peach crop in history. The crop had to be moved rapidly. WLS, in cooperation with the Illinois Fruit Growers Exchange, instituted *Peach Week*, thus aiding in the sale of hundreds of thousands of bushels. During January and February, 1930, the station, in cooperation with the National Dairy Council, put on a series of fifteen-minute programs to increase the consumption of butter and relieve the butter surplus.

During the national economic emergency in 1932, 1933 and 1934, the instant contact of WLS with the people on the farm was immeasurably valuable to the country. The success and prosperity of rural America loomed up as a key to the whole national situation. A list of farmers and farm leaders who spoke on the station constituted a "Who's Who in Agriculture". Secretaries of Agriculture, Governors, Senators, Congressmen, speaking on agricultural legislation, Deans of agricultural colleges, teachers, farm bureau leaders, state and national masters of the Grange, and many hundreds of representative farmers spoke frankly to the public over the station. It was a forum for honest, useful agricultural information and discussion. It endeavored faithfully and sincerely to serve the rural community.

A wave of rural crime through the middlewest was causing alarm. Every Friday for many months WLS scheduled an intimate study of rural crime, its causes and its prevention.

This campaign led to new legislation in several states and the establishment of special rural crime prevention departments. *The Protective Union* is a department of WLS and the Prairie Farmer which for many years has advised farmers in connection with business transactions, has given warnings of fraud and confidence games, and many related services to the farmers of the middlewest.

On many occasions, material furnished by the *Protective Union* has been the means of instantly stopping fraudulent solicitors, confidence men, and a wide assortment of criminal transactions. In connection with such broadcasts, WLS has had as speakers—the chief of the United States Postal Inspection Service and many outstanding law enforcement officers. In numerous instances a quick broadcast description of stolen property has resulted in the apprehension of thieves and the recovery of the property.

The WLS Dinnerbell program, opened daily at noon by the ringing of an old farm dinnerbell, has been operating at the same time since the early weeks of the station's beginning. Dinnerbell Time has always been non-commercial, devoted constantly to farm service. On this period, which reaches the farm family while the men are in the house at dinner, every phase of farm affairs and problems is discussed at some time during the year. It has been notable for the friendly and understanding manner in which it is handled.

Throughout the year the Dinnerbell program is taken to fairs and farm meetings. It is found for a week at each of three state fairs—Illinois, Wisconsin and Indiana. It comes for a week from the International Livestock Exposition, greatest agricultural show in the world. It comes from a tower in the middle of the cornfields where Illinois and Indiana state husking contests are held, utilizing short wave to bring close-up atmosphere. A tomato festival, corn festival, egg and broiler show, egg auction, cheese day celebration, weed control demonstration, a community sale—these are some of the type of events broadcast on Dinnerbell direct from the scene. The program is geared to farm life, with something technical, something of business, much acquaintance with personalities, and a vast amount of farm information and news. *It belongs to the family* in every rural community of the middle west.

Among radio stations, WLS has been well known for the development of entertaining features that have grown into national institutions. Probably the most famous of all these is its Saturday night "National Barn Dance". From anvils to zither, the barn dance runs the entire line of variety in music. Old fiddles sing, quartettes bring out their funniest songs, the harmonicas, banjos, guitars, and jew's harps join to make the *ole hayloft* ring with down-to-earth music—so dear to the hearts of rural thousands, and as has been shown time and again, a favorite of just about everybody with music in their souls.



One of radio's earliest farm stations was KDKA, Pittsburgh. E. S. Bayard, Pennsylvania editor of the National Stockman and Farmer, directed the station's farm department and was responsible for bringing Frank E. Mullen into radio to handle the farmcasts. Mr. Mullen was later to become vice president and general manager of the National Broadcasting Company.

Further west in Omaha, KFAB sponsors an annual 4-H Club "Timely Topic" public speaking contest. Each year awards are made to county, district and state winners. The top boy or girl from each district contest receives a prize plus an all-expense paid trip to Lincoln to compete for top honors in

the state contest. The boy and girl chosen as the best speakers in the state meet are each awarded an \$150 scholarship to the University of Nebraska.

To the north of Omaha in Yankton one finds WNAX serving the Dakotas in an area that's 82 percent rural. Here "Midwest Farmer Day", sponsored by the station, honors all farmers whose production of food was so important in the eventful winning of the war and the peace. From hundreds of case histories on outstanding farmers submitted by bankers, county extension agents and newspapers in the states of North and South Dakota, Iowa, Nebraska and Minnesota, one is chosen to represent each state. These families are brought to Yankton on "Midwest Farmer Day" with more than 60,000 persons in attendance to witness the selection by a distinguished jury of the "Typical Midwest Farmer of the Year". In addition to receiving many gifts, the *typical family* of 1944 was given an all-expense escorted trip to Washington, D. C., to meet and visit with the nation's President.

In the Heart of America is KMBC of Kansas City with a farm service that it believes will serve best the needs of those coming under its influence. While not the first station in the country to operate a down-to-earth farm as a part of its radio farm service, *KMBC Service Farms* is certainly one of the most ambitious undertakings of its kind attempted by a broadcaster. Situated as it is at the gateway to the great livestock areas of the



Located 20 miles southwest of Kansas City, just over the Missouri line in Kansas, is KMBC Service Farms, a 500 acre farm project dedicated to the 49 per cent of the population of the Heart of America that is rural.

country, the KMBC project is fundamentally an “on the hoof” operation, typical of what will be found in these parts. Here pure-bred livestock is raised—Aberdeen-Angus cattle, Hampshire and Berkshire hogs and New Hampshire sheep. From these herds breeding stock is provided farmers who otherwise couldn’t afford the best. Vital experiments are carried on with soil binding and building materials, insecticides, fertilizers and seeds. Findings are passed along to the listeners in three daily

farmcasts from the farm where Phil Evans, director of farm service, resides with his family.

The eight-room farmhouse on *KMBC Service Farms* is completely modernized and includes a comfortable meeting room in the basement for larger groups than can be accommodated in the office-studio. Dozens of demonstrations have been conducted for 4-H, F.A.A. and other farm bureau groups. When the National Hampshire Hog Type Conference came west of the Mississippi for the first time in 1945, *KMBC Service Farms* was selected as the site of the annual meeting.

Another station-owned farm project is that of WLW in Cincinnati which was the first to take on a farm as a part of its agricultural service. *Everybody's Farm*, although owned by the station, is operated by a practical farmer on a strict 50-50 landlord-tenant basis, and is entirely self-supporting. Thus, the same problems encountered by WLW listeners are also encountered by the station's farm. The methods of dealing with these problems, including successes and failures alike, form the subject matter of most of WLW's farm broadcasts.

There is a broadcasting studio building on the property used occasionally for interviews with distinguished visitors, or, in bad weather, for protection from the elements. Most of the broadcasts however, are made directly from the fields and the barns and the hen houses, with farmer Earl Neal describing

his farming operations, and discussing the problems that come up in his everyday routines. Account books at *Everybody's Farm* are open to the public, to prove the soundness and profitability of its operation.

The farmer was one of the first to profit from broadcasting's *in the public interest* services. And through the years, farm programming has continued to expand as stations worked out practical means for dealing efficiently with farm problems. Today over half¹ of America's broadcasters have regular market news programs. Qualified farm experts, who have first hand farming experience, are being hired to head up station farm departments.

But with all the care and serious minded attention that goes into today's farm programming in service to this most important of America's industries, the next quarter-century of radio will see its share of *the best laid plans of man* go astray—such as that of WEEI which once had a state apiarist up to its studios for instructing the farm audience around Boston on the art of bee keeping. The *bee-man* dropped his hive, housing some 30,000 bees, and it was two days before the studio could be used again. The station personnel finally sucked the irate little creatures out of the holes in the celotex walls with a vacuum cleaner attachment.

¹ From *United States Department of Agriculture* records.

Then again there will be that North Carolina farmer who found himself with great quantities of cabbages rotting in his gardens, being unable to move them to market. WBT's Farm Editor, Grady Cole, answered his call for assistance, going on the air to tell of the farmer's plight. More than one hundred tons of cabbages belonging to this farmer and others were sold—one hundred tons moved only by two announcements.

For you see—that's farm radio!

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

Farm Service

- 1919: Market broadcasts from the University College of Agriculture begin on 9XM—later WHA, University of Wisconsin, Madison, Wisconsin.
- 1920: December 15—Market reports compiled by Department of Agriculture and relayed by wireless over station NAA, operated by the United States Bureau of Standards, Washington, D. C.
- 1921: May 19—Market news on a commercial station, KDKA, Pittsburgh.
- July 1—KDKA places all farm broadcasting under the direction of E. S. Bayard who appoints Frank E. Mullen, later vice president and general manager of N.B.C., as farm editor.
- 1922: January 2—National Livestock and Farm program on KDKA, Pittsburgh.
- February 21—Food reports start over WJZ, New York.
- February 21—Regular broadcasts of market reports begin over WJZ, New York.
- May 2—Regularly remote broadcasts of livestock and grain market reports start on WBAP, Fort Worth.
- 1924: March—Remote rodeo broadcasts from the Southwest Exposition and Live Stock Show by WBAP, Fort Worth.

April—Regular releases of the United States Department of Agriculture on WLS, Chicago, evening farm service program—and June 24 on its "Dinnerbell Hour."

April 19—"National Barn Dance" starts on WLS, Chicago.

April 28—Noon-time farm service program known as the "Dinnerbell Hour" starts on WLS, Chicago.

1925: Jubilees to stimulate farmers to use the latest scientific practices, including contests for the growing of corn and other horticultural items, begin on KMA, Shenandoah, Iowa.

January—Organized college of the air devoted to agriculture begins on WKAR, Michigan State College, East Lansing.

July 9—In cooperation with the *Western Farm Life* magazine, KOA, Denver, starts a weekly quarter-hour program of general farm information under the title of "The Farm Question Box".

October 1—Early morning programs starting at 5:30 a.m. broadcast by KMA, Shenandoah, Iowa.

1926: September—"Farm Night" program for educational radio starts on WEAO (now WOSU), Ohio State University, College of Agriculture.

1928: October 2—"National Farm and Home Hour", in cooperation with a governmental agency, the Department of Agriculture, starts on WJZ, New York, with a dramatic form used to disseminate information. "The Forest Rangers", originating from WMAQ, Chicago.

1929: United States Department of Agriculture releases sent directly to KMA, Shenandoah, Iowa, for regular "airing" to farm listeners.

When southern Illinois and northern Indiana has its largest peach crop in history, and the crop has to be moved quickly, WLS, Chicago, in cooperation with the Illinois Fruit Growers Exchange, institutes *Peach Week*, thus aiding in the sale of hundreds of thousands of bushels.

February 17—KMJ, Fresno, starts broadcasting of frost warnings to growers in the San Joaquin Valley. Service later expanded to other McClatchy stations.

- 1930: At the request of Henry A. Wallace, Secretary of Agriculture, KMA, Shenandoah, Iowa, opens its broadcasting facilities to the farmers in the cornbelt to consider the problems of corn-hog ratio parity prices and cattle feeding.

November 7—Illinois state corn husking contest on WLS, Chicago.

- 1933: The United States Department of Agriculture considering the National Broadcasting Company's program, "Consumer Tips", an important step, lends its cooperation.

In the early days of A.A.A. when the official regulations are not available to the farmers, Earl May calls Henry Wallace, Secretary of Agriculture, and his associates by telephone, takes the answers down in shorthand, and distributes 20,000 booklets gratis to all farmers who write in for copies to help them with their spring planting.

- 1939: Corn belt plowing match is instituted by WHO, Des Moines, to advance better farming methods by providing an interesting demonstration of good plowing which will aid farmers to conserve soil, produce better crops, and make more money—along with providing an exciting sporting event for participants and observers by putting

more romance, more color, and more dignity into the humble task of plowing, which is as old as civilization itself.

July 20—"Federal Food Reporter" broadcast by WSAI, Cincinnati, in cooperation with the United States Department of Agriculture.

1941: In cooperation with the Iowa Department of Agriculture, the Iowa State College and the Iowa Swine Producers Association, WHO, Des Moines, awards the twenty-five top ranking swine growers in Iowa with medals and certificates.

April 24—Daily remotes originate from WLW, Cincinnati, "Everybody's Farm" of 137 acres.

1943: Special weather forecast informing farmers the exact day that the weather is warm enough to start the maple sap flowing, instituted by WKAR, East Lansing, Michigan.

"Man at the Stockyards" half-hour, bringing farmers latest market quotations together with interviews on crop conditions and other farm topics, starts from the Jonesboro Stockyards by KBTM, Jonesboro, Arkansas. Conducted since its inception by Clarence Adams, KBTM farm reporter.

"Garages for Grain" campaign instituted by WDAY, Fargo uncovering necessary storage space for grains.

August 1—Developmental farm project of 500 acres, with three daily remote farmcasts, instituted by KMBC of Kansas City.

September 4—Mr. and Mrs. Otto Baumhoefner of Welcome, Minnesota, are selected as the "Typical Midwest

Farm Family of 1943" by WNAX, Yankton, South Dakota.

Herb Planbeck makes his first of two trips as guest of the British Ministry of Information and Agriculture to study that country's agricultural conditions during wartime. The purpose of the trip was to get first-hand background for better wartime service programs for WHO of Des Moines middlewestern farm family audience.

October—Annual 4-H Club "Timely Topic" public speaking contest starts over KFAB, Omaha.

December 11—"The University of Nebraska Forum of the Air" starts over KFAB, Omaha, through which topics of national, state and regional interests are discussed by experts in "Cracker Barrel" fashion.

1944: With farm labor as scarce as hens' teeth in Iowa, WHO, Des Moines, starts a campaign of appeals for extra help in behalf of hard-pressed farmers. With WHO awarding prizes of more than \$1,600 in cash and War Bonds to those devoting the greatest number of hours of farm work, a total of 3,921 workers take part, turning in an aggregate of 165,763 hours of good hard farm work—20,721 full eight-hour "man days".

The "Country Journal", long an effective vehicle for reaching the two million people living on farms and in small towns within KMOX, St. Louis, primary and secondary areas, brings National Champions in 4-H Club work from Oklahoma and Iowa for interviews.

Hundreds of thousands of barrels of cranberries are saved through WEEL, Boston's exclusive warning service for cranberry growers.

October—Mechanical cotton picker on exhibit at the famous *Hopson Plantation* described on WROX, Clarksdale, Mississippi.

1945: January 1—Dr. L. F. Bacon, full-time practicing veterinarian, on staff of KXEL, Waterloo, Iowa.

July 22-28—"The National Safety Council Certificate", for outstanding public service in connection with the observance of the Annual National Farm Safety week, is awarded to WMOH, Hamilton, Ohio, before the station is one year old.

August 7—Hampshire Hog Type Conference comes west of the Mississippi River to hold its annual sessions on KMBC of Kansas City's *Service Farms* of 500 acres.

Reading, 'Riting, 'Rithmetic and Radio

CHAPTER XIII

To measure broadcasting's contribution to the education of the masses, one must take into account the factor of latent influence as well as the more obvious tutorage by outright educational programming. Of the two, the former, through its indirect enlightenment in exposing listeners to cultural pursuits, and in telling one part of the country how others live, has been of far greater significance during broadcasting's first quarter-century.

With time the cosmopolitanism of broadcasting's voice, knowing no colloquialisms as to speech or customs, will blot from memory the Mason Dixon's lines, and the hillbilly of yesterday will talk of Beethoven and Chaucer with the same familiarity of a student of the arts. Even the poorest man real-

izes equal educational advantages of the richest through the free system of American broadcasting with the learned men of the world no longer reserved to the seclusion of costly classrooms or an inaccessible scientific laboratory.

Broadcasting in formal education may be thought of in two respects. First, there is the radio station which is operated directly in conjunction with an educational institution. A few of America's colleges and universities have their own stations. Of recent years other institutions of higher learning and boards of education in municipalities throughout the country have been giving serious consideration to installing stations for broadcasting to public schools.

A pioneer educational station of broadcasting's early beginnings was WHA, University of Wisconsin at Madison. After serious technical experiments before the establishment of broadcasting itself, the Wisconsin station turned its energies during the twenties to demonstrating the program effectiveness of radio as an educational medium. By 1931, the University was ready to embark on an expanded schedule of broadcasting service. From a daily offering of two hours, WHA increased its operation to 54 in 1932. Harold B. McCarty, program director, established at this time the "Wisconsin School of the Air." Today this *School of the Air* is broadcast twice daily to a registered audience totalling well over a quarter-million listeners in the elementary schools of the state.

Even as far back as 1921 members of the Wisconsin faculty broadcast on various informative subjects. One of the first was E. B. Gordon who inaugurated a series of music appreciation programs in 1922. They were heard by "ear-phone" listeners scattered from New York to Wyoming and Canada to Texas. Professor Gordon is now heard regularly by a *class* of 50,000 school children. October, 1933, marked another milestone in radio education in Wisconsin when Harold A. Engel founded the "Wisconsin College of the Air" giving radio *courses* for listeners to use as organized, continuing study. By broadcasting's first quarter-century anniversary, WHA was presenting programs directed to citizens of all interests and ages, from pre-school children to adults. These programs are prepared by many agencies, state departments, and public service groups, working cooperatively with the University.

The interest in radio communications at Ohio State University can be dated back to 1909 when a wireless station was established and operated in conjunction with the school's radio and wireless telegraphy course. The first regular broadcasting from the Ohio State campus began during 1921. With the establishment of its *Institute for Education by Radio* in 1930, the University became a center for educational broadcasting throughout the industry. The Ohio State radio station operates under the call letters of WOSU.

Broadcasting by educational institutions got off to a brave start in 1922 when a total of 73 stations were founded—

many more than for any single year before or since. However, through costly legal tangles and financial difficulties, a total of 79 broadcast licenses were lost by educational institutions in the years of 1923-1925. At broadcasting's first quarter-century anniversary, the list of educational stations has narrowed down to a select few which are doing a very aggressive and important job of programming. Space does not permit a listing of all such stations here, but those submitting their stories for this documentary report of broadcasting's early beginnings include WHA, University of Wisconsin; WOSU, Ohio State University; WEW, University of St. Louis; KUOM, University of Minnesota; WILL, University of Illinois; WSUI, University of Iowa; WKAR, Michigan State College; WBAA, Purdue University; WHAZ, Rensselaer Polytechnic Institute; KUSD, University of South Dakota; and KWSC, State College of Washington.

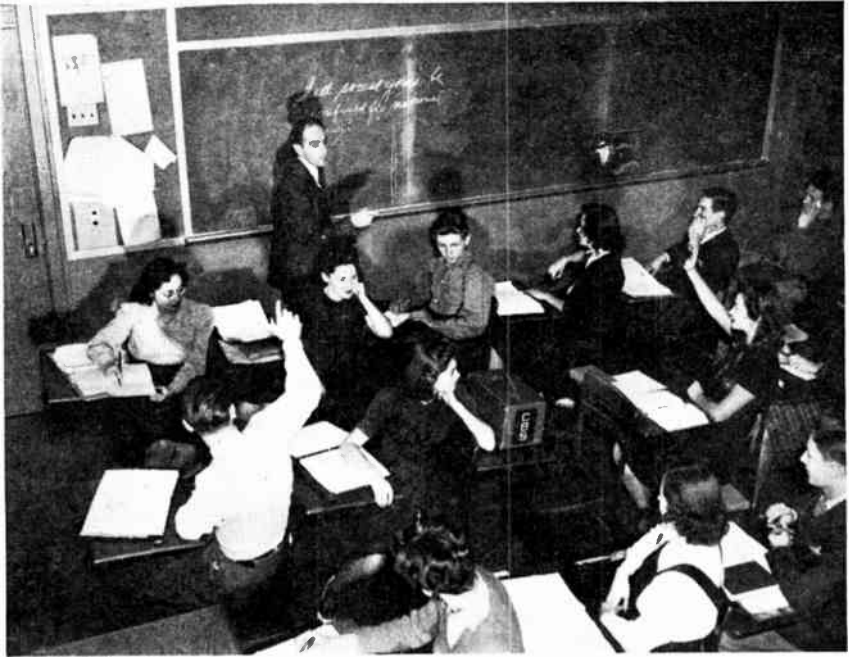
Distinctive in the educational-commercial station relationship is the operation of WWL in New Orleans. While owned by an educational institution, the station is maintained on a quasi-commercial basis. WHAZ, the Rensselaer Polytechnic Institute station at Troy, New York, though supported largely from funds of the Institute, receives some money for expenses through commercial advertising.

As commercial broadcasting became more and more an integrate part of community life, a few early broadcasters recognized the need for educational programming. Arthur B.

Church, founder and president of KMBC, said in this regard, "As a student in college, post-war, married and earning my way, I did the clerical work for the extension department and learned how much this method of education could mean to those whose school opportunities were limited. So very early in my career as a broadcaster I tried *education by radio*. I was not surprised at the interest it created, and although we were not financially prepared to see our *extension school of the air* reach maturity, I proved to myself then the possibilities of radio in education. People hungered for the things radio gave them."

A pioneer broadcaster to offer its services in cooperation with public schools was KMTR in Hollywood. The station arranged for setting up receivers in the schools, loaned and installed by radio dealers. Programs were then broadcast to the schools throughout the Los Angeles area. This was in 1926. Shortly afterwards, on the Pacific Coast, too, the National Broadcasting Company, introduced "The Standard School Broadcast" as a regional network project, designed to supplement classroom instruction in the schools.

On February 4, 1930 the Columbia Broadcasting System gave to broadcasting nation-wide recognition for its striking capacity as an instrument of education. The now famous "American School of the Air" was instituted. Here was the first regular national network program to be used as a substantial aid to classroom instruction in the nation's schools. Thousands of the "American School of the Air" manuals were



The "American School of the Air" as heard in a classroom over the Columbia Broadcasting System. This series of educational broadcasts, heard school-days since 1930, became a part of a standard curriculum in close to 200,000 classrooms in the United States and Canada. In 1945 the program was scheduled for out-of-school listening so that a larger adult audience could realize its benefits.

distributed yearly by C.B.S. affiliated stations throughout the United States and Canada.

During the thirties commercial broadcasting's efforts in the field of education broadened greatly in their scope. Stations across the country went about the problem of contributing, each in their own way, to the furtherance of education. One ex-

ample of how a typical commercial broadcaster's educational programming expanded during the period of a few years is that of KGW of Portland, Oregon.

In 1931 KGW inaugurated an elementary schools radio program with one fifteen minute show a week, broadcasting directly from the station. Two years later, at the school board's request, the programs jumped to three each week, and arrangements were completed to transmit them by direct wire to Benson high school's KBPS from where they were in turn broadcast to Portland's sixty elementary schools. By 1935 KGW was producing five quarter-hour programs each week during the school year. In 1944 still another program was added to the curriculum, aired on Thursday afternoons.

In October 1932, Hendrik William Van Loon, noted author and historian began a series of weekly half-hour informal history talks which blossomed forth into the "WEVD University of the Air". Under the latter title, and with Mr. Van Loon as chairman, an ambitious program of educational broadcasts was inaugurated from the Hotel Algonquin in New York. In addition to history, the *University* offered courses in Psychology, with Dr. Sandor Lorand as director; Philosophy and Education, with Dr. John Dewey supervisor; Music Appreciation, with both Percy Grainger and Sigmund Spaeth offering courses; Literature and Drama, with Harry Hansen, Lewis Gannett and other noted critics discussing current literature.

In 1933 the "Rochester School of the Air" was founded by WHAM. It was conceived and planned by William A. Fay, then general manager of the station, and Dr. Herbert West, superintendent of schools. Its faculty included seven teachers and a sixty-piece symphony orchestra. Over 180 schools within a radius of 125 miles of Rochester took part with an enrollment of 70,000 boys and girls.

Primarily the "Rochester School of the Air" was planned to serve pupils in the schools, but such is the nature of broadcasting that this kind of a *school* can accommodate thousands of extra pupils without any inconvenience. The program was designed to supplement the teaching of class room instructors. The symphony, known throughout the nation as the "Rochester Civic Orchestra", broadcasts a half-hour weekly from one of the city high school's auditoriums. Schools in the neighboring parts of the city are invited to attend, thus giving a great number of pupils an opportunity to witness a concert orchestra.

Program notes for the complete services are prepared and given to each child in the Rochester schools. Teachers use the notebooks in preparing for the broadcast in their follow-up program. It is also available to out-of-town schools and listeners at less than cost. Over 10,000 of the books have been used in a single year.

Because the rural schools of Iowa, situated about one mile apart in farming areas on country roads, were often unable

to present adequate graduation exercises, KMA, Shenandoah, decided something should be done about it. Thus came into being the "Iowa Rural School Radio Graduation Programs." The project was undertaken with the official cooperation of the State Department of Public Instruction and the Governor. In order to carry out the program it was necessary to establish an uniform graduation date for all Iowa schools.

In 1941 five Youngstown high schools began broadcasting a "Mock Congress" program, entitled "The Student Congress of the Air", over WKBN, Youngstown, Ohio. Although a studio announcer introduces and concludes each broadcast, the program itself is conducted entirely by students. Each participant must have a knowledge of parliamentary procedure plus an ability to think on his feet and speak on such "bills" as may be presented on the floor of the *Congress*. No effort is made to take a vote on any bill, but rather it is the desire of the schools to create further thinking on the subject by the students and the listening audience. Current local, national and international problems are debated from all angles.

In Sacramento, California, KFBK established in 1941 the *La Escuela Espanola del Aire*, the "Spanish School of the Air". The *school* consisted of 54 lessons in Spanish, the course being broadcast each morning and rebroadcast the afternoon of the following day for the benefit of those who wished to review. It was designed to teach beginners the Spanish language by hear-

ing it and speaking it. At the same time the program fostered closer understanding between the Americas, which was so important at the time.

The efforts of KMPC in Los Angeles have been centered around teen-age youth because of the serious juvenile delinquency problems of the city. KMPC is of the belief that such educational programs produce real and lasting benefit only if they call for the active participation of younger people. In every instance the station has endeavored to stimulate the interest of students by giving them a voice in the presentation of school features. Across the country on the Atlantic seaboard, more than 7,000 school children in 1940 alone participated in programs heard over WBIG in Greensboro, North Carolina.

In 1944 the B.B.C.'s program director in London wanted to do a school program about the launching of a Henry Kaiser ship. He cabled his New York office and asked if a recording could be made. The office in turn wired KOIN in Portland, Oregon. KOIN reached in its files, pulled out the *Joseph N. Teal* recorded story, shipped it to New York where it was transferred to a bomber flying to London. Within a matter of hours, millions of youthful British listeners heard a christening bottle smash in Portland, Oregon, U. S. A.

Again—these are but isolated examples of commercial broadcasting's ever growing importance in the affairs of the communities it serves. Of recent years many stations have

undertaken ambitious "Radio Institutes" to instruct the educators themselves in the proper utilization of radio in the classroom. Prominent authorities on radio in education are brought into the city to conduct several weeks of courses into all phases of broadcasting. First among the stations to undertake such *institutes* were KYW in Philadelphia, KOIN, Portland, and KMBC of Kansas City.

Ambitious has been the past—but the role of broadcasting in education has hardly scratched the surface of things which can yet come to pass. While commercial broadcasters have long since proved their anxiousness to broaden educational endeavors, listener demands are still broadcasting's measure of service. But there is no question that it takes the wherewithal of commercial broadcasting to provide educational programming with listener appeal. Whether the program is classified on the public service side of the ledger or not, most of radio is educational in one degree or another. The benefits derived from broadcasting in general can not be measured in terms of commercialism.

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

Education

- 1919: February—Regularly scheduled broadcasting service in the field of education established by 9XM—later WHA, University of Wisconsin, Madison, Wisconsin.
- 1920: Courses in Esperanto and French introduced by 9XI (KUOM, at broadcasting's first quarter-century anniversary), University of Minnesota, Minneapolis, Minnesota.
- Music appreciation program begins on 9XI, University of Minnesota, Minneapolis, Minnesota.
- 1922: March 31—An appeal launching a campaign for \$1,500,000 towards an educational fund puts WWL, New Orleans on the air.
- 1923: May 12—Library Association on the air with a talk by one of the librarians and the reading of children's story, on KGW, Portland.
- May 22—Talks on everyday economics by speakers from the Alexander Hamilton Institute begin on WJZ, New York. The series carries the title of "The University of the Air".
- June 13—Series of informative lectures by a prominent educator, Dr. Mars Baumgardt speaking on the subject of Astronomy, starts on KHJ, Los Angeles.
- 1924: March 3—New York Board of Education series, a 5-times-a-week program service, starts on WJZ, New York.

March 18—Attempt to popularize American history among children and adults starts on KHJ, Los Angeles.

1925: Listener researches into educational radio by Charles F. Class, graduate student for WEAO (now WOSU), Ohio State University.

January—Organized college of the air devoted to agriculture started by WKAR, East Lansing, Michigan. The courses offered are in Home Economics, Animal Husbandry, Poultry, Veterinary Medicine, Horticulture, Dairy Husbandry, and Farm Crops.

April—College debate by radio, between Holy Cross and Boston College, over WNAC, Boston, and WEAN, Providence.

1926: November—Monthly printed bulletin, listing station's programs, started by WEAO (now WOSU), Ohio State University.

November 18—In cooperating with public schools, half-hour of music and narrative, produced by Edward Murphy, broadcast by KMTR, Hollywood, to various public schools in Los Angeles through radio sets loaned and installed by radio dealers in the vicinity of each school.

1927: Designed to aid children from neighboring parochial schools, WEDC, Chicago, forms the "Parochial Hour".

September—"The Standard School Broadcast", designed by a regional network to supplement class room instruction in the schools, introduced by the National Broadcasting Company Pacific network.

1928: Broadcasting the inaugural address of Herbert Hoover, as President of the United States, WSPD, Toledo, broadcasts the event to every public, parochial, high school, and orphanage through radio sets installed in

Toledo scholastic institutions so that the 75,000 students could hear the event of nationwide interest.

February 10—"Music Appreciation Hour" with Dr. Walter Damrosch starts on the National Broadcasting Company, as a supplement to classroom instruction.

May — A national school band contest broadcast by WLS, Chicago.

June—Graduation exercises from a college by WCAU, Philadelphia.

June—Full-time radio educational department with its own director, Thomas Dunning Rishworth, organized by an individual broadcaster, KSTP, St. Paul.

November—Spelling Bee conducted over the air by WCAU, Philadelphia.

1929: February—Through the State College of Washington, KWSC, Pullman, offers a radio broadcasting course, designated as Speech 40 and Speech 41.

September—Fairmont College starts a weekly 25-minute program over WMMN, Fairmont, West Virginia, on the air for over 16 years at broadcasting's first quarter-century anniversary.

1930: February 4—"The School of the Air", national network program designed to supplement classroom instruction in the schools of America, begins on the Columbia Broadcasting System.

June—Ohio State University conducts first annual Institute for Education by Radio, attended by leaders in educational broadcasting from entire country.

September 29—Radio advertising college course presented by the National Broadcasting Company at the College of City of New York.

1931: Elementary school program of a quarter-hour weekly started by KGW, Portland, Oregon, and is expanded two years later, at the school board's request, to three times weekly, and then to five in 1935. Service presented by direct wire to Benson High School's KBPS and broadcast to Portland's 60 elementary schools. In 1944 a sixth show is added to the curriculum.

February 1—"University of Chicago Round Table", non-partisan in form and built to stimulate thinking, starts on WMAQ. In 1933, the National Broadcasting Company starts broadcasting the program over a coast-to-coast network.

December 5—Transoceanic debate between Harvard and Oxford, entitled, "Resolve That in the Interest of World Prosperity, the War Debts Should be Cancelled", given through WEEI, Boston.

1932: October 6—Creative art lessons, commonly thought to require visual as well as auditory impulses, are successfully broadcast for children by the "Wisconsin School of the Air", on WHA, Madison.

1933: "Wisconsin College of the Air" starts on WHA, Madison, and WLBL, Stevens Point, Wisconsin.

"Rochester School of the Air", with a faculty including seven teachers and a sixty piece symphony orchestra, starts its five-times-weekly quarter-hour series on WHAM, Rochester.

1939: "Iowa Rural School Radio Graduation Programs" introduced by KMA, Shenandoah, Iowa, so that rural school graduates will have as impressive a graduation ceremony as the children in the large city schools.

1941: Fall—Youngstown High schools begin broadcasting a *Mock Congress* program entitled, "The Student Congress of the Air" over WKBN, Youngstown, Ohio.

October 21—La Escuela Espanola del Aire, the “Spanish School of the Air”, conversational in nature, begins on KFBK, Sacramento, its aim being to teach Spanish by speaking it.

1942: Daily quarter-hour program, “This Changing World”, is written for school consumption and aired in many of the city’s schools by KMPC, Los Angeles. During the United Nations Conference, KMPC releases a special daily news feature direct from San Francisco for the benefit of all Los Angeles schools at the time of *Public Schools Week*.

March 23—“Junior Town Meeting”, high school forum program idea, starts on WTOI, Toledo, Ohio.

June 22—The National Broadcasting Company collaborates with an University to provide instruction in various phases of broadcasting—the network providing instructors, lecturers, and the use of their studios for Northwestern University’s Summer Radio Institute.

July 6—The National Broadcasting Company launches a nation-wide University of the Air—an integrated series of network broadcasts designed for systematic adult education.

1943: A weekly half-hour program presented from the Georgia State College for Negroes in which WMAZ, Macon, allows the school free rein in writing, producing, and announcing the programs, based on the theme, “Help One Million Georgians Help Georgia”.

On winning the Alfred I. duPont award, WMAZ, Macon, Georgia, takes its prize money and equips the Wesleyan College Radio Class with a broadcasting studio and control room. The member of the Wesleyan Class who annually shows the greatest aptitude for radio is also given a one hundred dollar award. A like

award is made annually for a music scholarship to the State College for Negroes.

“Forward March”, educational program series to show the progress Iowa education has made, and to answer the important school problems of the community, instituted by KMA, Shenandoah, later joined by ten other unaffiliated stations (KGLO, Mason City; WOI, Ames; KFJB, Marshalltown; KVFD, Fort Dodge; KICD, Spencer; KTRI, Sioux City; KROS, Clinton; KWLC, Decorah; WOC, Davenport, and KDTH, Debuque) into a state-wide network.

“Labor Management Forum”, whereby both labor and management sit down regularly to “air” their problems, starts on WEEI, Boston.

June—News service bulletin board plan for school use, consisting of a blueprint to build board, a large map of the world, a set of photographs of network and local newscasters and analysts, an up-to-date schedule of news broadcasts, and a weekly digest of world news instituted by WCCO, Minneapolis.

June—Radio workshop for teachers participated in by KYW, Philadelphia. The “KYW Radio Workshop” is conducted by the University of Pennsylvania and the Philadelphia Public Schools.

October 18—In cooperation with Rich’s, Incorporated, WGST, Atlanta, begins a series of educational programs commercially sponsored and fed directly into schools.

1944: June 12-30—Educators shown how to use radio in the classroom by KOIN, Portland, Oregon’s own *Radio Institute for Teachers*.

August 15—A daily program from an all girls college, Western College, Oxford, introduced by WMOH, Hamilton, Ohio.

Fall—Cooperating with the Massachusetts Youth Committee and the Hearst newspapers in Boston, WEEI establishes a "Chain" of fourteen intra-school broadcasting stations, built and operated by Boston boys and girls.

1945: "Let's Go to School" takes WIBX, Utica, New York, microphones into classrooms of grades from kindergarten through the sixth for an actual classroom lesson.

"Going to College", a quiz program based on the belief "knowledge is power", is instituted by KVOO, Tulsa, to select an outstanding boy or girl to be the recipient of a four-year University of Tulsa tuition scholarship.

April 22—Two-way broadcast with pupils of London, England, and Cincinnati, Ohio, participating in live "Junior Town Meeting" programs on WSAI, Cincinnati.

May—"Night School of the Air" introduced by WBAA, Purdue University.

June 11-29—In cooperation with the Kansas City Public Schools and the University of Kansas, which granted one graduate credit for the course, KMBC of Kansas City operates a "Radio Institute for Teachers."

A Missionary For Unity in Worship

CHAPTER XIV

With approximately five percent of all broadcasting devoted to religious and devotional programs, radio has opened the doors of expression to this world's leaders of the church. In no other way can so vast an audience be assembled for the truths and blessings of theology. Today in a few short hours missionary work of a hundred years can be accomplished from one central pulpit in the presence of the microphone.

Immediately upon the establishment of a daily schedule of broadcasting by KDKA in the fall of 1920, it became evident that suitable programs must be provided for transmission on Sundays, as the ordinary entertainment did not seem appropriate. This naturally resulted in the decision to broadcast church services, and the Calvary Episcopal Church of Pittsburgh was selected for the initial attempt.

That Calvary should have been chosen for this distinction was by no means an accident. Rev. E. J. van Etten, the pastor at Calvary, was one of the most progressive of the local ministers, and was eager to cooperate with leaders in new enterprises. Then, too, the Episcopal service, rich in musical interludes, lent itself well to broadcasting. Almost nine months before the KDKA microphones first were set up, the church had been made the headquarters for a "Radio Unit" of the East Liberty district, Boy Scouts of America. A \$600 transmitting and receiving set had been installed in the "Scout Room."

There was a lot more to the historic broadcast than just going out to the church and setting up a microphone. Additional technical developments became necessary as it was desired to transmit the entire service, from the ringing of the chimes in the belfry, prior to the service, to the organ postlude at its conclusion. It was therefore necessary to devise equipment which could be installed in the church, and which would pick up the choir and congregational singing—the sermon and oral parts of the service—the belfry chimes and the organ.

The enthusiasm of the listeners following the first church broadcast convinced KDKA officials that no mistake had been made in attempting the special feature, and religious programs from that date on continued to occupy a prominent



The great commoner, Williams Jennings Bryan, as he appeared when his sermon was broadcast from Point Breeze, Presbyterian Church in Pittsburgh by KDKA on March 12, 1922. Broadcasting has opened wide the doors of worship to all faiths during the past quarter-century.

place, not only on the radio schedule of the Pittsburgh station, but throughout the broadcasting industry as well.

It was on a Sunday evening in March, 1925 after WLS in Chicago had extended a thousand helping hands to tornado sufferers in southern Illinois and Indiana that the *Little Broken*

Church of the Air was born. This was the first *radio church* conceived to this date, although there have been many since then. Sam Guard of the WLS staff, flying back with the story of suffering, death and destitution, prepared to go on the air. Somewhere in the few minutes before that evening program started came a vision. A little church that could reach out and help—that would comfort the stricken and help the friendless, regardless of creed. Thus came into being broadcasting's first church of the air. Many remember to this day that first service, and Sam Guard's touching story of little Opal Rosenberger, one of the victims of the storm. Thousands of listeners from this broadcast added their contributions to the more than \$50,000 received since the previous Wednesday when WLS undertook the role of a modern-day Good Samaritan.

In Maine that same year the Rev. Howard O. Hough, then a youthful theological student who had been serving as supply pastor to a small Portland church, had his interest aroused in the possibilities of reaching a group of people far more vast than any physical church might house. With this idea in mind he approached WCSH and bid successfully for the privilege of broadcasting a weekly devotional program Sunday afternoons after he had fulfilled his pulpit duties in the morning.

The results of the experiment far exceeded his expectations, and within a few months, the Rev. Mr. Hough resigned

his supply pastorate and with the assistance of influential friends and advisors, including the founder of the radio station, established and incorporated the *First Radio Parish Church of America*. In the 20 years of its existence, this non-sectarian church of the air has flourished and spread in scope and influence.

The Fort Wayne Gospel Temple, second largest edifice of its kind in the world, is often called the "Temple that radio built". Starting a career as radio preacher in his own living room where WOWO had placed its lines, the Rev. Mr. Rediger began his sermons and evangelical teachings. He had no congregation except that which radio afforded and which he kept building. Such prominent figures as Billy Sunday, Aimee McPherson, Paul Roder, Homer Rodeheaver and others appeared from the Temple. Regardless of religious beliefs and teachings, programs of this nature do bring solace and comfort to many thousands who otherwise would have no religion whatsoever. Again it is another example of broadcasting's wide interests in those things which make up the American way of life.

Down in Little Rock, Arkansas, a James McKrell, affectionately known as "Uncle Mac", created a radio program of poetry, sacred songs and every day practical christianity known as "The Bible Lovers Revival". The program which is heard

twice daily over KLRA has been the instrumentality whereby widows have been kept from being put out of their homes, businesses from being defranchised by Federal Agencies, wheel chairs and crutches obtained for invalids, blood donors for the sick and the maintenance of *The Arkansas Academy* in the Ozark Mountains for unfortunate children. Here is indeed being a good christian on a practical basis.

The home for unfortunate children supports over a hundred boys and girls whose mothers are insane or parents have criminal backgrounds. Then, too, there are children whose mothers and fathers just simply walked off and left the youngsters to shift for themselves, for you see, there are such things in the world. *The Arkansas Academy* offers common school and high school teaching while the boys are further trained in the vocations of farming, poultry and stock raising and the lumber business.

All of this is made possible through the helping voice of radio. Using KLRA only as publicity to his personal appearances around country communities, "Uncle Mac" with his Stamps-Baxter Quartet can never find an auditorium or building adequate enough to accomodate the large crowds that attend these meetings. It is his hope to build in Arkansas a living memorial to what can be done in civic affairs by the skillful and sincere use of radio.



One view of the 300,000 people who attended in person the annual Easter Sunrise Services in the Garden of the Gods near Colorado Springs with 14,110 foot Pikes Peak shown in the background. Additional millions share in these inspirational ceremonies through coast-to-coast broadcasts.

As in every other phase of broadcasting's development its procedure in bringing christianity to the listeners is one of perfecting better ways to meet the needs and interests of all. Many broadcasters have set aside program time so that representatives of all faiths can share alike in bringing their messages to the listeners. The "Church of the Air" over the Columbia Broadcasting System is an excellent example of mature pro-

gramming in this regard. WHAS in Louisville obtained in August of 1944 a full-time Religious Co-Ordinator to handle its daily devotional programs. WEXL in Royal Oak, Michigan, maintains a policy of no commercial programs on Sunday, the day being devoted entirely to religious features through broadcasts by more than 30 church groups. In Fresno, KMJ has presented since 1937 "The Forum of Better Understanding." Representatives of three totally different churches—the Catholic, Protestant and Jewish—meet Sundays to discuss religious as well as non-religious matters of everyday import.

Each broadcaster across the country has his own way of serving best the expressed needs of his community. It was Ralph Waldo Emerson who almost a hundred years ago bewailed the accomplishments of religion in this country by writing, "Not knowing what to do, we ape our ancestors; the churches stagger backward to the mummeries of the dark ages." Religion in Emerson's time though found itself much in the same perplexity of today in the distribution of worldly goods. Bountiful are the teachings of righteousness but limited have been the means by which peoples could be exposed to such fundamental truths.

As someone else once remarked—*it isn't the people in the churches who need the preaching, it's those who don't go to church!* An ambitious missionary for *distributing* the teachings

of righteousness and unity in worship can be found in broadcasting with its *congregation* of over 90 per cent of a nation's peoples. With the coming tomorrow of broadcasting's expansion to the most isolated lands, "No law shall be made respecting an establishment of religion, or prohibiting the free exercise thereof" can become a part of a Constitution for all, regardless of color, race or creed.

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

Religion

1921: January 2 — Broadcasts of Sunday Church services from Calvary Church begin on KDKA, Pittsburgh.

1922: Remote broadcasts of weekly church services start on WBAP, Fort Worth.

October 1—Weekly outside pickup of a church service begins on KDKA, Pittsburgh.

December 24—Catholic Mass broadcast by KSD, St. Louis.

1923: January—Series of religious talks begin on WEAJ, New York by Dr. S. Parks Cadman from the Bedford Avenue YMCA.

March 30—Special three-hour Good Friday service originated by WHB in Kansas City from St. Aloysius Church and by KSD in St. Louis from St. Francis Xavier Church.

July 8—Organ recitals by remote from the First Methodist Church of Los Angeles in KHJ, Los Angeles, with Arthur Blakely, internationally known organist, at the console.

1924: June 26—Edward Early Headrick, infant brother of KHJ's favorite child entertainer, Richard Headrick, christened during the "Children's Hour" on KHJ, Los Angeles.

December 31—New Year's Eve service from the Negro Holiness Church (Holy Rollers) broadcast by WBAP, Fort Worth.

1925: Father James R. Cox of Old St. Patrick's Catholic Church starts on WJAS, Pittsburgh, and continues to be heard through broadcasting's first quarter-century anniversary.

May—"Little Brown Church of the Air", a 45 minute religious service, patterned after a regular church service with a pastor, choir, etc., starts regular Sunday broadcasts over WLS, Chicago.

Fall—"First Radio Parish Church of America", with no church relationship affiliation and with Rev. Howard O. Hough as pastor, starts on WCSH, Portland, Maine.

1926: August—Children's Bible program, "Know Your Bible Club", introduced by WMBI, Chicago.

September 21—"Radio School of the Bible", following a regular course of instruction, on WMBI, Chicago.

1927: January 3—"Altar Service", covering practically every denomination, starts, (and still heard) on WKBN, Youngstown, Ohio.

February 6—Weekly religious series, "The People's Radio Vespers", inaugurated by WJZ to the Blue Network.

April—"Messiah" broadcasts start over KMBC of Kansas City—later a highlight of the Christmas season over C.B.S., presenting the "Messiah Choir" from the Reorganized Church of Jesus Christ of Latter Day Saints in Independence.

1929: September 19—Rev. Michael J. Ahern, S. J., of Weston College, conducts the Catholic Question Box on WNAC, Boston, and the Yankee Network.

1931: Daily "Morning Devotional", in cooperation with the Spokane Ministerial Association and the Spokane Coun-

cil of Churches, starts on KFPY, Spokane. Over 150 ministers have participated at broadcasting's first quarter-century anniversary.

September 13—"Church of the Air" over the Columbia Broadcasting System opens its microphones to provide a radio pulpit for representatives of every major faith.

1932: August 27—The Wheeling Gospel Tabernacle, religious in nature, but non-sectarian in appeal, starts weekly broadcasts over WVVA, Wheeling, West Virginia.

September 4—Salt Lake City Tabernacle Choir and organ starts its Sunday programs over the Columbia Broadcasting System.

1934: "The Jewish Hour" begins on the Blue Network, originated by WJZ, New York, under the program title of "The Message of Israel."

1936: Father Charles E. Coughlin announces retirement from radio in final broadcast over independent network due to the failure of his National Union for Social Justice to affect elections. On the air since 1929.

1937: Working toward the goal of better human relationships, KMJ, Fresno, creates, "The Forum of Better Understanding".

1938: April—From the "Garden of the Gods", nature's natural amphitheatre near Colorado Springs, Colorado, KOA, Denver, broadcasts the Easter Services to the network of the National Broadcasting Company.

1945: September 5—Pope Pius XII, in extra-ordinary half-hour audience with United States Broadcast Mission to Europe, expresses gratitude to American radio for spreading gospel of good and placed upon radio great responsibility for uniting world into community of peaceful nations.

Broadcasting Goes to War

CHAPTER XV

Not a chapter, or even a book, could tell the full story of broadcasting's participation in the second World War. Like many of the youth today who were babes in arms at the time of the first conflict, broadcasting was relegated to the nursery of the laboratory and in the hands of amateur operators. The father of broadcasting, *radio wireless*, closed up civilian shop in 1918 and went to war, contributing much in communications to ultimate victory.

Two decades of growth of the American system of broadcasting, based upon American traditions of free speech and free enterprise, prepared the industry for an unprecedented wartime role. Actually, broadcasting entered the second World War long before the Japs struck at Pearl Harbor. Its voice was shouting loudly the preparations of the dictators.

On H. V. Kaltenborn's commentary the people in this country listened to actual firing in the Spanish Civil War. They heard for themselves the progress of Nazi shake-down tests of its war equipment. The world faced a crisis in the Mediterranean, but to the north a certain Hitler was the biggest and most dangerous problem. Schuschnigg went to Germany to get a breathing spell for his Austria. Instead of this he got extinction.

In September of 1938 the Nazi congress met at Nuremberg. Germany was armed to the teeth. The American people heard the Fuhrer's bombastic speech by radio, as clearly as if they sat at his elbow. Chamberlain flew to Berchtesgaden to make peace at any cost with Hitler. On returning he told a waiting world by radio that he would labor for peace until the end. The pact at Munich was signed, and it was the end for Czechoslovakia. Step by step broadcasting followed through the crisis, and the man on the street knew, as he had never known before, what it meant to deal with the forces of evil. Already his spine was stiffening for what was to follow.

With all ears pressed to the ground the urgency of conditions demanded greater and greater coverage by radio. Listeners for the first time in 1938 traveled on wings of sound from news capital to capital in nightly round-ups over the Columbia Broadcasting System. They heard first hand the gobbling up



Edward R. Murrow, Columbia Broadcasting System, London correspondent and chief of its European staff, is shown in the network's London headquarters here chatting with Bill Henry, one of radio's first war correspondents. It was said of Murrow that he seldom appeared in London with iron hat and gas mask—which won for him the reputation of being fearless. Remember his broadcast from a bomber over Berlin?

of Poland after so-called *attacking* Germany. There was no question now that war had come again to Europe. The sad, tired words of Chamberlain gave formal announcement to Britain's declaration of war upon Hitler's Germany.

With broadcasting's correspondents strategically stationed at key action points, listeners in America were given first

hand accounts of Poland's fall, the Nazis invading the Low Countries, the occupation of Paris and William L. Shirer's coverage of the German-French armistice—signing direct from the Compiègne Forest. Listeners over here came to know the sounds of the blitz from the skies on England. What was the other fellow's war came closer and closer to these shores. Refugee children in New York talking by radio over the National Broadcasting Company to their parents in London made their imprint on American thinking. Though *we hated war*, underneath there was a subtle conditioning process going on, preparing us for a blow soon to fall.

When on a Sunday afternoon, December 7, 1941 to be exact, broadcasting brought first news of a Jap attack upon Pearl Harbor, it was a shocked, but by now a determined nation, which heard the flash. There was no chaos and little confusion. The job ahead for broadcasting was to rally the nation, to broadcast vital information, aid civilian morale and help to unite the American people in the single purpose of winning the war. How this was done is the story, not of any one station or individual, but of an industry made up of stations large and small across the country.

Within a matter of minutes of the Pearl Harbor attack, E. R. Vadeboncoeur on WSYR in Syracuse summed up quickly for his listeners the problem at hand:

“One hour and twenty minutes ago, the White House announced that Pearl Harbor had been treacherously attacked.

In that one hour and twenty minutes there had been a lot of pussy-footing talk—*We shall soon see what this means. . . . It is too early to be sure whether this means war . . . The next few hours will tell whether this means war.*

“Even one hour and twenty minutes after the White House announcement, it is too late for such pussy-footing. There is no doubt. It is war. It is Japan’s war, made by Japan in a treacherous attack on Pearl Harbor while her envoys unctuously talk peace in Washington. War is here. We *are* at war. We are attacked. We are fighting back. Enough of the debating and the pussy-footing. The watchword for America today is “Remember Pearl Harbor.” It is a slogan that will strike home to American hearts as once we thrilled and burned to *Remember the Alamo, or Remember the Maine.*”

Thus, *rally the nation* entered the voice of radio!

The industry immediately went on a war footing. Moves were taken by stations to prevent sabotage. No time was wasted either in setting up the machinery necessary to pass on information and instructions concerning black-outs, air-raids and other civilian defense needs. In Tacoma all stations linked themselves together for the joint dissemination of such information.

In Fort Wayne. WOWO instituted a first aid course over the air tied into the defense warden campaign. With both the Navy and Army swearing in recruits before a microphone, WQAM contributed much to recruiting in the Miami area.

Early in the war, malicious propaganda and rumor was being spread concerning various racial groups in Maryland. The authorities, seeking to allay the situation, went to WFBR in Baltimore. On the basis of careful research, which ferreted out the wrong information and got at the positive facts, a program was undertaken which showed what the various racial groups were doing in the war effort.

In the early days of camp life, even before Pearl Harbor, KMOX gave its attention to the needs of military posts throughout the St. Louis area. When it was found that the camps could use a few pianos, one announcement on the KMOX "Youth Answers the Call" series resulted in 49 pianos being delivered to various camps in the area—gifts from the station's listeners.

WLAP in Lexington, Kentucky, lent its voice to a "Stop Over Station", a large local servicemen's center which provided free food, lodging and entertainment to transient service people passing through the city. The project was supported by individual contributions of WLAP listeners. Down in

Tulsa a Glenn Condon, a Marine sergeant in the first world war, added to his duties as news editor of KTUL the task of providing vaudeville entertainment to the nearby army camps. The project was called "Hey, Rube", and it became known the world over for giving the servicemen the kind of entertainment they wanted. When they set up a schedule of 13 different shows in the local convention hall, 25,000 men and women in uniform turned out for the performances, and they just about tore the roof off the place in having a good time.

A WCOS receptionist conceived the idea of conducting a program designed to be of service to the Army wives who had come to Columbia, South Carolina, to live with their husbands. Priscilla Dunn, the receptionist with the idea, being an Army wife herself, conducted the program. "The Army Wife" advised wives on how to solve their problems; in fact, it did everything from being intermediary between Mrs. Army Wife and Mrs. Columbia in obtaining baby beds, ironing boards, and so forth, to arranging rides for Army personnel with others to any point in the United States from Columbia.

When the Merchant Marine asked for old furs to be made into vests for its crews, WHO, Des Moines, newsmen went on the air, produced 1659 shipments of old furs from 40 states, totaling more than 4 tons. In New York Arthur Godfrey organized over WABC the GAPSALS (Give a Pint, Save a Life Society) and broke the Red Cross Blood Bank

record twice during 1944. The military made frequent use of Lexington's WLAP facilities in the recapture of escaped prisoners of war, the station actually making a direct contribution in running them down on several occasions.

Then there was manpower which had to be trained for Uncle Sam! The Midland Radio and Television Schools, at that time operated by KMBC of Kansas City, threw open its doors to the training of enlisted men and women as radio operators and radio maintenance personnel. Almost *overnight* 23,000 qualified youth were made available to the nation's war effort. WFIL in Philadelphia established a Code School to train potential armed forces recruits in the transmitting and receiving of radio code. The station secretaries volunteered to teach touch typing to students as preliminary training, and WFIL's engineering staff took over for more advanced instruction.

Broadcasting didn't forget either that war equipment had to be produced. Daily program and announcement schedules were thrown wide open to enlisting workers on the home front. When it was discovered that music piped into war plants definitely increased production, KMOX in St. Louis broadcast three quarter-hour programs daily, designed especially for workers throughout the Greater Mississippi valley and piped over P.A. systems in the plants to approximately 100,000 workers. The music consisted of a 150-piece military band with a

35-voice chorus from Jefferson Barracks. KHJ in Los Angeles created "The Navy Network", presenting a series of news programs, prepared exclusively for the 75,000 war workers in its service area. War production was stimulated and an attempt was made to arrest the turnover in war plant personnel.

There had to be money to pay for war, and in this regard, broadcasting established for itself a record that surpasses anything of the past attempted in a promotional nature. Its efforts exceeded all other media combined. Generally conceded is such a statement as that of Judge Eugene Carter, chairman of the Montgomery County War Finance Committee in regard to WCOV of Montgomery, Alabama, which could have applied to broadcasting in general. "Without the great assistance given my Committee by WCOV, we could not have brought each War Bond Drive to a victorious conclusion."

Showmanship, of which broadcasting is most expert, was turned loose to put drive after drive *over the top*. WITH, Baltimore, auctioned off captured war material in the form of helmets, bayonets, shells, lances and other equipment. In the 5th War Loan Drive, when the sales of "E" Bonds was running behind schedule, the station presented Mayor McKelden, Council President C. Markland Kelly and other members of the City Council in the "Battle of Bonds". This contest between the different districts of Baltimore realized close to two-thirds of a million dollars.

June 6, 1944 will be one day that the station staff at KVOR in Colorado Springs will never forget, not that the day was any different from that at any other radio station—for it was "D-Day". The day when the European fortress of Herr Hitler was invaded by the Allied forces! The listener, too, will never forget broadcasting's coverage of that momentous event. The preparations for first hand accounts by radio were almost as complete in their own way as for the invasion itself. Remember George Hick's account of a bombing upon his convoy in the English Channel?

But getting back to our story about KVOR. After a long and hectic 16 hours, starting at 2:30 a.m. when the news first came through, the KVOR staff was wondering how to get up enough energy to go home when the phone rang at about 8 p.m.

It was a Private First Class from Peterson Field. He wanted to know if the station was a Bond issuing agency. He was told *no*, but then he remarked, "I've just come off the post and I want to buy a Bond as a souvenir for this day—D-Day!"

"Give us your number", the station replied. "We'll see what we can do." At that, the staff suddenly came back to life again. Typewriters started banging away. An appropriate dramatization was turned out.

The postmaster was called. "Could we sell Bonds on KVOR tonight, for delivery tomorrow, but dated today?" The postmaster didn't know, but would find out and call the station back. *KVOR could!* A banker was then contacted for order blanks to take the orders for Bonds.

At 8:30 p.m. the dramatization was on the air. The skit wound up with a salute to the soldier for giving the station the idea, naming him the *Number One D-Day Bond Buyer of Colorado Springs*. Listeners were told that probably many of them would like to buy souvenir Bonds for the occasion. They did—*hundreds of them!* By midnight, after just three hours, KVOR had sold \$15,000 worth of Bonds, mostly of the \$25 "E" variety.

Many things of importance happened that day, things that caught the public's ear. But here was just one little item from behind the headlines to show how broadcasting labored constantly beyond the call of duty.

In Des Moines, WHO throughout war years accepted not a dime for time, talent or programs in the war effort. If, however, time given to programs had been sold, it would have had a cash value of \$1,161,558.50. Imagine multiplying this one station's efforts by hundreds across the country!

WNBH in New Bedford, Massachusetts, sold Bonds from a whaling boat in front of the city's library.

In Portland, Oregon, KOIN felt that it wanted an idea which would sell bonds the year around. Out of this think-

ing came the "KOIN Million Dollar Club", an organization which honors those who have been responsible for the sale of at least one million dollars in War Bonds. A weekly live talent program in a peak night time period was instituted on February 14, 1943 and continued throughout the war.

Kate Smith in one day over C.B.S. in 1944 made 57 separate appeals for listeners to buy War Bonds and sold \$112,000,000 worth.

But what about the wars going on over there? Broadcasting was in them up to its neck. Wherever things were going on, the listener found the microphone of a network pool, or a network, or even the individual station. That, however, is only half the story. Over 8,000 radio employees could be numbered among the armed forces during the last year of the war. That was 30 per cent of the industry's total personnel.

Morris Pierce, chief engineer of the Richard stations (WGAR, WJR and KMPC), who joined the O. W. I. to do his part in the action, maneuvered the surrender by radio of the Italian fleet through broadcasting the surrender terms on the international distress frequency, having retuned a hay-wire transmitter by round-the-clock mathematical measurements and manual labor. He "accomplished in one day with propaganda what I've been trying to do for three years, with the Navy," said Adm. Sir Andrew Cunningham, chief of the Allied Naval Forces in the Mediterranean.

But as one representative from the broadcasting industry, that wasn't all for Mr. Pierce. Alert to the propaganda value of *Radio Luxembourg* when the Allies moved into European soil, he simply talked an Allied general into lending him



Where the action was the thickest, a radio correspondent was usually not far away. Dave Baylor, program director of WGAR, Cleveland, was sent to the European theatre. He is shown here in the field with the American Army approaching the Siegfried line, leaning up against the side of an Army Transport truck.

an armored division, a convoy of tanks, and surrounded the station to take it undamaged.

Stations throughout the country sent their own correspondents over to find some of the boys from back home. WOW's Ray Clark interviewed 300 WOW-land boys in the Pacific, while the station's Foster May on the Atlantic side had interviewed another 176. *And then of course there were the bright radio stars of the home front, the Bob Hopes, who went overseas to entertain the boys, sometimes right up to the front lines!*

When the veterans started home, they found radio on hand to greet them, and to make sure that the folks did not *forget* all that they had done. As returning veterans arrived aboard troop transports in New York harbor, WNYC had its mobile unit there to meet and interview the G.I.'s, giving listeners a first-hand account of what they had been through and their reactions.

KGW in Portland introduced a campaign in 1945 to emphasize the fact that disabled service men and women in Army and Navy hospitals continue to need entertainment, even though the war is over. Printed pledge cards were distributed by the station to other radio stations, local committees and groups interested in seeing that the hospitalized service men and women are supplied with adequate entertainment. The pledge card reads, "In recognition of the fact that, although peace has

come, the war may never be over for many of our service men and women, I pledge that I shall continue to entertain hospitalized veterans whenever and wherever I can."

KTUL in Tulsa staged a "Welcome Home Veteran Contest". Besides resulting in a sale of over two and a half million dollars in "E" bonds, the contest provided Lt. William G. Eastman, who had just been released from a German prison camp after eight months of captivity, with a newly-built, completely furnished (and paid for) five-room house, fully insured; a new Hudson automobile, with fuel and service for a year; free groceries and utilities for the next twelve months; a complete wardrobe of civilian clothing; and many other gifts of services and minor luxuries.

There were returning veterans, too, who were looking for work. KMOX in St. Louis instituted a "A Job for Joe", a weekly program which dealt with the legal rights and benefits of returning servicemen. WLAP in Lexington aired another program idea entitled "Jobs for G. I. Joe", and it actually secured jobs for returning veterans.

One could say with no exaggeration, "Okay, that's a nice sample, now let's have the main course". As previously mentioned, we can tell of only a few of the more representative activities broadcasting took upon its shoulders during the war. All of this was, in most part, extra curricular activity beyond

that of broadcasting's usual day-in and day-out programming services of the pre-war days. As Bert Silen, special events director of KZRH in Manila, for 37 months in an internment camp, remarked on returning to the air with the recapture of Manila by MacArthur's troops, "Hello, N.B.C. As I was saying when I was so rudely interrupted over three years and a month ago . . . "

CHRONOLOGY OF MILESTONES

Programming in the Public Interest

At War

1936: September 3—Actual firing in real warfare heard on H. V. Kaltenborn's program (National Broadcasting Company) from Hendaye, France, near the fighting in the Spanish Civil War.

1938: August 13—From Keijo, Korea, W. R. Wills, Columbia Broadcasting System correspondent in the Far East, describes Russo-Japanese fighting in an eye-witness account broadcast to this country.

September 12—Major networks provide complete coverage of Sudeten crisis, starting with Hitler's Nuremberg address and continuing until Munich Peace Pact is signed.

1939: August-September—Networks cover war crisis through correspondents in Europe's capitals, heard at frequent intervals. Prime Minister Chamberlain of Great Britain is heard in his declaration of war, in reply to Hitler.

December 17—Eye-witness account of scuttling of German battleship, *Graf Spruce*, from Montevideo, Uruguay, by James Bowen of the National Broadcasting Company.

1940: Comprehensive coverage of full-scale military maneuvers on WSM, Nashville.

General George Patton on coast-to-coast network of the National Broadcasting Company, originating from WSM, Nashville.

May—"In Service of Home and Nation" emblem introduced to the radio industry by WGAR, Cleveland, and WJR, Detroit.

October 7—Broadcasts between refugee children in New York and their parents in London, planned to keep long separated families together by radio, starts on the National Broadcasting Company.

1941: February—Both William L. Shirer and Edward R. Murrow, world famed correspondents, are brought together on a public platform at Music Hall by WGAR, Cleveland. The \$1,500 proceeds are turned over to the Civilian Defense Committee.

March 16—Regular weekly series of programs from Camp Forrest using all-soldier talent, begins on WLAC, Nashville.

May—"Draft Quiz" to acquaint young men with their obligations concerning draft classifications introduced by WJJD, Chicago.

May 9—Broadcasts from the *battle grounds* of General Walter Krueger's Red Army at the Eighth Army Corps maneuvers in Louisiana on WFAA, Dallas.

August — Long before USO or any national radio shows for servicemen exist, WNAC, Boston, brings entertainment to Fort Devens and Camp Edwards.

September—"Awards of Merit" to encourage boys and girls in contributing to the war effort and to the welfare of youth everywhere is introduced by WEEI, Boston. National publicity to noteworthy youth achievements broadcast coast-to-coast by the Columbia Broadcasting System with thirteen major national youth organizations voluntarily, individually and collectively united in the joint effort.

October 24—Arthur Starnes, while making tests for wartime aviation, takes a 30,000 foot delayed parachute jump from an airplane, broadcasting at various levels while making his descent, heard on WLS, Chicago.

November 1—The launching of the cruiser *U. S. S. Cleveland* from Camden, New Jersey on WTAM, Cleveland.

November 18—Networks halt broadcasts from Berlin because of rigorous censorship.

December—Shortwave equipment is placed aboard a man o'war to describe launching ceremonies over WCSC, Charleston, South Carolina.

December 7—Radio brings first news of Jap attack on Pearl Harbor. The industry goes on immediate war footing. Moves taken to prevent sabotage.

December 7—Slogan, "Remember Pearl Harbor", on WSYR, Syracuse, New York.

December 7—All Tacoma stations link together following the attack on Pearl Harbor to offer their facilities for joint dissemination of information and instructions concerning blackouts, air-raids, etc.

December 7—Ensign Thomas A. McClelland, U.S.N. R. and formerly chief engineer of KLZ, Denver, first American fatality of World War II from ranks of broadcasting.

December 8—Declaration of war originates from Washington, D. C., radio stations.

December 9—President Roosevelt in "fireside speech" warns press and radio of great obligation.

December 19—Weather Bureau announces ban on all weather broadcasts because of military necessity.

December 22—New York, among other cities, devises plans for air-raid systems, with radio an integral part of set-up.

December 26—Address by a wartime British Prime Minister to the Congress of the United States by Washington, D. C. stations.

1942: Giving worker morale a tremendous boost, KOIN, Portland, Oregon, presents running account daily of the successful building of Henry Kaiser's "10-Day Wonder Ship", the *Joseph N. Teal*.

With all the elaborateness of any commercial program, KMOX, St. Louis, arranges, writes and produces four two-hour rallies in city's public parks, demonstrating the activities of the office of Civilian Defense program.

Army Air Forces program, originating in the Post Theatre of Turner Field, broadcast by WALB, Albany, Georgia.

Monthly broadcasts, "Speak Up for Democracy", instituted by KMOX, St. Louis, to give listeners a better understanding of *the ideal for which we fight*, and the further promotion of a true and lasting world peace.

January 1—"Hey, Rube", a non-profit organization originated by Glenn Condon, KTUL, Tulsa, news editor, rounds up all available talent in the area to put on a "smash" series of army camp entertainment.

January 1—Full-time war activities director and department for maximum effectiveness in dealing with needs of this nation at war instituted by an individual broadcaster, KMBC of Kansas City.

March 21—General MacArthur speaks to the people of the United States from Australia through WOR, New York.

April 5—"The Army Hour", whereby the War Department enlists the facilities of the National Broadcasting

Company to report to the people back home on the course of the global war.

June 18—"Navy Send-off Breakfast" started by WTOL Toledo, to honor volunteers in the United States Navy at the moment of their leaving for service.

July 4—*Miss Cleveland*, bomber bought by Cleveland school children, christened on WTAM, Cleveland.

August 15—Jim Cooper, WBNS, Columbus, Ohio newscaster, starts a one-man War Bond campaign which through his own efforts and daily newscast sells \$11,130,000 worth of bonds up to the time of broadcasting's first quarter-century anniversary.

September—Four thousand letters a month for three years are mailed out by WNBH, New Bedford, Massachusetts, to fighting G.I.'s.

September 19 — An 18-hour War Bond selling day instituted by KMPC, Los Angeles.

October—"Overseas Special" from 11:30 p.m. to 5 a.m. each night, starts on KSTP, St. Paul, to give men *over there* "their closest contact with home."

October — In order to break down the resistance of women toward working in factories, WNBH, New Bedford, Massachusetts, in cooperation with the city's mayor and secretary, stages a mighty "war products" demonstration and display of items made in New Bedford.

October 8—Elmer Davis, Office of War Information director, estimates that radio is contributing time worth \$64,000,000 a year at commercial rates for war effort programming.

1943: "Letter From Home" is published by KVFD, Fort Dodge, Iowa, mailing out copies to 4,500 men and women in the service from Webster County.

The Red Cross plan of WOWO, Fort Wayne, Indiana for promoting its War Fund is so complete, the national offices adopt it as a plan for radio stations throughout the country in future campaigns.

Three quarter-hour programs of a 150-piece military band with 35-voice chorus from Jefferson Barracks broadcast by KMOX, St. Louis, five days a week to workers in war plants in the Greater Mississippi Valley and piped over public address systems in the plants to approximately 100,000 workers.

January 18—Announcer's description of his sensations giving a pint of blood to the American Red Cross Blood Donor unit broadcast by WMRN, Marion, Ohio. Transcription given to Red Cross for blood donor recruiting.

February 14—"The KOIN Million Dollar Club" is originated by KOIN, Portland, Oregon, in the need for a consistent means of War Bond promotion, and as a medium through which exceptional work by volunteers in the Oregon War Financing campaign could be adequately applauded.

September—Morris Pierce, Vice President in charge of engineering for the Richards stations (WGAR, WJR, and KMPC) before joining the O.W.I., broadcasts the Italian surrender terms on the international distress frequency, having retuned a hay-wire transmitter by round-the-clock mathematical measurements and manual labor, to engineer the surrender by radio of the Italian fleet.

September 8—Italy's unconditional surrender gives radio its biggest news assignment of the war when General Dwight D. Eisenhower, Commander-in-chief of the Allied Forces, announces the event by radio.

October—To stimulate the sale of War Bonds, KOA, Denver, originates a network of seven State Governors, each speaking from his own State Capital. Governor John C. Vivian of Colorado acts as host to the round-robin discussion. From the Central City opera house, built during the '90s by the famous H. A. W. Tabor-Silver King, KOA also broadcasts a program with Governors of 19 states participating.

December—All-day round-the-world Christmas show to bring greetings from American troops to families and friends at home instituted by WMCA, New York.

1944: When the national victory garden movement decreased 10 per cent, there are 43 per cent more gardens, according to Governor Tobin of Massachusetts, in the Greater Boston area with WEEI, Boston radio station taking part in the campaign. In addition to nine broadcasts per week from the WEEI studios and from the model victory garden on the Boston Commons, the station pays for and distributes 12,000 complete victory garden manuals to its listeners. Former Secretary of Agriculture Wickard calls the victory garden project conducted by WEEI, in collaboration with the Boston Advertising Clubs and the Mayor's Garden committee, "the most outstanding contribution to the victory garden movement in America."

"Devy Edwards Caravan", a non-U.S.O. troupe sanctioned by Army authorities to provide entertainment for servicemen located at various northern outposts, included among which are Laborador and Baffinland, promoted by WLAW, Lawrence, Massachusetts.

January 31—Nearly a fourth of radio's 25,000 regularly employed personnel listed in armed forces or in government service according to the *Broadcasting Yearbook* poll.

February 1—This is "Kate Smith Day" on the Columbia Broadcasting System as Kate makes 57 separate appeals

to listeners to buy War Bonds—selling \$112,000,000 worth.

March 17—“The Navy Networks”, designed to stimulate war production and arrest the turnover in war plant personnel, is sent by direct line to war plants from KHJ, Los Angeles news room.

June 6—History’s mightiest military operation, invasion of France by General Eisenhower’s forces, finds radio primed for its greatest spot news “documentary” coverage in its history.

Christmas—In cooperating with the American Legion Auxiliary, KXO, El Centro, California, makes an appeal for Imperial Valley residents to send in money or packages to a Christmas party for convalescent soldiers. More than 1,400 packages are provided for by the appeal, and there are enough gifts left over after taking care of those in the Mitchell Convalescent Hospital at Lockett, California, to send them to other areas.

December 31—20,716 broadcasts of 2,933 hours and 41 minutes devoted to war effort messages by WABC, New York, during the past year.

1945: “Welcome Home Veteran Contest” by KTUL, Tulsa, sells \$2,683,525 worth of “E” Bonds, and at the same time sets up a returning veteran with approximately \$10,000 in prizes.

January 8—Broadcasting during 1944 contributes upwards of \$66,000,000 of time and talent to war effort through O.W.I. Radio Bureau allocation plan.

January 26—Nation’s networks and stations contribute \$11,250,000 in time, talent and facilities to the Sixth War Loan campaign, again nearly reaching total effort of all other media combined, according to Treasury War Finance Division report.

February—"Hail the Conquering Heroes", a thrice-weekly program over WSPR, Springfield, Massachusetts, based on official personnel notes about men and women in the service from the Springfield area, begins a highly successful run as evidenced by a bound volume of the broadcasts preserved in the archives of the new World War II American Legion Post.

February 7—Recapture of Manila by MacArthur troops heralded on the air, highlighted by a broadcast over the National Broadcasting Company by Bert Silen, special events director of KZRH, Manila, who has been in an internment camp for 37 months.

February 26—*Apache*, famed radio ship, moves in with invaders on Luzon, Philippines, operations, relaying network broadcasts and more than half-million words of press copy back to the United States.

March—Wire recorder put into use by WHBF, Rock Island, Illinois, to interview service personnel on furlough.

March 5—*Broadcasting Yearbook* survey shows nearly 8,000 radio employees in the armed forces, representing almost 30 per cent of the total personnel.

March 30—Stations, networks and advertisers have contributed \$162,000,000 in time and talent for war messages during 1944, according to an estimate by the National Association of Broadcasters.

March 31—Broadcasting of Sacramento Solons, Pacific Coast league baseball games gets underway at KFBK, The Sacramento Bee Station, without commercial sponsorship, with station, in addition to sacrificing choice commercial time, paying \$5,000 for season broadcast rights. Program service is reserved for promotion of War Bond drives and any other worthwhile projects of civic and community interest. The games are rebroad-

cast at 3 a.m. for the entertainment of the armed forces in the Pacific.

March 31—Aerial broadcast to the United States of a bombing mission over Japan from the nose of a B29 airplane by Technical Sergeant Harold J. (Hal) Brown, manager on leave from KERN, Bakersfield, California.

April 7—Weekly program, "A Job for Joe", dealing with the legal rights and benefits of the returning serviceman starts on KMOX, St. Louis.

April 24—Lowell Thomas as a war correspondent for the National Broadcasting Company flies over Berlin before city falls to the allies.

April 25-June 26 — Complete coverage of the entire United Nations Conference at San Francisco given by KFWB, Hollywood. The National Broadcasting Company through KPO in San Francisco records all plenary sessions and commission meetings open to the public. These transcriptions are made available to the United States Archives.

May 2—Dockside evacuation of an army hospital ship, the *Seminole*, by WTMA, Charleston, South Carolina.

May 8—With the formal proclamation of V-E Day by President Harry S. Truman, radio gives listeners full coverage of the historic event.

July—Don Pryor tells how it looks to be in a bomber over Tokyo, just as Edward R. Murrow reports the same experience over Berlin, on the Columbia Broadcasting System.

July 22—Broadcast from an Army glider in connection with the Army Railroad recruiting program at Cheyenne Frontier Days on KFBC, Cheyenne.

August 10—Radio brings Jap surrender offer to meet Potsdam demands, announcing to a waiting world that the war is over.

August 13—With V-J Day, secret of atomic bomb is revealed. Byron Price, Director of Censorship, praises both radio and the press for cooperation on atom bomb development and keeping of secret.

August 14—President Truman announces formal Japanese surrender, as radio sets off victory celebration.

September 6—"Remember Our Men", a half-hour variety show, instituted by KGW, Portland, Oregon, to entertain still hospitalized servicemen.

September 22—Broadcast made on the site of world's first atomic bomb explosion in New Mexico by special events director, George Cremeens, reporting for KRNT, Des Moines.

Looking Forward To Other Quarter-Centuries

CHAPTER XVI

With the coming of V-Day and the end of a social way of life, American broadcasting, too, marked the completion of an epoch—its first quarter-century of service to all walks of life. Again, during war years, electronic advancements have set new technical standards. Social values have undergone subtle changes—some of which *not so subtle*. These factors, and many more, have to be considered carefully in looking forward to broadcasting's quarter-centuries of the tomorrow.

Now that the usual starvation, hand-to-mouth days, the part of any new enterprise, are over for broadcasting as an industry, a ready investment dollar is an easy thing to find in this, a going business. Such was not the case so few years ago, as many pioneer broadcasters will attest. But investors should not forget that for every new station that goes on the air, there

is still that struggle for survival and prestige until acceptance has been gained through proved performance.

The war years have been very misleading as to the financial wealth of the average broadcaster. Through hearing of extravagant sums paid entertainers for only a few minutes on the air, or trying to buy a commercial spot and discover that acceptable time is at a premium, the layman is given the idea that the radio business must indeed be the land of plenty. Charges of too much commercialism fill the air, and the visionary reformist lobbies for regulatory supervision.

Consider though that few are the millionaires who gathered their money solely from earnings in broadcasting. It is the exception, not the general rule, that stations have all the commercial business they can handle, even in war times. True, many stations during the past war earned money for the first time, but after all isn't that the promise of the *American way* to those who venture forth into private enterprise?

At one time the number of licenses granted within a single service area depended, to a considerable extent, upon the community's capacity to support the stations. In a certain sense this was regulated economy. But is this good or bad for broadcasting? The rugged individualist says the *survival of the fittest* is the thing. Why should broadcasting be any different from other lines of business where the free flow of competition pro-

vides the opportunity for new enterprise—whether culminated by success or failure?

When broadcasting's development in public acceptance depended upon interesting others in beating the drums for the establishment of the industry itself, there was good reasoning to such rugged individualism—the same as when American pioneers settled this country. In another respect though, we cannot say that the rugged individualism of broadcasting today is the accepted trend in the present social affairs of this country's economy.

Will the promiscuous licensing of stations have a detrimental effect upon the future of broadcasting? Only time will tell. On one hand, there are those who point to practical economies and insist that you cannot keep breaking the loaf of bread in half and expect broadcasting to subsist as we know it today. How can one keep up programming standards if the where-withal is being spread thin over a dozen operations? However, this reasoning sounds vaguely like the old newspaper propaganda of the early twenties.

On the other hand is *broadcasting as we know it today* what the listener wants in the tomorrow? More stations, so that even the small communities have their own direct coverage, may be the answer to talent development and a fluid condition of new program ideas brought on by increased competi-

tion. Possibly necessity, not money to throw around on *name* personalities, will prove to be the mother of invention in program ideas.

In the future it is reasonable to expect that the broadcasters will know more and more about the likes and dislikes of listeners. Out of electronics possibly may come a method for counting audiences accurately and instantaneously. The sponsor will then know in black and white what he is getting in the way of an audience for his advertising dollar. He will then have to charge his inability to sell that audience to the shortcomings of copy or product—instead of the alibi that the station or network isn't producing the audience.

One should not overlook either the role of the new scientific developments and their ultimate influence on broadcasting—or what will someday evolve out of broadcasting. Transmitting many program services simultaneously over the same frequency is a matter of the not too far distant future. Frequency modulation, television and facsimile—all in much the same state of public acceptance like broadcasting after the previous war—will have more than just a secondary influence upon the wireless transmission of sound.

While it wasn't until May 20, 1940 that the Federal Communications Commission gave frequency modulation the *green light* to full commercial operation, WDRC had started conducting, in Hartford, experiments with the Armstrong F.M.



This striking photograph personifies frequency modulation and its reaching upwards in the world. At the summit of 6,300 foot Mt. Washington near Sargent's Purchase, N. H., where the winds often sweep by at 180 miles an hour and temperature drops to 40 degrees below zero, is the transmitting plant of the Yankee Network's WMTW.

system a year and a week before. Under the call letters of WIXPW, the station, which was later to become WDRC-FM, marked the beginning of a system for which many hold promise to revolutionize the entire radio industry.

The advent of war held up the full development of frequency modulation, much in the same sense that World War I delayed commercial broadcasting. Operating as it does in the

higher frequencies, F.M. is limited for all practical purposes to the nearest horizon, thereby relegating its operation primarily to metropolitan use. Its attributes, though, mean the elimination of static and man-made noises with a broader sound range, thereby reproducing sound closer to reality as exists before being picked up by the microphone.

The introduction of frequency modulation in the American system of broadcasting brings up several interesting questions. Will F.M. in time completely supplant standard broadcasting (amplitude modulation)? Its lower cost of installation and operation is no little determining factor, but then, however, there is the limitation of F.M. as to distance. Out in the wide open spaces, particularly in the farming west, localized coverage is not practical from an economic standpoint. Would we say that the sign-posts of frequency modulation point to metropolitan service, and amplitude modulation into high-power, far-reaching coverage for the sparsely populated areas?

Next is a concern not just of the broadcasting industry, but particularly of newspapers. What effect will facsimile-sending pictures and printed material by wireless—have upon things as we know them today? There is nothing far-fetched about the idea of a *subscriber* getting up in the morning and finding that his morning news awaits his pleasure in a basket by the side of his radio.

Even as far back as 1923, KSD was conducting experiments with facsimile transmission by wire between the St. Louis *Post-Dispatch* and the New York *World*. This was the forerunner of the wire photos which became so widely in use throughout more recent years. When KPO in 1925 transmitted a picture of Andy Gump, it was signed by George T. Cam-



Few, even yet, have seen one! Gov. Dright H. Green (left) of Illinois is shown watching a photograph of himself being received by facsimile transmission on one of the several receiving machines being demonstrated at the Illinois State Fair by KSD, St. Louis, a real pioneer in this field.

eron, publisher of the San Francisco Chronicle, "Radio's latest wonder-pictures through the air—what new marvels will this science bring forth?"

The development of facsimile from the standpoint of wireless transmitting of newspapers has plodded along through the years, but speeded-up electronic advancements of the past war may improve the quality of printing and thereby gain full acceptance in the public's eye. There is still the problem of operating costs to be ironed out before facsimile equals the economics of newspaper distribution methods of today. All in all though, it is reasonable to expect that *newspapers* in a matter of time will be transmitted through the air—yes, in full color.

Then, most important of all, where does television fit into the scheme of things? One school of thought contends that television is the ultimate answer to all sciences involving wireless transmission of visual subjects—as well as sound. These enthusiastic supporters see in television the absorbing of A.M. and F.M.—and facsimile for that matter. In other words, contained within one *super-doooper* set would be the means by which all matters of sound and visual transmission could be received.

On the other hand the more conservative insist that television will no more replace broadcasting than the movies replaced books and magazines. Television is a science which requires the full attention of the audience. The minute the televiewer's sight wanders he has lost the thread of the action. In

the case of broadcasting, the housewife, for instance, can go about her duties in the home at the same time listening out of the corner of her ear to what goes on over the air.

Most of the early experiments with the art of television were conducted by scientists in such laboratories as those of Bell Telephone, General Electric, and Radio Corporation of America. Television is too expensive for a hobby, and unlike broadcasting in its experimental years, the interested amateur cannot build his own transmitter, or even a receiver, out of a few wires and tubes. In one sense, this appears to be a detriment, for television cannot help but be the medium of large corporations. Much of the success of early broadcasting has been credited to the inquisitive, fertile minds of people—not in the red tape of some corporations.

It is the expense of television that has retarded its development in the public's eye. Right today the quality of televised pictures far exceeds in a comparative sense the quality of broadcasting long after it had received wide acceptance throughout the country. A transmitting station requires such an installation expense at the start that it is extremely unlikely that the individual investor in television, with the industry in a flux of change, can expect to come out on his investment.

But these are only a few incidental problems that will find their solution in the quarter-centuries ahead. Definite sides have been taken on whether or not black and white of the im-



All the paraphernalia of a Hollywood movie set goes into television production. The scene here is at Station W'CBW' of the Columbia Broadcasting System in New York.

mediate is to be preferred over color of the tomorrow. The Columbia Broadcasting System, with Paul Kesten presenting its case, led the campaign for color on the strength of the argument that the public will never be satisfied with anything less than full color. Why not set up the science right at the start and save station owners and the public alike the expense of replacing obsolete equipment at a later date?

Production problems have been no small matter in the development of television. Costs far exceed those of sound

transmission with props an expensive factor. To this can be added the human element of discovering enough of those who will be qualified in voice and acting ability to bring talent costs down within reason when the commercial rush is on. But most important of all, how is television to fill the many hours of a day and night, turning out a continuous round of Hollywood productions?

In spite of these seemingly insurmountable obstacles, television has been moving ahead with confident progress and increasing acceptance. Definite advancement has been shown in production techniques. Such programming as that of sports events already has been proved highly successful. In New York and Philadelphia—in fact, wherever the city's population is of such a magnitude as to warrant the higher investment costs—television is already here—a thing of today.

To consider the full potentialities of television staggers one's imagination. Besides all the domestic uses to which it can be put, there is an even greater future in the field of international relations. Far-away peoples can be brought into the American home—and Americans into foreign lands—for a closer understanding of one's customs and ways of life. While it was hoped of broadcasting after the last war that it would be the great guiding factor for world peace, and this hope was dragged through the mud of another war, the spark of optimism is rekindled again with the coming of television.

It was Guglielmo Marconi in 1933 who said, "I am known as a man who deals in cold scientific facts and practicalities, not in Utopian fantasies. As to talk of a saturation point—a limit to radio progress—there is no limit to distance, hence there can be no limit to wireless development."

What wonders will the next quarter-century hold—for you and me?

CHRONOLOGY OF MILESTONES

Sciences of Tomorrow

Classified as to FREQUENCY MODULATION

1935: November 6—A static-less radio system based on F. M., instead of amplitude modulation, is demonstrated on $2\frac{1}{2}$ meter wave by Major E. H. Armstrong at the Institute of Radio Engineers, New York.

1939: May 13 — Utilizing the Armstrong F. M. system, WDRC-F.M. goes on the air under the call letters of WIXPW.

June—Yankee Network begins operation of \$250,000 frequency modulation (Armstrong) transmission plant atop Mt. Asnebumskit, Massachusetts. Goes on 16-hour-a-day schedule of Yankee Network programs, July 24.

1940: January 2 — U. S. Department of Agriculture on frequency modulation through the Yankee Network's WMTW.

May 20—Federal Communications Commission gives F. M. green light, authorizing full commercial operation as of January 1, 1941.

1941: F. M. transmitter installed in a mobile unit by WGAR, Cleveland.

July 17—Independent commercial F. M. station with a full-time 16-hour daily schedule goes on the air as W47A—later WBCA, Schenectady, which installs and operates a S.T. at 331 megacycles between studios and transmitter.

July 17—F. M. station becomes a full affiliate of a national network as WBCA, Schenectady joins the Mutual Broadcasting System.

July 17—F. M. station becomes a full affiliate of a national network as WBCA, Schenectady joins the Mutual Broadcasting System.

August—Own building for A. M. broadcasting, F. M. (WMMF) and television built by WTMJ, Milwaukee.

1944: January 26—F. M. Broadcasters, Inc., holds first annual meeting in New York with gross attendance of 750.

June 17—Program (War Bond Show) originates to an entire A.M. network (M.B.S.) by a F.M. station, WBCA, Schenectady.

1945: October 15—Going on the air five days after the F.C.C. ruling in regard to the new 100 megacycle band, WHFM, Rochester, owned and operated by the Stromberg Carlson Company, in turn owners and operators of WHAM, broadcasts on both 98.9 mc. and 45.1 mc. frequency modulation.

Classified as to FACSIMILE

1904: Telephone wire-photos sent from Munich to Nuremberg by Arthur Korn, German physicist.

1907: Telephone wire-photos sent from the European continent to England by Korn.

1922: June 11—Transatlantic radiophoto of Pope Pius XI by Korn appearing in the *New York World* declared "a miracle of modern science."

1923-24: Winter—Experiments start with facsimile by wire between Post-Dispatch, St. Louis and the New York World conducted by KSD, St. Louis.

1924: November 30—Facsimile radio from London to New York carries pictures of President Calvin Coolidge, Prince of Wales and Premier Stanley Baldwin across Atlantic in 20 minutes using the *Ranger System*.

1925: May 7—Photoradio developed by Capt. R. W. Ranger of Radio Corporation of America, transmitting facsimile messages, maps, and pictures from New York to Honolulu.

August 22—Picture sent by radio station, that of Andy Gump, signed by George T. Cameron, publisher of the *San Francisco Chronicle*. "Radio's latest wonder-pictures through the air—what new marvels will this science bring forth," is transmitted by KPO, San Francisco and received on a machine invented by C. Francis Jenkins.

1930: June—*S. S. America* off Fastnet Island, approximately 3,000 miles from New York, intercepts facsimile messages from the United States.

1933: December 19—Serious experiments with facsimile by WTMJ, Milwaukee.

1937: September 28—Facsimile tests on regular broadcast frequencies during early morning hours authorized by F.C.C. in grants to two stations, followed in subsequent weeks to others.

1938: February 14-15—Facsimile demonstrated to delegates at the N.A.B. Convention in Washington with *Broadcasting* magazine publishing newspaper by facsimile.

December 7—Daily facsimile broadcasting inaugurated by KSD, St. Louis.

1939: February 2—The Radio Bee, a network facsimile newspaper, starts for the McClatchy Broadcasting Company—KFBK in Sacramento and KMJ in Fresno. The service lasts a year.

August 17—U. S. Department of Agriculture on facsimile through facilities of WLW, Cincinnati.

Classified as to TELEVISION

1884: Paul Nipkow of Berlin invents a scanning disk by means of which he hopes to send pictures over wires; it being used later in television.

1890: C. Francis Jenkins of Washington, D. C., begins a search for new devices needed for success of Nipkow disk as a television scanner.

1923: A picture of President Warren G. Harding is sent by the *C. Francis Jenkins* television system between Washington and Philadelphia.

1926: December 15—Dr. E. F. W. Alexanderson demonstrates his multiple lightbrush television system and projector at St. Louis.

1927: January 7—Electronic system for television, including a dissector tube to scan the image for transmission, patented by Philo Taylor Farnsworth.

April 7—Bell Telephone Laboratories demonstrates wire television between Washington and New York, and radiovision between Whippany, New Jersey, and New York.

1928: Alfred Dinsdale founds and edits *Television*, a trade magazine.

February 8—Trans-Atlantic television image seen at Hartsdale, New York. Mrs. Mia Howe televised by John L. Baird.

April—R. C. A. receives license (from Federal Radio Commission) to operate an experimental television station in the New York area and is assigned call letters W2XBS. Opens television transmitter at R. C. A. Technical and Test Laboratory, Van Courtlandt Park.

June 8—Regular television schedule, three times weekly in the afternoon, 1:30 to 2, and in the evening, 11:30 to midnight, inaugurated by WGY, Schenectady.

July 12—Bell Telephone Laboratories televises outdoor scenes without the use of artificial lights, with Herbert Eugene Ives and his associates.

August 22—Remote television pick-up by WGY, Schenectady with Dr. Alexanderson's television camera in the assembly chambers in Albany to pick up image of Governor Alfred E. Smith as he delivers the address formally accepting the Democratic nomination to the presidency.

September 11—"The Queen's Messenger," an one-act melodrama, is televised at "The House of Magic," Schenectady, New York. Voice signals carried by WGY and the picture signals transmitted by WAAF.

1929: June 7—Bell Telephone Laboratories demonstrate television in color by wire from one end of a room to the other.

November 18—Dr. V. K. Zworykin demonstrates his kinescope or cathode ray television receiver before a meeting of the Institute of Radio Engineers at Rochester, New York.

1930: January—R. C. A. television station W2XBS beams television to outside source—from 711 Fifth Avenue to Proctors' 58th Street Theatre.

April 9—Bell Telephone Laboratories demonstrate two-way television in which speakers at the ends of a 3-mile circuit see each other as they converse.

May 22—Dr. Alexanderson demonstrates television on a 6-foot screen in Proctor's Theatre, Schenectady.

June 10—John Hays Hammond, Jr., announces his invention of a television eye for airplanes enabling pilots to "see" through fog and darkness to make safe landings.

July 30—Experimental television transmitter W2XBS opened by the National Broadcasting Company in New York.

1931: Allen. B. Du Mont begins his study of cathode-ray oscillography to work out a commercial solution of the cathode-ray tube.

January 11—Caesium photoelectric cells designed to "see red" are introduced by the Bell Telephone Laboratories to clarify television images.

April 26—Television station W2XCR goes on the air in New York.

June—Empire State Building, world's highest skyscraper, is selected as the site for an R. C. A. television station using ultra-short waves.

July 21—The Columbia Broadcasting System begins television broadcasting from station W2XAB, situated in a small room in the regular C. B. S. studio building. Daily schedules maintained.

September 24—U. A. Sanabria demonstrates television on a 10-foot screen at the Radio-Electrical World's Fair in New York.

October—Test programs begin from National Broadcasting Company's new installation at Empire State Building.

1932: Fall—Network coast-to-coast broadcast, Ted Malone in "Between the Bookends," televised simultaneously over W9XAL by the originating station of KMBC of Kansas City.

1934: Children's program televised by WIP, Philadelphia.

1935: May 7—Plans to spend \$1,000,000 for field television tests are announced by R. C. A. President David Sarnoff; tests to start from Empire State Building, New York early in 1936.

1936: April 24—Television outdoors demonstrated by R. C. A. at Camden, New Jersey, with local firemen as actors before Zworykin Iconoscope camera. Broadcast is on 6 meters over a distance of one mile.

April 30—New form of electrical "wave guide" transmission of ultra-high frequency radio waves through a hollow pipe (coaxial cable) is reported by Bell Laboratories and the Massachusetts Institute of Technology, opening new prospects for network television.

June 4—Public television demonstrations start in Los Angeles by Don Lee Broadcasting Network with system developed by Harry R. Lubcke, director of television.

June 29—R. C. A. starts field tests from Empire State Building in New York.

July 7—High definition (electronic) television demonstrated by the National Broadcasting Company.

August 11—Phileo Radio and Television Corporation demonstrates its television system in Philadelphia, transmitting live subjects and films over a seven-mile span, with 345-line pictures framed 30 times per second interlaced to produce 60 framings per second. Pictures $9\frac{1}{2}$ x $7\frac{1}{2}$ inches in dimension.

November 1-15—In observing tenth anniversary of the founding of the National Broadcasting Company, R.C. A. television is demonstrated using both live and film subjects with 343-line images framed 30 times per second and interlaced to produce 60 framings. Images

shown on 12 and 9 inch Kinescope tubes are $7\frac{1}{4}$ by $10\frac{1}{2}$ inches and $5\frac{1}{2}$ by $7\frac{1}{4}$ inches, respectively.

December 1—Field tests of American Telephone and Telegraph Company coaxial cable between New York and Philadelphia declared a success.

1937: January—National Broadcasting Company and R.C.A. engineers make first tests of 441-line television images from new experimental transmitter in Empire State Building, New York, supplanting 343-line experiments.

February 11—Philco Radio and Television Corporation demonstrates 441-line television before press.

May 12—Television projected to motion picture size, 8 by 10 feet, by R.C.A., in demonstration before Institute of Radio Engineers.

October—Mobile television vans ordered by the National Broadcasting Company and R.C.A., to begin outdoor experiments preparing for time when television will be expected to cover big outdoor events such as sports, parades, etc. Two vans are delivered December 12.

October 18—F.C.C. sets aside bands in ultra-high frequencies for television aural or apex broadcasting and relay broadcasting, above 30,000 kc.

1938: June 7—Television broadcast is made of a Broadway show by the National Broadcasting Company.

October 20—David Sarnoff, president of R.C.A., announces at meeting of board of Radio Manufacturers Association that R.C.A. would make television public and have sets on market at time of New York Fair starting April 30, 1939.

1939: February 2—R.C.A.-N.B.C. end 10-day "road show" of television mobile unit in Washington, D. C.

May—Memorial Day Parade on Riverside Drive televised by the National Broadcasting Company.

May—Baseball game direct from Baker's Field, New York, televised by the National Broadcasting Company.

May—Six-day bike races from Madison Square Garden televised by the National Broadcasting Company.

May—IC4A track meet from Randall's Island televised by the National Broadcasting Company.

June — Professional prize-fight (Baer-Nova) from Yankee Stadium, televised by the National Broadcasting Company.

August—Major league baseball game from Ebbett's Field, Brooklyn, televised by the National Broadcasting Company.

September—Football game televised by the National Broadcasting Company.

October—R.C.A. television receiver installed in plane flying 20,000 feet over Washington, D. C., picks up N.B.C. television station 200 miles away.

1940: February—Hockey game direct from Madison Square Garden, televised by the National Broadcasting Company.

February — Basketball game direct from Madison Square Garden televised by the National Broadcasting Company.

February 21—Lowell Thomas news broadcast begins daily televising over the National Broadcasting Company.

March—Indoor track meet from Madison Square Garden televised by the National Broadcasting Company.

March — New York televised through the National Broadcasting Company by means of portable transmitter installation in Eastern Airlines sightseeing plane.

April—Circus from Madison Square Garden televised by the National Broadcasting Company.

June—Proceedings at Republican National Convention televised direct from Philadelphia by the National Broadcasting Company—transmitting via coaxial cable from Philadelphia to New York.

August 29—Color television developed by Dr. Peter C. Goldmark demonstrated by the Columbia Broadcasting System.

1941: May 2—Federal Communications Commission authorizes full commercial television.

June 27—Television rate card issued by the National Broadcasting Company. Bulova, Lever Brothers, Sun Oil and Procter & Gamble become video sponsors.

July—The National Broadcasting Company receives commercial television license from Federal Communications Commission for operation of station WNBT, New York.

September 3—U. S. Department of Agriculture on television of the National Broadcasting Company.

1943: Clyde D. Wagoner stages a television newspaper in studios of General Electric station WRGB with 60 newspaper editors and publishers as guests.

1944: April 27—The Columbia Broadcasting System takes the leadership in urging plans for post-war television in the higher frequencies.

1945: March—R.C.A. demonstrates large screen television projection on experimental model receiver having a 18 by 21 inch screen.

May—All-day coverage of V-E Day (14 uninterrupted hours) by television station WNBT, New York.

August 6—Westinghouse discloses *Stratovision* plan whereby airborne transmitters would relay television, F.M., and other broadcast services interlacing transmission from plane to plane, flying anchored courses at 30,000 feet.

October—R.C.A. demonstrates new ultra-light sensation Image-Orthicon tube capable of picking up scenes in darkness, and low illumination levels.

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