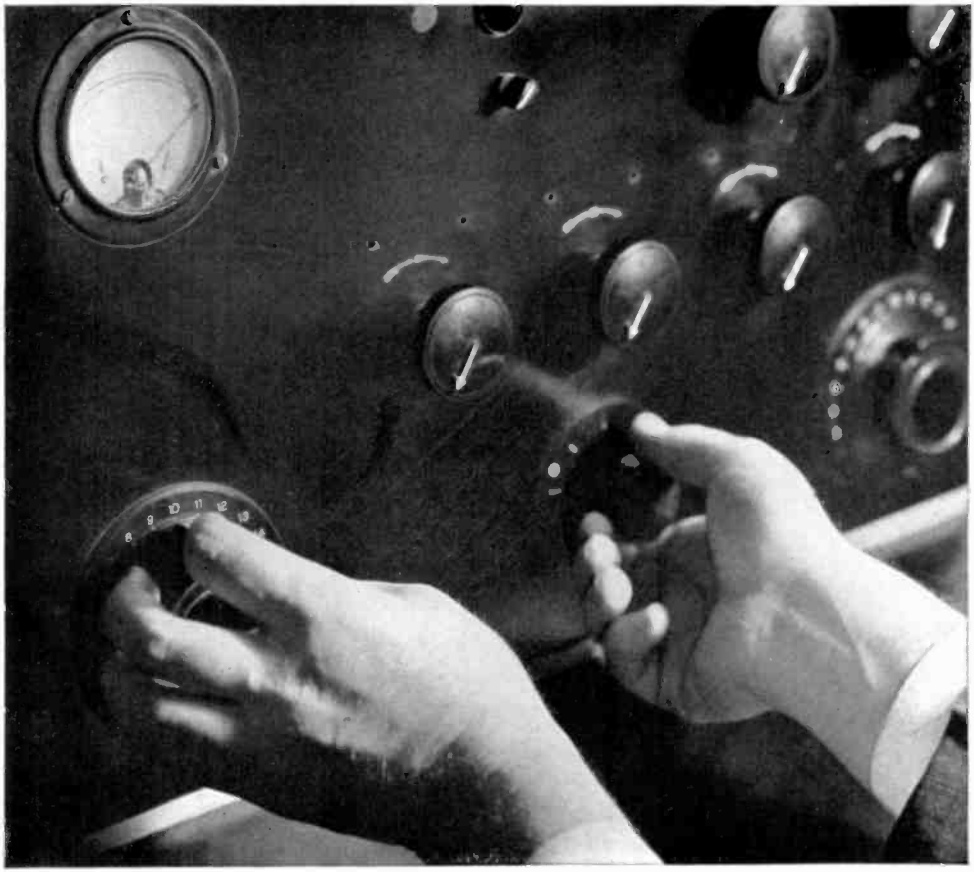

# BEHIND THE MICROPHONE

*By*

JOHN J. FLOHERTY

J. B. LIPPINCOTT COMPANY

PHILADELPHIA NEW YORK LONDON

SECOND IMPRESSION

BEHIND THE MICROPHONE

## BOOKS BY JOHN J. FLOHERTY

Behind the Microphone

Money-Go-Round

Inside the F. B. I.

The Courage and the Glory

Sentries of the Sea

Youth and the Sea

Aviation from Shop to Sky

Men Without Fear

Make Way for the Mail

On the Air

Your Daily Paper

Sons of the Hurricane

Youth at the Wheel

Fire Fighters

Board the Airliner

Guardsmen of the Coast

Movie Makers

Police

## *A Word from the Author*

For months I have been living in a world without distance, where Moscow and Melbourne, New Guinea and New York are but a small fraction of a second apart. I have seen and heard miracles which, if described to the wisest men of Lincoln's day, would have been put down as the invention of an imagination gone wild. I have stood at the elbow of a soft-voiced man reading a hope-filled message to millions of oppressed people 4000 miles away. His words reached the ears of his French listeners at the same instant they reached mine. Each morning at eight I get the news of the world from the lips of top-flight reporters scattered around the globe. Within sight of my study windows two slender steel towers stand silent as obelisks. Yet day and night a torrent of words, music and extraneous sound flows from them, inaudible as the twinkling of a star until it enters the homes of some twenty million people.

It was these and a score of other phenomena that prompted me to explore this empire of sound and space, and report what manner of men and women live and work in it, and the infinite variety of their tasks. Wherever I wandered in that strange and fascinating field, I received unstinted co-operation.

I am particularly indebted to the executives and the men and women in the ranks of the National Broadcasting Company and the Columbia Broadcasting System.

J. J. F.

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*Young Marconi at work on one of his early radio sets. This photograph was made in 1897.*

# I

THE State Troopers' lodge at Montauk Point on the easternmost tip of Long Island stands on one of the loneliest spots along this seaboard. Rolling sand dunes and high bluffs, at which the Atlantic has gnawed for centuries, stretch drearily westward to Montauk village nine miles away.

It was here that Captain Flynn of the New York State Troopers had me enthralled one stormy Sabbath night with tales of the early days in the lumber towns on the Canadian border, when troopers and lumberjacks fought it out with the accepted weapons of the period and place—bare knuckles.

Outside the night was storm mad. A sixty-five-mile gale machine-gunned rain pellets with battering force against the windowpanes. The pounding surf on the beach a few steps from the door vied with the thunder that came in frequent peals. The crackling fire of driftwood gave the room a coziness for which I was thankful on such a night.

The captain was in the middle of a story when the door was flung open violently and a woman, tall and blonde, hurled herself into the

room in an onslaught of rain and wind. At that hour, on such a night and in such a place, it was as if she had been flung from another planet. She was drenched and disheveled. Terror was in her eyes. She tried to speak, but gasped instead. She was followed presently by a bedraggled wisp of a man and a thoroughly frightened boy.

"What's all the excitement?" the captain said, as calmly as if he had been asking the time. The intruders stared at him for a moment with popping eyes. The woman spoke. "Haven't you heard, Captain!? Haven't you heard!!? Thousands of people are being killed in New York and New Jersey. Twenty of your troopers have been murdered. People are jumping into the Hudson River and drowning like rats. It's a gas or something! Our children are in Brooklyn—do you think they are safe? Do you think the soldiers, or whatever they are, will attack over there?"

"Take it easy," said the captain, who believed the woman was demented. He was about to pat her shoulder reassuringly when the woman's husband broke in, "That's on the level, Captain. Something terrible is happening—invasion or something. I couldn't make out what it is, but people are dying like flies. It's just come in over the radio." "That's right, Captain," chimed in the frightened boy, "we've just heard it!"

Realizing these storm waifs were not insane, the captain looked helplessly at the wind-crippled radio set on the table. I could see his jaw tighten. "Is your radio still working?" he snapped.

"Yes," replied the husband, "it's as clear as a bell."

"Come on!" barked Captain Flynn, "Get into the car!"

In a moment we were careening through the storm across the dunes to where the fishing cabin of our frightened visitors stood on the beach of a small cove about a mile away.

As we entered I could hear the familiar voice of a radio announcer say, "The police are powerless. The gas is becoming worse, ladies and gentlemen!" then he coughed and strangled, "This broadcast may end at any moment. No estimate has been made of the number of dead."

Captain Flynn caught the words. His lips tightened. His muscular body seemed to brace itself against something unseen. "Let's go!" he snapped, "We've got a hundred miles ahead of us, back to headquarters!" Then he paused a moment as the pseudo radio reporter went on with his gruesome narrative. I saw the captain's features relax in a knowing smile. "It's a phoney," he said. "It's a hoax! That broadcasting studio is a hundred feet above the street, well out of the reach of gas." He stepped to the radio and snapped it off. We returned to the warmth of the lodge.

During the ensuing weeks, press and radio told of strange repercussions from all over the United States. In the east, many men on hearing the broadcast took their shotguns in hand and prepared to fight it out. Others bundled their families into automobiles and drove furiously to escape the threat. The emotionally unbalanced became hysterical, and heart failures were reported from many quarters. Scores of casualties resulted.

An investigation showed the whole incident to be merely supershowmanship that took an unexpected turn, exposing the existence of an emotional streak in the American people that was not even suspected.

The hubbub caused by the now famous broadcast spread all over the world. A friend of mine who was in Java at the time, and who got the story third hand, cabled me asking if his family were in any danger. Similar messages came by thousands to people with friends far from the scene of the fictional attack, particularly from Canada and South America.

What really happened was this: A young actor, then sitting precariously on the pinnacle of success, became obsessed with the idea of jolting radio listeners with a tale so startling and gruesome that they would remember him for life. In this he succeeded. His method was simple. The cauldron of conflict was already beginning to bubble. Spot news relating to the international scene attracted millions of listeners. The jitters of impending war were beginning to twang on the nervestrings of the world. The build-up of a race of super

soldiers had begun. Newspapers and magazines, through well-meaning but imaginative articles, had built a bogey-man in the form of a foe unmatched and unconquerable.

No one, not even those in the highest places, had sensed how deeply the insidious propaganda had penetrated into the minds of the American people. In all innocence of the national state of mind, the radio drama was ingeniously written and prepared for production.

At the appointed hour on that Sabbath evening the broadcast began with a word of reassurance to the listening audience that all that was to follow was entirely fictional, a figment of the author-actor's imagination. The script had been carefully scrutinized by the broadcasting station, and the introductory warning made clear and unmistakable.

With superb artistry the actor imitated the voice and manner of the conventional news broadcaster and began to read pseudo spot news reports of the attack launched by a mysterious foe in suburban New Jersey.

The listeners who had heard the introductory part of the program, warning them that it was all make-believe, accepted it as an exciting piece of fiction. Unfortunately, however, not all listeners tune in at the beginning of a program. The result was that thousands of latecomers heard a conventional news broadcaster in a state of emotional excitement gasp out the harrowing "spot news" of mass murder by Martian-like invaders. At first they were merely startled, then, deceived by the realistic acting, they were stunned. Police phones began to ring as excited listeners clamored vainly for verification of the "news." Police on duty do not listen to radio programs; these law officers were as bewildered as the citizens. Neighbor phoned neighbor. Wild rumors began to spread like a prairie fire. The broadcasting stations were swamped with phone calls. The operators, knowing nothing of what was taking place, were at a loss for an answer. Confusion was piled on confusion. It looked for a while as if a new kind of crisis were in the making.

When the smoke of the imaginary invasion had cleared away and

*A broadcast in the early days of radio when studios were homely affairs. Note the towel wrapped around the microphone to soften the broadcaster's voice.*

the public jitters had subsided, one fact stood out strong as a granite boulder. A great discovery had been made. Radio, until then looked upon as a device used largely for entertainment, was found to be a mighty weapon for national offense or defense. It was a new phenomenon. Never had so many people over such a wide area felt the emotional impact of the human voice to the point where they were thrown off balance if not into panic in the space of a few minutes.

It became apparent at once that here was a weapon with more far-reaching war potentialities than anything discovered since the invention of gunpowder.

Germany, set on world domination, was quick to grasp the tactical value of spreading terror through radio. In her drive on Poland millions fled their homes. They clogged the highways and spread panic as they went. Rumor was added to rumor; fear augmented fear. Death or worse was just beyond the horizon and approaching with frightening speed. Day and night bulletins of the invaders' progress were broadcast with the regularity of drumbeats. Savage threats followed insolent injunctions until the population was in a state of confused hypnosis.

There were high jinks at Berchtesgaden as Hitler and his henchmen gleefully listened to the new weapon at work and moved the pins forward on the map of Poland. "Astounding!" they said. "It is as good as ten divisions!" They licked their bloody chops and gloated over what would happen in Belgium and Holland, France and the other countries they had even then marked as victims. They would first polish off Europe and then in their own good time attend to America. They did not dream that this weapon of the ether they were now using so successfully in their offensive would be turned against them and bring about their utter defeat.

Of all the peoples on the face of the earth, none was more peace-loving than those of the United States. In fact, in our desire for peace, we neglected to prepare for the Armageddon that was almost upon us.

When on that fateful day, December 7, 1941, our time had come, I was on a government vessel far out at sea. Radio had brought us

the dread news. We had the most precious of cargoes, two hundred American lads, apprentice seamen on their finishing cruise. We were in dangerous waters; submarines had already begun their ruthless work. In the interim between Pearl Harbor and declaration of war by the United States, the commanding officer, Captain Perry of the U. S. Coast Guard, and I coaxed every squealing word from the cabin radio that poor reception, owing to distance, permitted. The declaration of war on the Axis powers necessitated silence since the radio set beckoned the enemy for whom we were now fair prey and a choice target. In the silence of the jet-black cabin on that jet-black ship Captain Perry and I spent the long lightless evenings in discussion of what was to come. A dozen times my memory reverted to the stormy night on Montauk Point and the emotional effect of an actor's lines on a war-jittery population. "What part would radio play in the conflict?" I thought.

My unspoken question has been answered many times since. One hundred and thirty million peace-loving people must be stirred from their lethargy. Prodigious work lay ahead. An army and a navy and a super-merchant marine must be built and quickly. Arms and armaments in quantities of which the world had never dreamed must be forged and fashioned and dispatched where they would do the most good. The sacred soil of our country must be bled to the last ounce of its nutriment; food, the most vital of all the commodities of war, must be produced, distributed and held ready for millions and millions of mouths. Science, art, literature and medicine must be marshalled. Men must be drafted to fight on the front and women to fight in the homes and factories. An all-consuming hatred of tyrants and their tyrannies must be instilled in the heart and soul of America, and a fighting spirit awakened that would carry them to victory. Never was a nation confronted with such a task to be accomplished in so little time.

The psychological implements used in World War I to whip up a war fervor were totally inadequate in 1941. The beating drums, the marching feet, the shouts of the outraged multitude, the scream-

ing headlines and the frenzied appeals of orators whose words scarcely reached the outskirts of their audiences were all very well a quarter of a century ago. Now they are outmoded as the horse pistol or the arrow.

The millions who had become accustomed to keeping step with the world at the turn of a knob and to listening to the grist of information as well as entertainment that poured day and night from their loud-speakers wanted facts, cold hard facts, and they wanted them quickly. They wanted the correspondent in London or Moscow or Melbourne to tell what he saw and heard in the war zones. They wanted President and Prime Minister and those entrusted with the job of girding for war to tell straight from the shoulder what would be required of the people—two-ocean navies, eleven million fighting men, a hundred thousand planes a year, the building of three ships a day, guns, tanks, barges, ammunition and food in astronomical quantities.

At first they were bewildered, perhaps skeptical. Little by little however, the radio gave them fact on fact and figures on figures in terse broadcasts. The newspapers amplified what the people had heard for themselves direct from the source. The reaction was instantaneous. Men and women flocked by millions to jobs vacated by men of military age. More millions entered new industries and soon became proficient in the use of tools and machinery with which they had no experience. The radio appeals sent out day and night got instant response. Truly it was the voice of the people calling the races, colors and creeds that are America.

Five years have passed since I heard the broadcast of the fictional invasion that sent a wave of jitters all over America and gave the first startling demonstration of the power of radio broadcasting over the mental processes of a people. Since that eventful night the newly discovered power of radio has been harnessed and piped into the homes, schools, offices, factories, army camps and out to our ships at sea. . . . Through the invisible channels have flowed vital words direct from the lips of our leaders, our statesmen and our educators—a verbal

plasma that has stimulated and brought to healthful vigor the low-ebb spirit that had gripped our people in the days before war came. The effect of these transfusions was immediate. Man power and woman power trooped to the hiring places. The wheels of industry spun at a speed never known before; raw materials from mine and forest, from the land, the sea and the air, avalanched to where they were converted into the machinery and material of war.

Radio, one of the nation's most potent forces, had turned the tide to victory. A little more than a generation ago this mighty force in long-distance communication came into the world as three little pips of sound catapulted across thousands of miles of ocean. I remember well the story of the event in the *New York Tribune*. It was not much of a story, for few saw in it little more than a mildly interesting scientific experiment. None dreamed that within a few decades the three faint whispers would become a hurricane of communications enveloping our planet and carrying on its crest the wisdom and wit of our day and the essence of the great affairs of our world.

In the light of what has since transpired in radio, the story of the three dots may be timely:

One wintry dawn—it was December, 1901—three men met in a building on Signal Hill overlooking the harbor of St. John's, Newfoundland. They were tense and nervous as if they were about to officiate in an early morning duel. For weeks they had been at work assembling and testing a strange collection of electrical apparatus. One of the group, a sparsely built young man, still in his twenties, was pale and aquiver with a great excitement. He went over each detail of the electrical array again and again, turning a knob here, testing a connection there. Occasionally he pulled his coat more snugly around him for the room was frigid under the attacks of the icy blasts charging down from the near-by Arctic. Not a word was spoken. The ticking of a clock and the spasmodic howling of the wind were all that broke the silence.

Satisfied that every detail of the complex setup was in order, the young man, Guglielmo Marconi, motioned his companions to seats.

The time was 11:30. On the table before which Marconi sat was a telephone. It was hooked up to the electrical apparatus on which the men had labored but it had no physical connection with the world beyond the walls of the building, except a thin wire suspended from a kite struggling in the Arctic gale 400 feet above the snow-covered ground.

Placing the receiver to his ear, Marconi slumped low in his chair, and with head bowed and eyes closed, he seemed to be in a trance. His companions sat motionless as they watched their chief with rapt attention.

An hour ticked by; not a word was spoken. Now and then the frail Marconi shuddered a little as the cold bit deep. Occasionally he cocked his head ever so slightly to one side as if he were straining to listen out across the wintry ocean.

A few seconds after 12:30 the bronzed skin of the young Italian paled, his closed lids tightened. His body surged forward as if under the shock of a powerful electric current and remained motionless.

Three hissing clicks sounded in the telephone receiver. "Click! Click! Click!" They were repeated again and again as a smile spread over the wan face of the inventor.

"Take this, Kemp," he said quietly to one of his assistants, handing over the receiver. Kemp, although robust and matter-of-fact, trembled with excitement as he placed the instrument to his ear. Sure enough, there it was—the now historic "S" in Morse code, the three-dot signal hurled over the Atlantic from Poldhu, Cornwall, more than two thousand miles away.

In Poldhu, a bleak but thrifty village on the southwest tip of Britain, another but different scene was enacted simultaneously. A group of technicians worked feverishly, building up a store of electricity that could be liberated in terrifying lightning flashes, three at a time. So deadly were these thunderbolts that a long wooden lever was attached to the sending key to safeguard the operator. The room in which the crude sending apparatus was installed was a horrifying

*As radio advanced, homelike surroundings in the studio were still considered essential.*

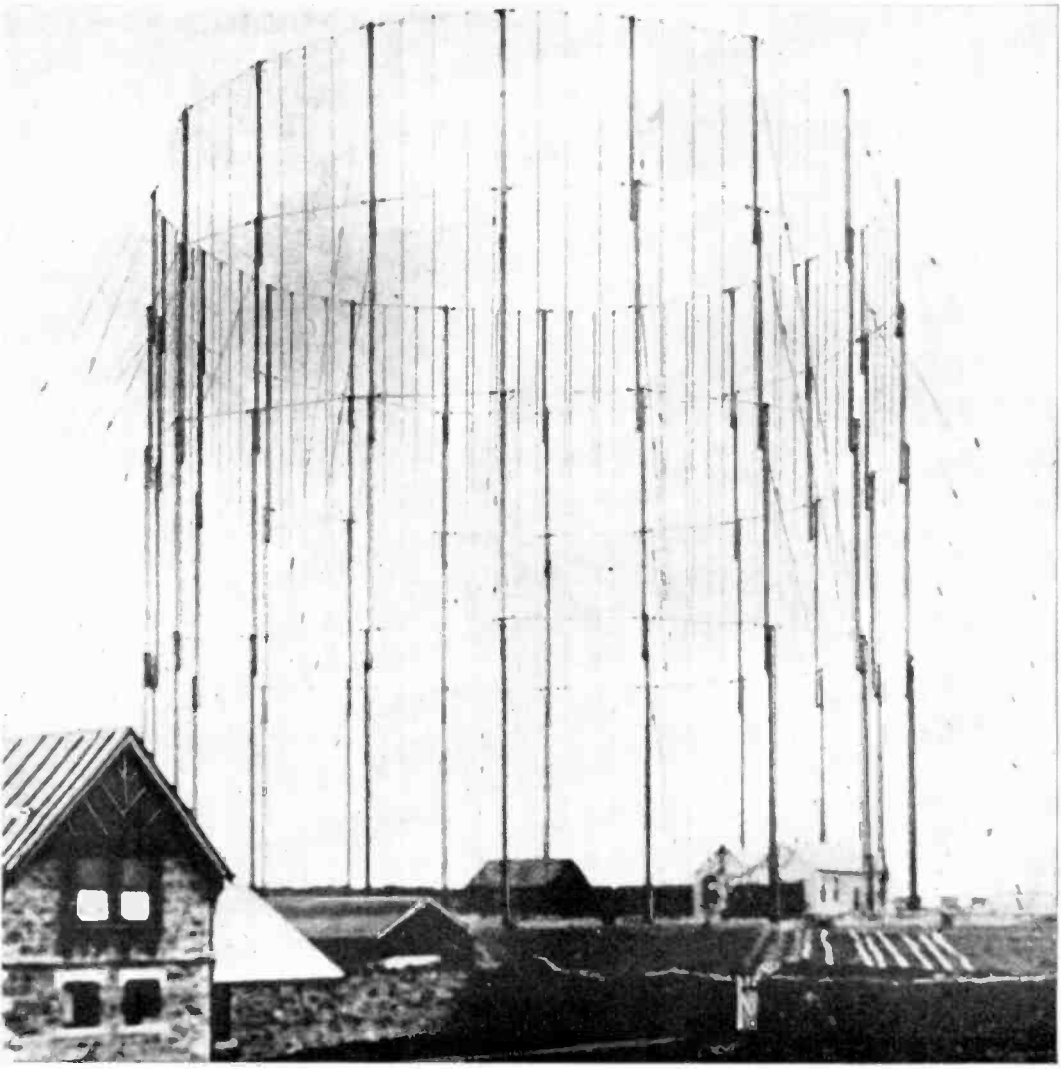
bedlam as the man-made lightning struck and struck from the knobs of the electrodes.

One of the group stood, stop watch in hand, at a respectful distance from the blinding flashes that drenched the room with a blue-white light. As he raised his hand the testing stopped. Everything was in readiness. All but the man at the key stood back, their eyes glued on the raised hand of the timekeeper. The silence was broken only by a pulsing hum from the apparatus. "Now!" the timekeeper's hand swept downward as he gave the word. The operator pressed the wooden handle attached to the key. Three hissing crashes, accompanied by a blinding glare, roared through the room. They were repeated over and over again and continued at intervals for half an hour.

It was these heavy electrical discharges that bounded across the Atlantic and in a small fraction of a second entered the telephone receiver that Marconi held to his ear as three tiny wisps of sound. In the course of a few weeks dashes were added to the dots, and the dots and dashes became words that were hurled through the ether like machine-gun bullets.

The St. John's-Poldhu experiment was a climax to some six years of labor that Marconi had devoted to the problem of sending messages without wires. In 1894 while a student under Professor Rhizi, who was then experimenting unsuccessfully with wireless, Marconi set up on his father's estate at Bologna apparatus he had built unknown to Rhizi. The instruments, though crude and hurriedly put together, did actually send and receive dots and dashes over a distance of a hundred feet. The signals were weak but they proved beyond doubt that the ether that had baffled such eminent scientists as Preece, Lodge, Branly and Rhizi, had been conquered.

Marconi, then a frail lad in his teens, worked feverishly in the development of apparatus that would give a stronger signal over greater distances. He became practically a recluse, often working twenty hours on end in his laboratory workshop. Within two years he had sent readable signals over a distance of two miles. The next



*Tower used by Marconi at Poldhu, Cornwall, for transmitting the three tiny dots that made radio history.*

year he sent messages to a ship ten miles out to sea; soon the distance was increased to twenty-four miles.

In 1899, Marconi's wireless rendered its first service of mercy. The steamer *R. F. Mathews* collided with a lightship on the treacherous Goodwin sands. Fortunately the steamer was one of about a dozen ships in all the world that had wireless. By a strange streak of luck another wireless-equipped ship, less than a dozen miles away, heard the *Mathews'* call and hurried to the sinking lightship. A few minutes after the last man had been taken off, the light-vessel sank. About this time the enterprising publisher of the Dublin *Express* came across an item in his own paper telling of the Marconi miracle of hurling messages through the ether. The Kingstown regatta, a big event with sportsmen of the British Isles, was but a few weeks away. The classic yacht race twenty-five miles offshore had for years been a source of keen competition among the newsmen who covered it. As the winning yacht crossed the line, the newsmen, each bent on getting his story on the wires first, engaged in a free-for-all race to shore on any kind of craft that would take them. This often took several hours.

The publisher of the *Express* suddenly threw down his paper and rushed to the managing editor's office. "Mac!" he shouted excitedly, "we have been asleep! We have not been keeping step with the world."

The editor tilted his spectacles up on his forehead and looked questioningly at his impulsive chief. "Well?" he said with a cold editorial stare.

The publisher continued, "Here we've been running stories on this chap Marconi and his wireless experiments, telling our readers of the steadily increasing distances over which he sends his meaningless messages. He has already sent Morse code without wires through more than twenty-five miles of space."

"Go on," said the editor, "what's on your mind?"

The proprietor whispered, "Get in touch with Marconi or his agents at once. Arrange a contract whereby we can have the ex-

clusive use of his wireless to report the Kingstown regatta from start to finish. And mum's the word!"

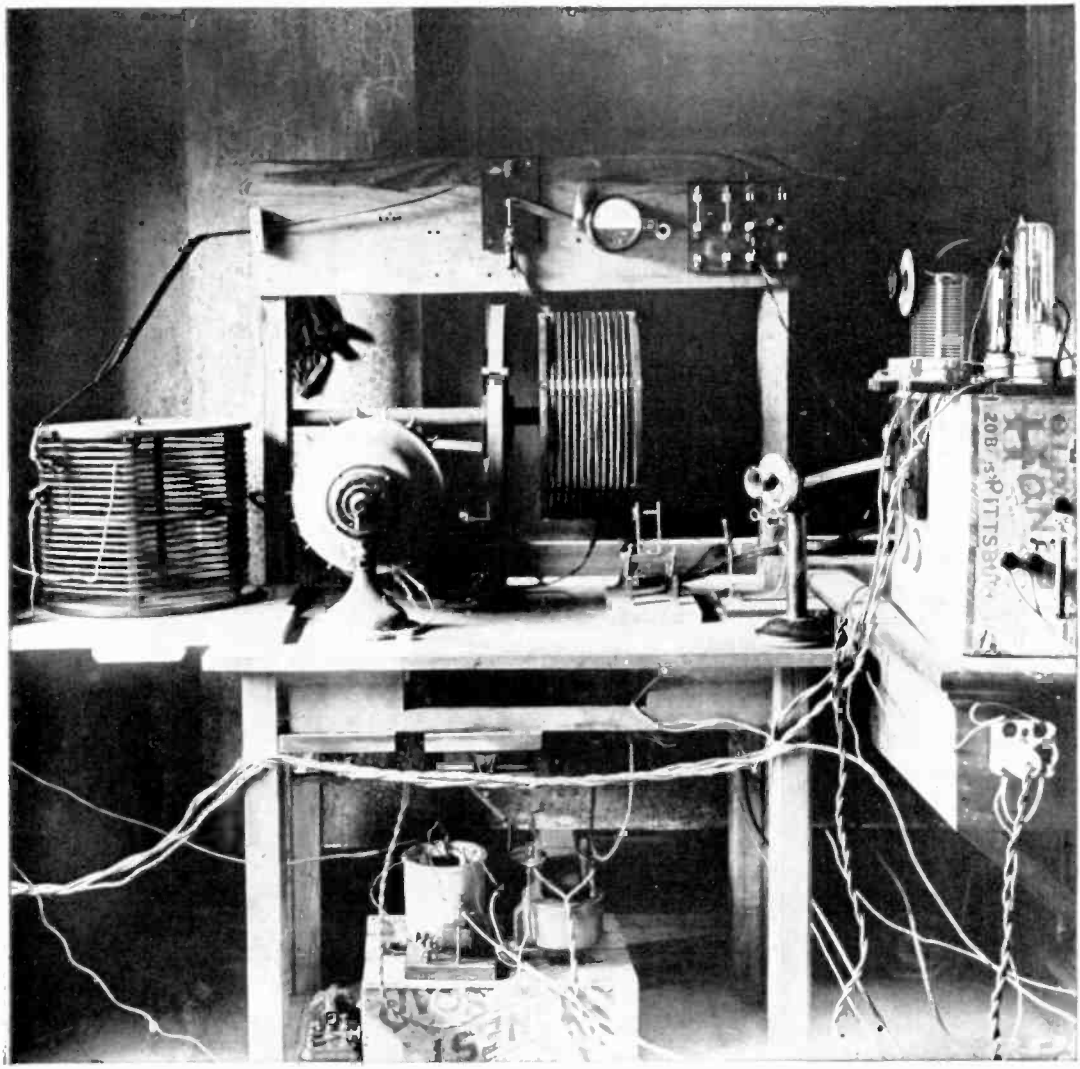
The editor's jaw dropped. "But—" he protested.

"There are no 'buts' to it!" barked his boss. "Charter a steamer for our exclusive use. We'll scoop the world!" He pounded the desk with his open palm for emphasis.

The steamer *Flying Huntress* was chartered with great secrecy and in her chartroom adjoining the bridge was installed a sending set. Aerial antennae were rigged between her masts. Early on the morning of the first race, reporters and technicians were smuggled aboard and the steamer dropped down the river Liffey and out into the Irish Sea—a mystery ship if ever there was one. Glasses were turned on her from excursion vessels, private yachts and even from the press boats. The spectacle of a three-thousand-ton steamer with no spectators on her deck leisurely following the competing yachts, baffled the onlookers. It was as if the captain of the steamer had taken his crew for a holiday at the yacht races.

When the newsmen who had covered the race from the press boats and other craft stepped ashore that evening, they were dumfounded to find a special edition of the *Express* on sale. It contained not only the result of the race but a detailed story of every phase of it. During the series of races, more than five hundred messages were radioed from the *Flying Huntress* to the editorial rooms of the *Express*.

The infant radio had made its bow in the world of news.



*The first commercial broadcast was made with this crude collection of gadgets. From this small beginning has grown the giant KDKA of Pittsburgh, of which radio and its listeners are justly proud.*

# II

OF ALL the discoveries of science, radio has been its greatest contribution to youth. For nearly two decades after the world had learned that it was possible to send and receive radio communications between widely separated points, and with simple and inexpensive apparatus, millions of teen-age boys, and grownups too, began to explore the mysteries of volts and ohms and kilowatts and probe the vast reaches of the ether. Although among the most profound of scientific enigmas, radio experimentation in its earlier stages was within the reach of the average boy. A few dry cells, a pair of headphones, a coil, a crystal and a wire probe, then called a "cat's whisker," constituted a radio set in its most elementary form. When a galena crystal was not available, a small lump of coal often answered the purpose adequately.

I remember well the breathless evenings I spent listening with closed eyes and popping ears for the faintest sound from the crude apparatus I had put together, and the thrill of my reward when on one frosty night from the infinite expanse of the universe came a whispering staccato through my headphones. "Dit—dit—dit—— dit-dah"

it went over and over— S A in the Morse code. A ship at sea most likely, trying to make itself heard.

Many months later, having improved my set and having become more or less proficient in reading code, I strained my auditory nerves for many an hour in an effort to pick up at least one coherent message. One winter evening as I explored up and down the length of the coil, a signal came in clear and strong. I soon learned it was from a warship and the message was from her commanding officer. The code letters came in with a sharp staccato and slowly enough to be read easily. Feverishly I translated the dots and dashes into letters and words. I soon learned that the message was intended for the C. O.'s wife. It regretted his hurried departure and wound up with the following: "Do not forget to send my laundry to Norfolk. I have only one clean shirt to my name."

Then called "wireless," the fascination of exploring the ether spread rapidly throughout the United States. The manufacture of receiving sets for use by the public was still far in the future. A manufacturing and retail business on parts and supplies sprang up overnight. The thousands of sets being built weekly were all homemade. Home workshops were working overtime. The handy man and the tinkerer became heroes as their logs reported greater and greater distances and improved clarity of signals.

In 1904, Professor J. A. Fleming, an English physicist, developed an electronic device known as the Fleming valve. It was the forerunner of Dr. Lee de Forest's tube that has made all radiotelephony and radio broadcasting possible.

On the introduction of the radio tube the entire complexion of radio changed. The reception of the dot-and-dash was discarded for the spoken word, the singing voice, the strains of an orchestra or the background sounds that often accompany spot news from the scene of its origin.

Timidly at first, broadcasting began its meteoric rise from a babbling infant to a coherent force in the daily lives of millions. It all began in the garage of a Pittsburgh wireless enthusiast, Doctor Frank

Conrad. That was in 1920. Doctor Conrad was one of the very few who saw in the infant radio a device that was destined to become a mighty instrument of communication with entertainment and education thrown in for good measure. His neighbors, often disturbed till long after midnight by the squeals and howls of the mysterious apparatus set up in the doctor's garage, wagged their heads sagely. "Too bad about the doctor!" they whispered. Milkmen, garbage collectors and other early morning workers often saw Doctor Conrad leave his garage workshop long after dawn. He was pale and unsteady as if from exhaustion but in his eyes was the fire of determination. Rumor and conjecture spread. One neighbor had it on good authority that Doctor Conrad was in communication nightly with Mars. "Mars my eye," replied the other neighbor over the back fence, "he is in communication with the devil, or something just as supernatural. He hears voices out of the air and speaks back to them. You know what that means."

While the neighborhood tongues were wagging, the Pittsburgh *Sun* carried an advertisement inserted by the Joseph Horne Department Store. It told readers that an "air concert played into the air by a wireless telephone" was picked up by listeners in the store at a receiving station installed by Doctor Frank Conrad. The program consisted of two orchestra numbers played from records, a soprano solo which "rang particularly high and clear through the air" and a juvenile "talking piece."

The ad went on to explain that the program came from the home of Doctor Frank Conrad at Penn and Peebles Avenues and was put on periodically for the entertainment of those in the vicinity who owned wireless sets. Then the readers were informed that receiving sets made by Doctor Conrad and similar to the one successfully installed by him in the store could be purchased in the West Basement for "$10.00 up."

That was the first broadcast in the true sense ever put on the air and it is interesting to note that it was intended to sell merchandise just as some of our best commercial broadcasts today are expected to

do. There is no record of the number of radio sets sold nor of the number of listeners, if any.

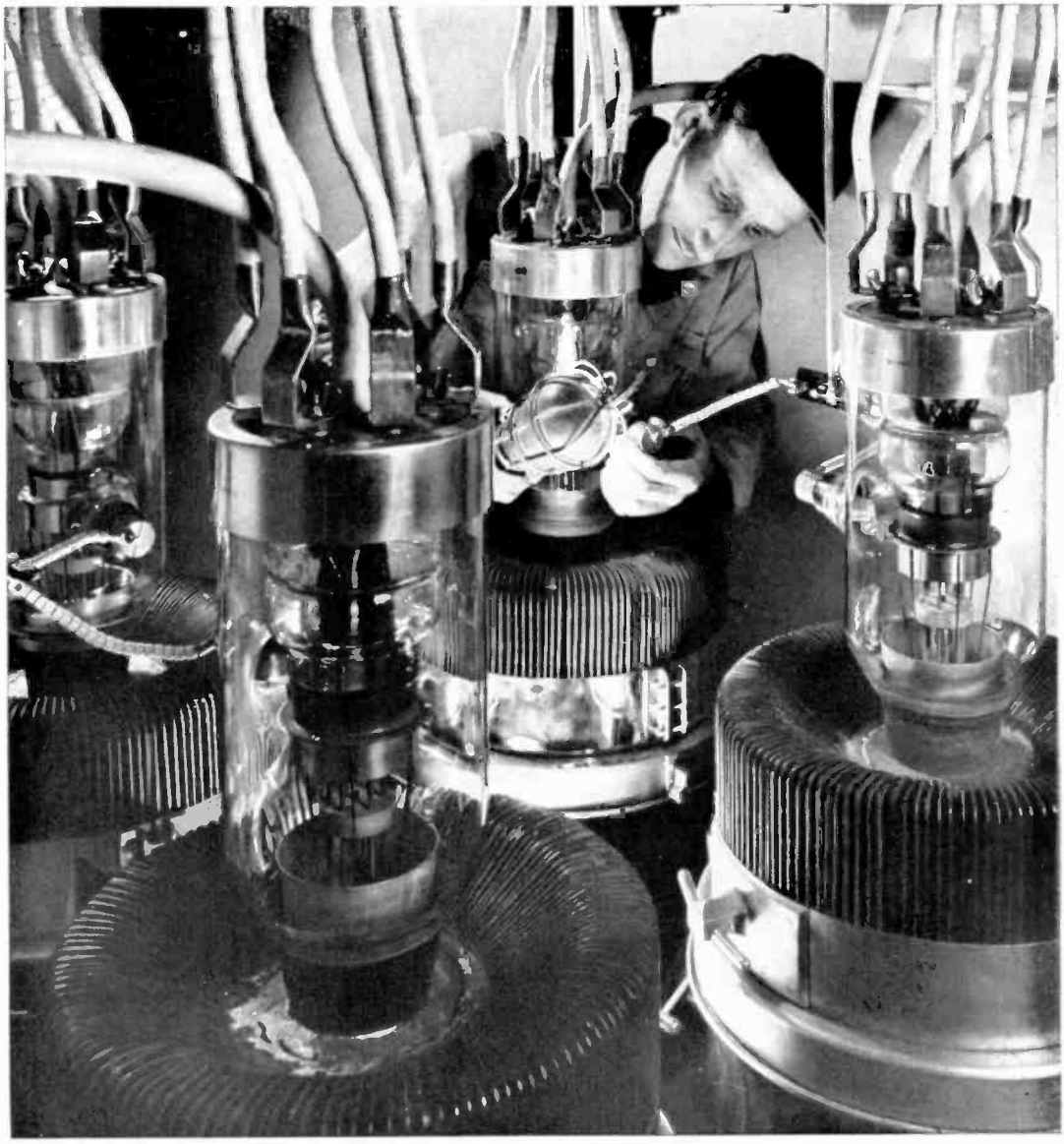
About the time of Doctor Conrad's initial broadcast, the country was in the throes of a Presidential campaign with Warren G. Harding the Republican candidate and James M. Cox the hope of the Democrats. On the ticket with Cox, as candidate for Vice-President, was an affable young man who was destined to be the world's best-known radio voice. His name was Franklin Delano Roosevelt. In those days a candidate's job was an arduous one. His campaign audiences were all within sight, whether he spoke from the rear platform of a train or in Madison Square Garden.

After months of weary travel by the candidate up and down the country, the great November day arrived when the nation made its choice, and with it another election night putting millions on pins and needles until they learned the result of the returns from the polling districts. In large cities throngs assembled in the vicinity of newspaper offices where incoming bulletins were chalked on huge blackboards. In rural communities men and women gathered at the general store or some other convenient place at which telephone messages from the county seat gave fragmentary reports on how the voting was going.

Presidential Election night, 1920, marks the first prescheduled broadcast. Doctor Conrad, anxious to serve those who had purchased his receiving sets, broadcasted to his "selected group of listeners," five hundred in all, a summary of the returns and the election of Harding. His famous call letters KDKA were soon to be known far and wide. They remain to this day the identifying letters of one of America's great stations.

From that time on the growth of radio was almost bewildering. One development came on the heels of another. Overnight the country became radio minded. In hamlet and city, lights burned until early morning as radio enthusiasts probed the far reaches of the country for distant stations. The hours of darkness were the best for reception.

Early in 1923, I was invited to broadcast over WJZ, then located



*These modulator tubes are "spares" at the modern station KDKA. Should one of them fail, another can be put into service by pressing a button. The cost of one of these supertubes could pay for a score of stations as shown in the preceding illustration.*

in a dismal corner of the Westinghouse factory in Newark, New Jersey. In those days, long before the movies had thought of such a thing, radio had its talent scouts who frequented theaters, concert stages, artists' studios and writers' meeting-places in their hectic search for broadcasting talent. The "scout" invariably told the prospective "guest star" of the high publicity value of an appearance behind the microphone. As a further inducement, a luxurious automobile would take the guest to Newark and return him to New York safely. No one had even considered paying for such services.

On the appointed evening the scout arrived at my New York studio and led me as a jailer might lead a prisoner to a huge black Packard standing at the door of the building. A drizzly snow was falling and making strange patterns in the glare of the headlights.

Although I was an ardent listener to the fragmentary radio programs and occasionally recognized a familiar voice coming from the headphones then widely used, I had never seen a broadcasting studio. As we drove into the dingy yard of the factory, the glamorous surroundings I had visualized melted away like the snowflakes on the hot radiator of our car. On entering the studio I was shocked at its resemblance to an undertaking parlor. Its atmosphere was dead and silent. Its walls were heavily draped in a drab-gray fabric to kill echoes. In one corner where a casket might have stood, a black grand piano added a funereal touch. Near by was a mahogany gibbet about as high as a man, and suspended from it was a cylindrical affair that closely resembled a horizontal tomato can. It was the receiver, sometimes called microphone, but never "mike" in those days. The only detail that suggested the scientific was the mass of black wires that snaked across the polished floor to where the engineer with rakish headphones sat twiddling half-a-dozen dials on a black box behind the piano.

On the tick of eight o'clock the signal for silence was given. The announcer—he is still announcing on a New York station—gave the time, the temperature and a short weather report before playing a record of a Sousa march. Then the guest speaker was announced. It

was a strange experience to stand before the "tomato can" and discourse on a trout fishing expedition in the Adirondacks. The oppressive drapes absorbed whatever resonance there was in my voice. It felt as if my words were flung back in my teeth. That did not matter much, however, since I learned later that after the first few sentences the sending apparatus broke down and I was "off the air" until near the end of my carefully prepared address.

In those days broadcasting was an adventure. Often everything in the studio came to an abrupt stop when a voice from the transmitter announced tragically, "WEAF New York going off the air for an S-O-S." This was a signal for talent and technicians to dash to the control room in the hope of getting some of the tragic details of some unlucky ship's battle against the sea. There was, however, a family-like informality in it all. Frequently the studio staff would cook up an impromptu program and put it on the air.

On one of those occasions the studio hostess, a breathless little person, volunteered to sing a song so full of pathos that she broke down in the middle of it. She gasped and gulped and then went into a good old-fashioned cry. Relieved, she sniffed once or twice and finished the song, leaving her unseen audience filled with wonder at what it was all about.

It was in the old WJZ studio that authentic but involuntary sound effects first went out over the air. A publicity minded soprano was at the microphone struggling bravely with an aria from *il Trovatore*. A cat, prowling in the alley outside, leaped to the window ledge and, the window being open, crept into the studio. The director, seizing a musical score from the piano, threw it at the animal with disastrous result. The cat, scared out of its wits, wildly circled the room with the studio staff in hot pursuit. The soprano, a trouper at heart, continued her solo as if all were serene, finishing on a beautiful crescendo to high C as the window was slammed down on the ejected alley cat. Not even a post card came from the listeners. It was all a part of the incomprehensible radio of those days.

As apparatus and reception improved, radio audiences grew. Adults

who had listened condescendingly to the homemade receiving sets of neighbors began to wonder if, after all, a radio would not be more pleasant in the home than the phonograph with its inconvenience of changing records after each tune. Besides a greater variety of entertainment, there was a sprinkling of spot news and occasional reports of current events. Even then the general public looked on radio as an interesting toy, a pseudo-scientific gadget with which youngsters might amuse themselves. Of the millions who had never heard radio, many refused to believe that the human voice could be made audible hundreds of miles away from the speaker.

The seed was healthy, however, and the soil fertile. Up from rooftops and back yards all over the country, poles sprouted like slender saplings, each supporting an aerial connected with a radio set, more frequently than not, homemade. Enterprising manufacturers saw in the sprouting crop of poles a golden harvest awaiting them, and soon a brand-new American industry was born. The homemade sets gave way to factory-built instruments that called for little, if any, technical knowledge. "Radio stores," something hitherto unknown, sprang up in towns and cities. Crude receiving sets were advertised in newspapers and magazines and salesmen from radio manufacturing concerns traveled their territories just as they did when they were selling shoes or canned goods.

One of these drummers, a high-pressure fellow covering Newark and vicinity, demonstrated his wares to his prospective customers by the simple expedient of calling up Station WJZ and requesting the manager to put a stirring record of a military band on the air. As the martial music enthralled the customer, the salesman plunged into his sales talk, covering up the static and squeals with his eloquence, then, dramatically cutting off the broadcast while it was still going strong, produced his pencil and order-pad and got down to business.

During those adolescent years radio executives were haunted by many strange inhibitions. At the same WJZ an old Westinghouse rule forbade dance music or lively tunes on the Sabbath. Vincent Lopez, then a popular piano virtuoso, dropped into the studio on a Sunday

evening and volunteered to play for the unseen audience. Knowing nothing of the rule against playing dance music on the Lord's Day, he rattled off a fox trot that set toes atingling. Before his first number was finished, an angry executive telephoned the studio to cut the dance demon off the air at once. The studio manager and the engineer went into a huddle to discuss their quandary. They could not offend Lopez who even then was a valuable drawing card on the radio. On the other hand, there was their irate boss who probably would discharge them if the profane program continued. Fortunately, they hit on a compromise. The engineer cut Lopez off the air without his knowledge, letting him continue his program before a "dead" microphone while a series of hymns were broadcast from the control room.

The infancy of radio was an anxious period; few thought it would survive. H. G. Wells said in an interview, "The whole broadcasting industry will dry up." So uncertain were radio officials of the future of broadcasting that they introduced this clause into their contracts with radio entertainers: "The entertainers understand that the company may decide to discontinue radio broadcasting at said station and agree that in this event the company may forthwith terminate this contract without any liability for so doing."

Those were the lean years when radio was the stepchild of industry. Concerns like American Telephone and Telegraph Company and Westinghouse Company, both pioneers in radio development, looked on it as a sort of by-product that might be used someday as another means of communication—a rival perhaps of the telephone and telegraph, both of which must be protected from undue competition at all costs. The phonograph and player-piano industry also saw in it a dangerous competitor for the favor of the public. The scientists and engineers, however, never faltered in their work of nursing and nourishing the sickly infant they had brought into the world. True, it squealed and howled and was given to fits of temperament and often went into a coma from which it took hours or days to revive it. But it was their brain child and they loved it with all the fervor of a doting mother. Little by little its ills and aches disappeared. One by one the

"bugs" that beset it were eliminated so that physically, if not financially, it might be said to be a sturdy youngster.

During these years of travail an unexpected phenomenon was taking place all over America. In cities and hamlets, in forests and on farms the age-old desire of man to learn what was going on beyond the horizon flared up anew; the public was becoming radio minded. Listeners increased by millions. New words crept into, or rather, old words took on new meanings in the national vocabulary—"tune in," "hookup," "kilocycle," "amplifier," "reception," "static," "wave length," "interference" and scores of other terms heretofore used only in the engineering laboratory were now on the tip of the tongue of the man in the street.

It was not long until the listening public was several jumps ahead of the broadcasters. Radio sets were built or bought with entertainment in mind, but the quality of the entertainment was, as a whole, inferior.

In its initial stage, publicity, a free automobile ride, some ice cream and cake were the only rewards that awaited the performers. The top-flight entertainers, the big names, considered the whole thing beneath their dignity. Those who tried it often came away from the microphone disappointed and disillusioned. Accustomed to the stimulation of the seen audience, they found it difficult, if not impossible, to do their best work before a thing of tin and wire in the smothering and lifeless atmosphere of a heavily draped room. Nor did they get lift or consolation from the workaday studio staff who were too intent on their own job to give much attention to the trembling artist behind the mike. One of the then best-known comedians on the American stage condescended to broadcast supported by his entire company. On arriving at the studio he asked haughtily, "Well, where do we put on the show?" On learning that the broadcast must be done in the none-too-large room in which he and his company were gathered, he resented violently the whole arrangement and in fact refused to go on with the show. The studio manager informed the star that country-wide disappointment would be the result of his refusal and

*Broadcasting studio and control room were often combined when radio was young. Photo shows Station KPO in 1922. Note the megaphone-like "mike" at piano and loud-speaker on the right. The funereal drapes were used to overcome echoes.*

further reminded him of the real trouper's credo, "The show must go on." That seemed to settle it; he consented to go on. Then followed the task of arranging the company in proper relation to the mike so that the voices of the chorus might be properly balanced.

As the broadcast zero-hour approached, comedian and company stood frozen around the mike. At a signal from the director, the announcer began the broadcast by introducing the guest star in the most complimentary manner. When the introduction had ended, the man who had faced millions over the footlights stood petrified with fright, his face a pasty white, his jaw sagging, the cue script he held in his hand trembling like a leaf in a high wind, not a sound coming from his parched lips. He looked helplessly at the director who was wildly signaling him to begin. A few chords on the piano dispelled the mike fright for the moment. Having missed his cue and forgotten his lines, he began to ad lib and soon was snarled in a tangle of lines that made neither rhyme nor reason.

A member of the cast, alarmed at the plight of the star, broke in with some slapstick comedy. It was the lifeline the mike-frightened guest wanted. It was only a temporary relief, however, for soon he was floundering again and continued to do so to the end of the program.

For many years after that tragic broadcast the star comedian had one stage success after another. His name on a theater meant a full house night after night. During that period he was approached again and again with offers of radio contracts. The thought of appearing behind the mike terrified him. The sums offered for his services increased to a point where the loss of a fabulously fat contract frightened him more than did the mike. He succumbed and finally became one of the best known and best paid radio personalities.

In those early days opera stars, particularly sopranos, were the most unpredictable guests of the radio studio. Throat, temperament and tantrums were the unholy three that made a studio a nest of nerves on the night of a broadcast by some reigning diva. Again it was at the old Newark station WJZ that temperament and tragedy had a set-to:

A Metropolitan star, then the darling of the golden horseshoe, consented to sing over WJZ. It had taken weeks of cultivation and cajoling to convince her that she owed to the American people the courtesy of at least one broadcast. It was a red-letter day at the studio when the diva agreed to sing an aria and a lighter number for the unseen audience breathlessly awaiting the gift of her heavenly voice. The evening was arranged and the hour set. The studio was furbished till everything in it shone. A rocket-burst of American Beauty roses filled the room with fragrance. Dinner jackets were a "must" for the men of the studio staff who also brushed up their most meticulous manners.

Shortly before the broadcast hour, anxious peepers through the single studio window saw a shiny limousine arrive in the factory yard. A vision in ermine stepped from the car and daintily minced across the railroad tracks which ran outside the door. Suddenly she stopped and teetered as if she were about to faint. Her accompanist, who was with her, sprang to her aid and assisted her as she limped into the studio. The staff stood petrified as they saw her enter. Her eyes blazed, her face writhed in fury. "Look! Look!!" she screamed, as she held out a satin-slippered foot. The staff gasped. The lady's French heel was missing. It had caught in the tracks and there it remained. The studio manager, a diplomat by virtue of his job, did all in his power to calm the famous guest, but his most persuasive effort failed utterly. She refused to go on the air. The studio clock, ticking off the seconds with deadly deliberation, showed a scant two minutes to broadcast time. The engineer, less optimistic than the director, was placing a record on the phonograph turntable in readiness for the emergency. The announcer was hurriedly scribbling an appropriate apology to be read off to the legion of listeners waiting breathlessly for the golden voice.

"Not one note I sing!" said the excited soprano. Her German accent became guttural and harsh. The director, his eye on the moving finger of the clock, was about to make a last appeal. He was silenced by the violent clattering of a gong. A scream of "FIRE!" followed

by the shouts of men came from the hallway outside the studio. A man in overalls threw the door open, "Get out!" he bellowed, "get out quick!" Smoke was already entering. The diva forgot her heel trouble. Wrapping her ermine around her, she made a beeline for the door and vanished into the darkness outside.

Within an hour the historic old studio was no more. Nor did it rise from the ashes of the place where it had been born. A new and modern Station WJZ opened in the heart of New York where it is today.

Next to making ends meet, the early broadcaster's gravest problem lay in securing suitable talent. Professional entertainers looked with suspicion on the newfangled device that permitted people to sit comfortably in their homes and enjoy performances of artists hundreds of miles away. So great was the scarcity of talent, announcers often acted as pinch hitters in an emergency, filling in with a solo here and there and making themselves generally useful as entertainers.

As the demand of the public for more and better entertainment grew, broadcasting officials began to realize that, if radio were to survive, competent vocal and instrumental artists must be employed. Many of the performers chosen were known only to small circles in their local communities; a few of them were known to concertgoers in the larger cities. Soon, however, many of these early radio artists had larger followings among the music lovers of the country than did the greatest names in opera.

The success of the radio musicians was as manna from heaven to music students and choir singers all over the United States. A new outlet for their talents had been opened; a pleasant and profitable livelihood for many of them was in the making. Soon the talent for which the broadcaster had had to search so diligently flocked to the studios and radio itself gained an invisible horde of devotees.

Radio auditions proved that America was teeming with talent. Much of it was undeveloped, however, and little of it was capable of giving an acceptable performance behind the exacting mike.

What occurred in the musical field was repeated when radio was found to be a satisfactory medium for dramatic productions. Stage

*Contrast this modern NBC Studio with the preceding picture. Behind the glass panel is the control room. Beside it stands the announcer's desk. Piano tuners are forever at work on the scores of pianos owned by the National Broadcasting Company.*

folk and amateur thespians flocked to the studios as prospectors to new-found gold fields. The actors were a little more difficult, however—each new arrival insisting he was the best since Booth. Many a leading man was shocked into silence when he found that his strutting and gesturing and his stock facial expressions were worthless to the mike. Clear diction, devoid of mannerisms, was all there was to lean on and few of the aspirants had it.

I remember one evening during that period. I was a dinner guest at the home of a friend. One of the most popular actors of the day was also present. After dinner our host turned on the radio. Through the morning-glory-like horn came faintly a stirring Sousa march, for volume was limited in those days. Then came an excerpt from Hamlet by a then-prominent Shakespearean actor. He did the famed soliloquy at the grave. Smooth as flowing honey, the great tragedian's art poured from the loud-speaker, every word and syllable clear as the note of a flute. One could see the troubled Dane in somber garb and pale of face contemplate "poor Yorick's" skull as he addressed Horatio. As the final words whispered in from the ether, the dinner guests sat enthralled by the beauty and poetry in them and marveled at the exquisite art of speech from the lips of a master. Silence, disturbed only by a faint hissing from the morning-glory horn, gripped the group for a moment. The actor guest was in a state of suppressed excitement. "I can't understand it," he blurted, "I was certain he would fumble his lines, but I never heard him in better form."

Someone asked him why there should be any doubt as to the great Shakespearean actor's ability to cope with the soliloquy successfully. He replied, as actors often do, with a story. I shall tell it as nearly as possible in his own words:

"Ten years ago I was on a road tour with the actor you have just heard. We were playing 'Hamlet.' Arriving in a western city two hours before curtain time, there was much of the usual last minute bustle and confusion. My dressing room adjoined that of the star and through the thin partition I could hear him ranting and swearing like a trooper. Soon I learned that the trunk in which 'poor Yorick's'

skull and other props had been packed was missing. This was double tragedy since the skull in question was cherished by the star as a talisman—a charm that shooed off the imps of mischance that often bedeviled the emotional actor. Ben, the property man, was disconsolate but not beaten. With the aid of a needle and thread and a few hand-towels he created a spherical object about the size of a human head, then with grease paints skillfully applied, he managed to get a sketchy resemblance to a human skull. It was not a work of art but it was adequate.

"As Act Five opened, our Hamlet was a sheaf of nerves. I too was shaky as I thought of the ordeal ahead, for I was playing 'Horatio.' As we made our entrance together, the plume on his headdress was all atremble and his knees, encased in black tights, seemed to be on the point of buckling.

"'Steady!' I whispered as the grave digger rollicked his song. The scene progressed without mishap until the grave digger held up the skull of cloth and grease paint. During the dialogue that followed strange things befell Hamlet's lines. Then came the moment when Hamlet takes the skull in his hands and goes into the soliloquy: 'Alas, poor Yorick! I knew him, Horatio, etc.' The deep and mellow voice of the master became hollow; he babbled his lines like a schoolboy. As he put down the skull and rendered the line that went with the action— 'And smelt so?—pah!' he screamed his disgust. The audience was bewildered; the cast, assembled in the wings, sighed with relief when the business with the skull was at an end.

"The following morning the trunk containing the skull was found and our performance that evening was flawless. So you see," continued the actor guest, "why I am astonished at his excellent radio rendition done doubtless with a script in his hands instead of a skull."

But that is where my friend the actor was wrong, for I learned later that the great tragedian, on arriving at the broadcasting studio, startled the staff by taking from a satchel he had brought with him a well-seasoned skull. It was Yorick.


*Enjoyed by millions, Will Rogers' broadcasts were a period of anxiety to the studio staff. The complete informality that was his in everyday life he took with him behind the microphone, often to the dismay of radio folks.*

# III

THERE is something sinister about the microphone, something that makes strong men quake and that often deprives experienced speakers, singers, actors and instrumentalists of the very poise and self-assurance that gave them mastery over their audiences. It even holds terror at times for the most experienced broadcasters.

Quite recently I spent a part of an evening in the library of one of the large broadcasting companies. As I left the library and stepped into the hall, I saw a man pacing up and down, evidently under a high nervous tension and deep in thought. His fists were clenched behind his back, his shoulders were hunched high around his neck, his ordinarily florid face was pale and in his eyes was the look one might see in those of a man tottering to the gallows. As I drew nearer I recognized him as one of America's leading commentators. His nightly broadcast was due to go over the air in a few minutes. I greeted him and as we chatted for a moment, his cheery voice was steady and clear and his manner was gracious and unruffled as usual, but on his pallid face was the imprint of fear—fear of an innocent-looking metal gadget that hurled his words night after night into the homes of America.

A few minutes later I dropped into an office on the next floor and there heard my friend the commentator make his broadcast. His words shot from the loud-speaker with every syllable clear and well-defined as the facets of a diamond. Then I realized that his sharp staccato style of diction, which did not even slightly resemble his normal speech, was the result of his fight against mike-fear. But it is not always fear that perches on the mike and bedevils the man behind it. Even the most self-possessed of broadcasters occasionally are confronted by unaccountable mental reactions over which they have no control.

One evening not so long ago one of America's most popular commentators was suddenly confronted by such a specter. Strong, resourceful and accustomed to crises, he fought tooth and nail with the fearsome thing, only to go down to utter defeat. The author of many books, he has been close to the seats of the mighty, closer than most men even in writing circles. To my knowledge he has faced danger many times as a part of his day's work and thought nothing of it. Placid, self-possessed, I have seen him face flesh-and-blood audiences under the most trying conditions. A lover of sports and the outdoors, he is a man's man with a keen sense of humor and a fund of amusing stories. At the Tuesday luncheons of the Dutch Treat Club his cronies are men whose names are known the world over. I dwell on these characteristics since they make the incident I am about to relate all the more inscrutable.

On the night of the epic broadcast our news commentator had dinner with some friends before he went on the air. During the meal one of the men present told a humorous story. It was not a particularly comic jibe but it struck the commentator as uproariously funny. He laughed loud and long and when the dinner ended he was still chuckling.

As he sat at the table behind the mike waiting for the sweep hand of the studio clock to slice off the seconds to broadcasting time, the trace of laughter was still in the corners of his mouth. Taking a sip from one of the usual paper cups of water on the table, he glanced

through the script in his hand, while the announcer stood by his microphone awaiting the split second for the broadcast to begin.

"Good evening, ladies and gentlemen," the commentator began in his round and mellow voice. The news of the day and the happenings of the world, peppered with kindly humor, flowed from the commentator with more than usual lucidity. Halfway through the program he tripped on a word, a simple everyday word. Recovering himself, he repeated it with a chuckle, and again "fluffed" it. He continued, however, to read from his script but there was an unsteady quality to his voice that soon became, even to the listener a thousand miles away, swallowed laughter. Catching himself with great effort, he read on in deep and serious tones that gradually disintegrated into giggles and finally burst into uncontrolled laughter, round and rollicking. He cast pretense to the winds and roared with merriment as uncontrollable as a runaway horse. Laugh and the world laughs with you. By this time millions of listeners were infected with the soul-warming belly laughs of the commentator; they rocked and held their sides. The frightened announcer, trying to save the program from catastrophe, sprang into the breach, but he too was overcome with laughter. Behind the soundproof window to the control room the engineer, also convulsed, flicked a switch and cut off the program.

This phenomenon of uncontrollable laughter is by no means confined to single individuals. Groups, too, are occasionally swept off the air in a gale of giggling. I remember such an incident:

One evening my family and I were seated by the fire enjoying a program by a male quartet of rather unusual musical skill. We had heard the group several times before and had predicted that they would eventually make a big reputation in radio. On this occasion they were in excellent voice and were giving a fine performance. About the middle of their fourth number the second tenor's voice wavered a moment and broke into a decided giggle. Fortunately, a short solo passage by the first bass saved him. When the ensemble again picked up the harmony, everything seemed to be under control. A moment later, however, the first bass was seized by a laughing

convulsion. The others struggled manfully for a few bars and then let go in a spasm of guffaws. A slight click came from the receiver and then silence for an instant. A stand-by piano came on the air and the promising quartet was never heard again.

Even seasoned announcers are sometimes pestered by these gremlins of the microphone. A veteran of years behind the mike recently announced in a WOR newscast, "In last night's raid the RAF dropped two- and four-ton blondes on Berlin." Another announcer, while making a weather report on the same station, informed his listening audience that "Tomorrow will be rowdy followed by clain," while an NBC announcer, introducing a woman correspondent recently back from Spain, declared she was "NBC's only woman commentator in pain."

To the listeners these are only slips of the tongue; to the person behind the mike they are the crack of doom, preceding a shower of letters. These missives are in themselves one of the unaccountable phenomena of radio. Some contain a gentle ribbing, some sympathy, while others are abusive. Following an almost imperceptible slip, an announcer, whose diction is usually faultless and who holds two university degrees, received a letter containing this classic query: 'Didn't you never learn English?"

These are only passing clouds, however, that throw thin shadows here and there on a sunny landscape. As a rule the broadcasting studio is the most orderly and the most cheery workroom in all industry. The people found there are, as a rule, outstanding in their profession. The fact that they are permitted to go on the air means in simple terms they are worth listening to.

I have attended many broadcasts and have often been privileged to go behind the scenes and witness the almost unbelievable co-ordination of the men and machines in that complex technical world that lies between the studio and the listener. It is a land of miracles in which the sound that enters the mike reaches the technicians as a raspy little whisper fainter than the buzz of a mosquito's wing. The faint "signal," as it is called, goes through a kind of electrical beauty parlor where it


*The news announcer, often a victim of speech gremlins, scans his lines for tongue twisters that may cause trouble.*

receives treatments that eliminate its flaws and bring out the beauty and clarity of tone that lie hidden in it. Then it is built up through amplification from a puny distorted thing to a giant that can leap a thousand miles, and all this in a fraction of a split second. It is in that intermediate zone never seen by the public that the real wonders of radio lie hidden. It is a place where teamwork is governed by each tick of the clock, where men and women must count the sands of time, grain by grain. Were it not for the fact that a slip occurs now and then, one might consider the whole thing as bordering on the supernatural.

One of these slips occurred in one of the great broadcasting studios: A conductor, well known for his almost fanatical insistence on perfection, had on his program for the evening a rhapsody regarded by musicians as extremely difficult. Ordinarily seven hours of rehearsal are required for one hour of broadcast. In this case, however, the conductor insisted on eight hours of rehearsal, most of which were devoted to the rhapsody. Few realize from the smoothness of an orchestral program coming in through the receiving set, the drudgery of the rehearsals that made it possible.

When the broadcasting hour arrived, the studio was filled to capacity with a critical audience of music lovers. The musicians, alert with poised instruments, held their eyes on the upraised baton. The program began and flowed smoothly as a deep river through number after number. The rhapsody was next on the program. The wild flutter of notes from instruments being tuned had a touch of nervousness.

As the orchestra attacked the opening bars, it was with the fullest confidence in itself and its conductor. A performance that would be remembered was in the making. All went well during the first part. The conductor smiled his approval. During the opening passages of the second part, the huge studio was suddenly thrown into complete blackness. Built for broadcasting, there was not the slightest opening through which sound or light could creep. A murmur of alarm welled up from the audience. Frightened voices were heard asking, "What has happened?" Someone shouted "Lights!" as if it were all part of a

game. The struggle between panic and patience could be felt in the air. For a moment it looked as if the concert had ended with the blackout, until some of the cooler heads in the audience noticed that, despite the complete blackness that hid the music stands and conductor, the orchestra continued as if nothing unusual had happened.

Soon the audience settled back in its chairs, hushed by the wonder of the sightless musicians' precision and skill as they went unaided and unled through the intricate mazes of the composition. The only unruffled person in the studio was the conductor, for he alone knew that the grueling rehearsals on which he insisted had made each musician master of his part.

As if to enhance the dramatic effect, the lights flashed on suddenly, just as the orchestra was in the final passage which calls for a crescendo of brasses. There was the conductor now revealed in full stage lights with body and baton invoking the instruments for the degree and quality of tone he desired. The orchestra was right on the beat and was responding just as if the conductor had been visible throughout the blackout. As the final note sped away through the ether, the conservative audience went wild with applause, and as the conductor bowed his acknowledgment, the men of the orchestra rose and added their plaudits. The man whom they called slave driver a few hours before they now called miracle man.

When or where these gremlins will play their pranks is beyond the ken of even the wisest in radio. A certain well-known commentator with a large and enthusiastic following realized quite early in World War II that there was a decided possibility that New York City might be bombed. After conferring with Civilian Defense and Military authorities, he arranged at great expense to send his nightly broadcast from his home on Long Island rather than from the studio at Station WOR in New York from which he had hitherto gone on the air each evening at nine o'clock.

In his change of broadcasting location he had no thought of personal safety. As a newspaperman and a top-flight reporter his only concern was to be in a position to get his story out in case the worst

happened. He chose a room in the basement of his house and there had set up broadcasting equipment connected by wire with his parent station.

At that time defense blackouts were ordered at frequent intervals on Long Island. This in no way interfered with his broadcasting since the studio room had been made light tight. However, for extreme emergency he kept a flashlight on his desk as part of his broadcasting equipment.

The whole arrangement worked admirably until one evening just as he had begun to broadcast, without even a warning flicker, the lights went out. Something had gone wrong at the power station. Unruffled, he reached for his flashlight. It was not in its accustomed place. Then he remembered with alarm that for the first time he had used it elsewhere earlier that evening and had forgotten to put it back where it belonged. Millions of ears received the shock that comes with sudden silence on the radio. The script on which he had labored so long and rehearsed so assiduously might as well never have been written. A radio commentator without his script is as futile as a hunter without his weapon. "Ladies and gentlemen," he began apologetically; there was frustration in his voice. Then he began to tell just what had happened in as entertaining a manner as possible, hoping meanwhile that the lights would come on at any moment. Perhaps it was this expectancy that made his ad lib remarks more or less pointless. Near the end of his broadcast the lights came on as suddenly as they had gone out, but much of the broadcast prepared with such infinite care was lost to his listeners forever.

In sponsored programs the specter of the sponsor is always hovering over the hapless orchestra conductor, ready to strike like an avenging angel should his displeasure be aroused. Since it is his money that makes the program possible, that is to be expected.

Frequently the sponsor insists that a program be governed according to his personal likes and dislikes, although he has little if any knowledge of the radio tastes of the great American public. Many a good program has been wrecked by a sponsor's interference. Occa-

sionally, however, the unexpected happens and brings much relief.

The leader of one of the well-known bands will never forget one night when he opened a new commercial series. As a gesture of good will for the occasion he made a special arrangement of a popular tune. On the night of the première broadcast the opening number ran a few seconds over the allotted time, and since each second on a nation-wide hookup costs considerable money, he decided to cut a part of the second number. Since the band was on the air, he could make his decision known to his men only by signal. Some understood the signals; others did not. The band began the number and all went well until the deleted part was reached. Those that understood the signals cut it and those who had not caught his meaning continued to play according to the original score. The result was the hybrid of a boiler factory and a zoo at feeding time. Leader and bandsmen were bewildered; dissonance piled on dissonance; "sour" notes flew around like machine-gun bullets in a landing operation. The code of the air demands that the number go on; to quit is defeat and defeat is death to the program and lean days for those on it. After minutes of sweat and contortion the leader eventually brought order out of the chaos of cacophony.

When the program had ended, the leader dropped into a chair, his face smeared with sweat and dejection. A page boy handed him a note; it read: "Sponsor on long distance wants to talk to you." A shudder ran through the leader, "This is IT," he said as he rose wearily to go to the telephone. Lifting the receiver he shouted with a show of bravado, "Hello there, A.C. I suppose you're wondering what happened! 'Twas this way—" The sponsor interrupted him. "That was a honey of an arrangement," he said, "why don't you do some more like it?" The band leader, bewildered and trembling, stuttered, "G—g-glad you liked it, A.C." "Liked it?" shouted the sponsor gleefully, "Wait till you see the mail we get on this!"

And sure enough, the mail poured in by the bagful but the burden of the letters was, "Do you call that music?"

The mike is an exacting despot, demanding split second promptness

from its subjects. Every program has two deadlines that must be met to the tick of a clock—the beginning of the program period and the end. To miss either one is the cardinal sin of radio. Like the letter carrier, neither rain nor snow nor dark of night may interfere with the appointed tryst with the mike. Ordinary illness or broken bones must be forgotten when the blood-red hand of the studio clock approaches the broadcast hour. Many a broadcast comes from a hospital bed or from some out-of-the-way place where the broadcaster is marooned.

Although slips in appearance are rare, there are occasions when the studio staff is thrown into panic when some principal in an important broadcast fails to show up. In such an event, one of two things happens— Either a "stand-by" pianist or orchestra steps into the breach or a last-minute substitute is thrown in with the hope that the listening audience will be none the wiser.

I remember one of these nerve-racking slips that occurred on the CBS Playhouse program not so long ago. An actor, one of the best in radio, was playing in a production on a coast-to-coast hookup. It frequently occurs that these far-flung broadcasts are given twice of an evening with an interval of two hours between them. This is to compensate for the difference in time between the East and the West.

On the evening in question the actor went through the first show, giving an excellent performance in spite of excruciating pain from an ulcerated tooth. At the end of the performance he left the studio to go to his dentist, with the intention of getting back in ample time for his second broadcast two hours later.

When the dentist examined the tooth he found that drastic action was imperative immediately. The operation was slow and tedious. The numbing effect of the anesthetic seemingly robbed the patient of his sense of time. The two hours of grace had slipped by.

Meantime the director was pacing round and round the studio in a hurricane of nerves. The red finger on the clock sliced off the seconds relentlessly. The company of actors, caught in the tenseness of the situation, did a poor job of trying to be calm. Among them,

*Despite its apparent informality, the rehearsal is a period of drudgery. Always pressed for time, the conductor saves a few minutes by having a shoeshine while he is actually directing.*

however, was an actor who, while new to radio, was known to have had broad stage experience. His part in the program was small, just a few lines. He was given the part of the missing actor a few minutes before the program was due to go on the air. He had had several rehearsals and one actual performance with the leading man whose place he was to fill in addition to his own small part.

The red finger touched the appointed hour and went on. The program was on the air. Behind the soundproof window of the control room the director, white-faced and taut, went through his directive motions and gestures with the frenzy of a drowning man grasping for a life preserver. He had visions of a bewildered and infuriated sponsor listening in a thousand miles away. As the substitute actor read his first lines, the director could scarce believe his own ears. The voice of the missing actor with all its characteristic inflections and timbre was coming from the loud-speaker in the control room. He blinked and looked at the understudy more closely to make sure he was not the victim of some practical joke. The play was flowing smooth as honey.

About midway through the performance the missing actor entered the studio. He was pale and shaken but determination was in his eye. Picking up a script he joined the company gathered around the mike and fell into his part as if nothing had happened. So perfect was the mimicry of the substitute, no one in the great listening audience including the sponsor, had the slightest suspicion that anything was amiss behind the mike.

Millions of listeners throughout the United States remember well the amusing disdain in which the beloved Will Rogers held radio time. Never in a hurry to begin his broadcast, he was equally loath to end it. Many a time at the end of his allotted fifteen minutes on the air, the studio staff watched in horror the red hand of the clock creep farther and farther into the time of some sponsor's program that was to follow. Frustrated executives often sat around a table, a tactical board, striving to devise ways and means of getting the universally popular Will to go on the air at the tick of the clock and to leave it


*Sound man with script before him stands by for announcer at the left to finish his commercial. Group at center microphone ready to begin radio drama.*

on the 900th second at the end of his fifteen-minute period. To cut him off the air was unthinkable, as it would have brought an avalanche of wrath from thousands of listeners; to allow him to continue meant a disgruntled sponsor and serious loss of revenue. Some bright mind—it may have been Will's—conceived the idea of placing an alarm clock on the table beside the broadcaster of homely humor, so that the whole world, and Will, would know his time on the air was up. The device worked but only after a fashion. When the alarm clock went off, Will ended his prepared broadcast with a surprised "Oh—oh!" and then went on to tell his great audience what a nuisance alarm clocks were and all on the following sponsor's time.

I remember well one evening when my family and I tuned in for Will's program. As the time of the broadcast arrived, there was no Will Rogers. Instead a nervous stand-by pianist came on the air and did his utmost to fill the gap. Then a suave announcer informed the listening audience that Mr. Rogers was unavoidably delayed and might be expected to come on the air at any moment, and then filled in the time to the best of his ability. Inexorable minutes ticked by but still Will Rogers did not materialize. A few minutes before the end of the broadcast period, it was announced with excitement, "Mr. Rogers is in the studio, ladies and gentlemen!" And sure enough, Will's heartwarming "Howdy, folks!" came over the air. Characteristically he did not spend the few minutes of his broadcast time that remained in apologies or excuses; he went into a forthright story of what happened: Arriving at the studio a little early for the broadcast, he wandered into the mysterious zone where the engineering force toils at the task of transmitting to the world the piquant humor he dropped into the mike. He found himself in a strange world—a maze of mechanical marvels of which he had never dreamed. He was like a boy who had come to the circus but found the side shows more interesting than the big top. An employee, recognizing him, volunteered as guide, entirely ignorant of the fact that millions were bending an ear to their radio sets at that very moment to hear Will's

kindly satire. While in the dynamo room a clock on the great instrument board reminded him of his broadcast.

"That was mighty kind of you, but I've got someone waiting for me," he said as he shook hands with his guide and hurried to the studio. When he had finished his simple narrative of what he had seen behind the scenes, millions of Americans knew they had listened to a great man.

In the days before radio, and today for that matter, the highest compliment that could be paid to an actor was to classify him as a "good trouper." The term, old as the stage itself, is meant to imply that neither heartbreak nor physical pain may interfere with the actor's obligation to his audience. The show *must* go on in spite of all obstacles. The annals of the stage, and later the radio, are filled with epics of fortitude.

*Tragedy in sound: A doorbell rings, a clock strikes the hour, a shot is fired, a telephone rings, while turntable in background gives effect of automobile starting and disappearing in distance.*

# IV

SOON after the birth of broadcasting it became apparent that dramatic productions over the air were not far off. A few playwrights and story writers, sensing a big future for radio drama, tried their hand at writing plays for the mike. Their attempts were mostly failures, although the plots were well conceived and the dialogue flawless. The spoken lines came over the air hollow and often meaningless. It was obvious that the failure was due, at least in part, to the absence of scenery so essential to the setting of locals and atmosphere. It was also realized that radio drama called for a writing technique that must be quite different from the technique of the stage. Some threw up their hands in despair, insisting that radio drama would have to wait for the full development of television, then only a laboratory dream. Others maintained, however, that the imagination of an audience, be it in a theater or in a million homes, could be stimulated by suggestion as well as by realism. In the theater, the forest, the city street, the distant hills suggested by paint and canvas and appropriate lighting, were found adequate to establish the locale and often the mood of the play. These visual effects were

often supplemented by sound effects to enhance the atmosphere or establish off-stage action. A roll of distant thunder, the whistling of the wind, the patter of rain, the ringing doorbell, the shouts of conflict were everyday parts of the stage manager's kit, the mechanics of dramaturgy. They had but little effect on the intrinsic worth of the written play. Those who held out for the immediate development of radio drama were firm in their belief that, to be successful, it must be written so that the far-flung audience could see in its mind's eye the scene and action of the play as clearly as could the audience seated in a theater. Every character, every entrance, exit and every prop used must be as "visible" through the ear as through the eye.

The pioneers in radio play writing soon found that they had at their command a medium as flexible and often more graphic than that in which Shakespeare and Shaw and Barrie produced their masterpieces. No stagecraft or screen technique can give the young a more real picture of the open spaces of the western country than the retreating hoofbeats and the lusty "Hi, ho, Silver!" carried off by the desert winds, nor can any art medium but radio create for adult or adolescent flesh-and-blood characters to compare with Andy the pompous ne'er-do-well and his loyal down-to-earth friend Amos. Sherlock Holmes' quarters in Baker Street showed but a stageful of props soon forgotten when William Gillette played it to theater audiences. Today they are as real to millions of radio listeners as their own living rooms. The table cluttered with books and things, the nondescript easy chair in which Doctor Watson grunts his comfort, the two windows facing on Baker Street, the single flight of stairs leading up from the front door, the coal fire cheerily blazing in the grate and the fire irons, tongs and poker standing beside it. Then there is a close intimacy with the characters. In the living room of the listener is a seat in the front row, center aisle, from which the faintest whisper and the slightest nuance of voice is as audible as if actor and listener were within touching distance of each other.

This ability of the ear to convey a *picture* to the mind of a listener is one of radio's most fortunate gifts. An actress before the mike play-

ing the part of an old hag is, in all likelihood, dressed in modern street attire, well-groomed and well-manicured. She may be in her twenties or her fifties; she may be blonde, brunette or silver-haired. The moment the first words of her lines cackle into the mike, a million people see a shriveled crone, toothless and yellowed with age and with straggling locks of rusty gray falling over a withered face.

For years I had known an actor by sound; I had heard him in many radio parts, always as a robust, virile and at times brutal character. To me he stood over six feet tall, broad-shouldered and deep-chested. When I saw him in the flesh, playing a particularly vociferous part as a boss lumberman, I was shocked to find him a man of less than medium height who would scarcely tip the scales at 130 pounds. His semibald head and ascetic face made difficult the transition from imagination to reality.

The high-pitched voice and staccato delivery of the commentator, H. V. Kaltenborn, have conjured up in the minds of many a picture of a slender, nervous and austere little person. As a matter of fact Mr. Kaltenborn in real life is an unusually large, deliberate and suave person without a single one of the characteristics portrayed by his radio voice or manner.

Only this morning I heard testimony come over the radio that indicates how highly sensitive the listening audience is to the power of suggestion through sound. The occasion was the anniversary of a program known as The Make-Believe Ball Room. This is a period of recorded dance music, one of many on the air. The story of its origin, like that of many successful radio enterprises, is unequaled for sheer simplicity: During the famous trial of Bruno Hauptmann for the kidnaping of the Lindbergh baby, WNEW, like other metropolitan radio stations, had a newsman on the spot. Broadcasting equipment had been instal ed by the station in the sheriff's room adjoining the courtroom. It was the reporter's duty to broadcast bulletins and comments on the proceedings. Since the apparatus was connected with the studio in New York by a leased telephone wire,

it was imperative that every moment of the allotted time be used effectively. One afternoon the broadcasting reporter, owing to a technical squabble between counsel, found himself without copy and confronted by a possible fifteen-minute delay before anything worth broadcasting arrived. That called for a "fill-in" by the home station, during which a stand-by orchestra or musical recordings are usually put on the air. On this occasion a series of recorded dance tunes was chosen to tide over until the news of the trial was resumed. Now dance numbers are usually as plentiful on the air as stars on a frosty night. They may be found through the entire spectrum of the dial, a pandemonium of pulsing rhythm.

Since every minute on the leased wire cost the station hard cash, the studio staff accepted the situation as a challenge. They put on their thinking caps and rummaged through their mental index files for something different, something that would stimulate the imaginations of the listeners. Suddenly someone hit on an idea. It was one of those absurdly obvious conceits that seem too simple to be practical. It was merely suggested that an imaginary ballroom be created in the minds of the listeners and let the dance music recordings do the rest. And so the "Make-Believe Ball Room" went on the air as a stop-gap.

The following day mail began to arrive from listeners in cities, towns, villages and farms. Letters were so enthusiastic in the approval of the imaginary ballroom that it was given a permanent fifteen minutes on the air. More and more letters avalanched into the station. Soon it was established as a program with a sustained audience. This of course meant it had a dollar-and-cent value to advertisers. Short advertising announcements known in radio as "spot commercials" were introduced. As the list of these grew, the program was lengthened from time to time. Today it occupies two hours each morning and an hour-and-a-half each evening. The quarter-hour fill-in has grown into a lucrative enterprise.

This sensitiveness to suggestion through sound seems to be as old as man. It is the thunder and not the lightning that has terrified many

*Ray Kelly, chief of sound-effects department at NBC, is proud of his collection of doors of which there are nearly a score.*

persons through the ages. A friend of mine, normal in every other respect, shuts himself up in a closet at the approach of a summer storm; the sound of thunder sends him into a spasm of fear. I understand this fear of thunder is not uncommon. The dirge of the wind through chinks of doors and windows has a highly depressive effect on many people.

It is not uncommon to find otherwise normal persons who are filled with foreboding by the howling of a dog in the night. Can it be that the legends of the werewolves, the banshee and the other supernatural noisemakers stem from the yowlings of innocent dogs? I knew a guide in the Adirondack Mountains, a man of iron nerve and superb physical courage, who refused to take a canoe on the lake whenever he heard the tortured call of a loon three times and no more. When questioned about it, his reply was always the same, "It don't mean no good."

"Ghostly voices" seem to have been with us always. There was the ghost of the prophet Samuel who spoke words of warning to Saul at the bidding of the Witch of Endor, and there was the ghost of Hamlet's father for whom Shakespeare wrote some solid lines.

Neither scientist nor psychologist, I have often wondered if there be a connection between those unearthly sound phenomena and the readiness with which radio listeners of today accept the chafing of a rosined string as the authentic grumble of a tiger crashing through a jungle which is nothing more nor less than an ordinary broom crushed and rumpled close to the mike by the hands of a sound-effects man.

Among the interesting personages of modern radio this sound technician holds a high place. Dramatist, craftsman, engineer, actor and all-round putterer, he cares little for the conventions of acoustics or the ultra-scientific side of sound. If science can provide him with what he needs for effects, well and good. If not, he turns to the junk pile and emerges triumphant. With a scrap of crumpled cellophane he can create the sounds of a frying egg with more realism

than could all the scientists in Christendom. With his indescribable collection of gadgets he can tell a coherent story and create tense drama without the aid of a spoken word. Master of his sound gadgets, he creates audible scenery and atmosphere and, if put to it, characters and a dramatic situation.

Here is an example of drama as rendered by the sound man: A living room with a cheery fire crackling in the fireplace. A cold wind howls outside, driving bursts of sleet against the windowpanes. A mantel clock strikes twelve. Footsteps on the gravel walk outside soon ascend the steps of the porch. The door latch is gently raised and the door creaks on its hinges as it is opened. A blast of wind and sleet bursts through the open door before it is slammed shut. Quick footsteps cross the room, a chair is pushed back. There is a sharp scuffle. A shot is followed by a groan and the thud of a falling body. Stealthy footsteps approach the door which is opened and shut hurriedly. Outside the footsteps diminish. A horse rears and prances nervously, then gallops away, the sound of its hoofbeats growing fainter in the distance. Not a word has been spoken, yet the picture of the tragedy as created by sound effects is a realistic one.

The crackling fire, the mantel clock, the wind-driven sleet on the window establish a cozy living room. The effect of the crackling fire is made by the crumpling of a piece of cellophane between the hands and close to the mike. The striking mechanism of the clock is tripped at the right moment. The wind is created by a wind machine which forces air at varying speeds through a group of sirens all of different pitch. The driving sleet is produced by spilling bird seed on parchment stretched over a frame. The sound of footsteps on the gravel walk are produced in a "gravel box" by the sound technician's shoes as he steps up and down in the gravel the required number of times. The porch effect is obtained in the same manner on a low wooden platform mounted on rubber wheels for mobility. A door in its frame with latch, lock and hinges stands beside the sound man. With this device he can create numerous effects; the metal latch clicks

as it is raised, the specially treated hinges give out an ominous squeak. The door may be opened slowly for suspense or quickly for action and it may be slammed as violently as he desires.

The struggle is a one-man affair also created by the sound technician with gasps and grunts and tensely moving body while he holds a pistol loaded with a blank cartridge. When the "fatal shot" is fired, it is the sound man who groans as the thud of the falling body is reproduced by dropping a weighted dummy. The sound of hoofbeats is produced by the simple device of drumming with two vacuum cups on a board. These cups are the ordinary variety with which the plumber clears a drain pipe. If the horse is supposed to gallop on a hard road, half cocoanut shells are used instead of the rubber cups.

The extreme sensitivity of the modern microphone has brought with it many sound problems, since it picks up noises not caught by the human ear. The result is that the listener hears sounds coming from the receiver that only faintly resemble the original. For years thunder was produced by tapping a thunder-drum consisting of a frame over which was tightly stretched a horsehide, or by shaking a suspended slab of thin sheet metal. In the studio both devices sounded like the booming roll of thunder, but to the listeners the taps that set up the vibrations of the thunder-drum were plainly audible while the sheet iron gave off a metallic quality.

After months of experiment a sound technician at NBC developed a thunder-making device that was scarcely audible in the studio, but to the listeners it was real thunder. Like many successful inventions, luck or accident played a more important part than knowledge. After numerous failures and many hours of tinkering with sound-producing materials, the technician decided to give it up, at least for a while. Summer had arrived; early flies had already invaded his house; and despite his wife's appeals, the window screens had not been put up. The temporary lull in his experiments gave him time to attend to his domestic duties. While moving the screens from the attic to their respective windows, he noticed that the slightest jar set up a vibra-

tion in the copper netting that had a decided resemblance to thunder very far away. The rumbling sound was so faint that it could be heard only when his ear was close to the wire. Seated on the attic steps, he tapped and tapped a large screen and listened to every tap with the concentration of a physician to the beating of a heart. It was unmistakable thunder on a small scale. The attachment of an electric phonograph needle to the wire netting and ordinary radio amplification before sending the sound into the mike gave a result that was beyond his expectation. The crashing of the heavens in the wildest storm or the grumbling of distant thunder could be reproduced at will. The booming of cannon, the roar of heavy surf or the whispering of ripples on a sandy beach were his for the tap of a tympani hammer.

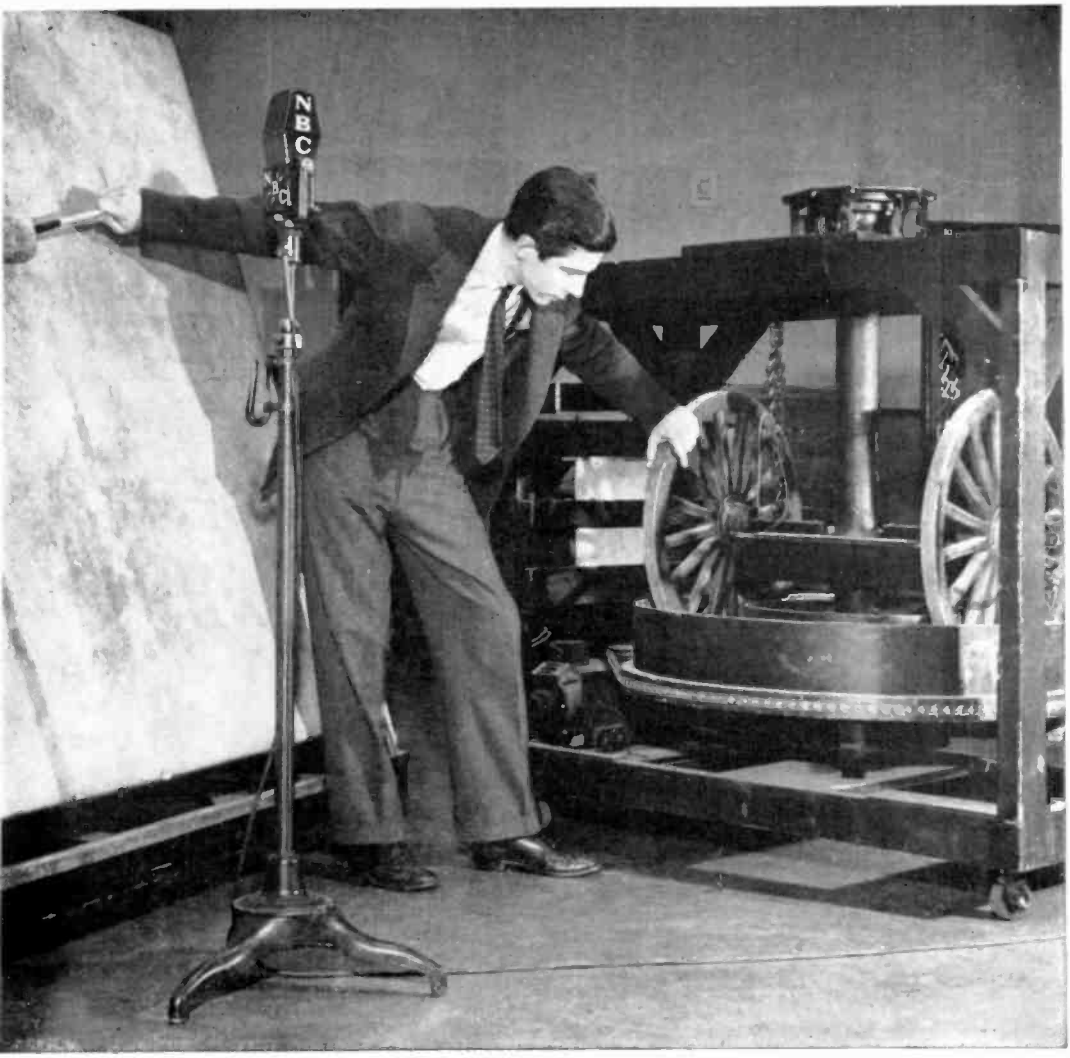
For a long time an authentic crash of automobiles in collision baffled the sound men. They went so far as to try to record actual crashes but without success. The mike heard and transmitted sounds never caught by human ear. It sounded like the crash of doom—a chaos of bangs and booms and nerve-shattering rending of metal as if a mighty battleship had been torpedoed. Yet the radio thrillers called for automobile crashes with embarrassing frequency. It remained for a sound man with an ear for business to solve the problem. By good fortune rather than bad, he was the victim of a crash that would satisfy the most exacting director. Every man to his business: while nursing a few broken bones, he had an opportunity to recall and analyze the crashing sounds he had heard at first hand. As soon as he could get around, he collected a few lengths of stovepipe, a steel bar, a dozen or so tin cans, and dropped the metal mass into a box containing broken glass. The result was startling. He had created a synthetic automobile crash that would horrify even an accident-insurance agent.

One of the essentials of successful sound apparatus is that it be simple and easily moved from one studio to another. The larger pieces are mounted on rubber casters so that they may be moved silently. The smaller ones, when not in use, are filed and indexed in the sound-

effects laboratory. In the sound department of one of the larger broadcasting studios there are more than 3000 gadgets, each with its own characteristic sound. Until quite recently, practically all the sound-effects apparatus required in the studio were developed and made in the sound laboratory. Some of them might have been conceived in a madhouse. I remember one in particular that gave a lifelike rendition of the noises made by a jalopy of the Model-T Ford variety. It consisted of a tin wash boiler within which was suspended an electric motor of early vintage. To the motor was attached a metal arm that caused an irregular rate of revolution, thus setting up violent vibration in the boiler. A few pieces of tin and scrap iron in the bottom of the boiler rattled and banged while the whole contraption shivered as if with an ague. In the studio it sounded like a junkman's wagon in full flight but over the air it sounded exactly like what its inventors intended it should—a Model-T Ford—that and nothing else.

Many of these lifelike sounds produced by crude means have often reminded me of paintings done in the broad manner which, when examined at close range, consist of slapdash smears of color without form and with small resemblance to the subject. When framed and in their proper setting and lighting, and when viewed from the proper distance, they are not only a true rendition of the subject but they have that beauty in form and color that we call art.

Sound effects, now a most important branch of radio production, have become a highly commercialized business. There are several concerns who specialize in recording on phonograph discs every sound capable of being captured and canned. The chirruping of a cricket, the roar of a plane, the exhaust of a motorboat, the cry of a gull or of hunting dogs on the scent, the bedlam of a factory, the siren of a steamer, the rattle of machine-gun fire and thousands of other sounds. I found in the sound department of the National Broadcasting Company a carefully indexed collection of 800 discs on which were recordings of more than 3000 distinct sounds. On one




*Here is a prairie schooner crossing the plains while thunder rumbles in the distance. The thunder-drum, being struck by sound-effects man, is a horsehide stretched on a frame. The circular trough in which the wagon wheels turn may be filled with rocks or dirt or sunburnt grass. The rattling chains enhance the effect.*

of these records, for instance, are sounds of screams, snoring and typewriting. On another are twenty seconds of an automobile in motion, forty seconds of the same vehicle starting, changing gears and coming to a stop with screeching brakes, and for good measure it also has twenty seconds of a collie barking.

There is a young woman in New York to whom the broadcasters turn when they need a crying or cooing infant. One of a large family, she became familiar at an early age with the vocal proclivities of baby brothers or sisters. She could tell whether the outcry was caused by hunger or colic or just plain tantrum. While attending a dramatic school in New York, she went to a party one evening during which she gave an imitation of a baby in distress. Using a handkerchief and her fingers as a kind of sound muffler over her mouth, she gave forth wails of infantile agony that astonished her listeners. A radio director heard of the spur-of-the-moment performance and looked her up. Since then she has been the bawling baby of the air.

Many curious contradictions in the production of sound effects keep the technicians continually on their toes. Nothing sounds more like a pistol shot over the air than a pistol shot, yet the staccato of a machine gun is torture to the mike. Many devices had been tried unsuccessfully to simulate the rapid-fire barking before an alert sound man hit on the idea of using a telegraph key mounted on a long amplifying box. The metallic clicking of the instrument becomes a deadly burst of bullets the moment it meets the mike.

In the earlier days of sound effects, dropping the lid of the studio piano was used to express a closing door. As a result of the resonance of the wires, listeners often wondered why radio doors sounded as if they were made of metal. Nowadays a door is a door in the studio, but as there are many kinds of doors, a collection of them must be kept in readiness at all times. The door of a mountain shack slams shut with a sound that does not resemble in the least the heavy door of a mansion. The door to milady's boudoir is a frail thing compared to the door of a dungeon; each must be expressed to a nicety by the sound it makes. The prison gate and the screen door are as far apart as the poles acoustically: the clang of the one must be as au-

*Radio drama sometimes calls for sound effects so complex that several men are required to supply them.*

thentic as the slam of the other. Then there are the different sounds made by hinges. In the haunted house the ponderous door groans on its rusted hinges as it is slowly opened, while the door to a closet squeaks in high pitch. Locks, bolts, chains and turning keys are all expressed behind the mike by the real article. A few years ago I attended the broadcast of an eerie thriller; the hero was shackled in a dungeon deep underground.

On the sound man's table among a collection of strange gadgets were a flimsy strawberry box and a bass fiddle bow. Both articles seemed to be entirely unrelated to the action of the drama. I tried to guess their use but without success. Near the end of the play a friend of the hero, disguised as a guard, stealthily entered the dungeon. At this point the sound technician drew the bow slowly across the edge of the frail box. The result was a chafing scratchy grumble that was a perfect sound reproduction of a ponderous door swinging slowly on its hinges.

A little later the strawberry box played another part quite as important and realistic as the rusty hinge. Having escaped from the dungeon, the hero was confronted by a light door which, with the aid of the sound man, he smashed into kindling. A few thumps of a hammer on the flimsy box which was then crushed between the hands of the technician sent out over the air a crashing and rending of wood that spoke well for the prowess of the hero.

A device homely as the strawberry box is used when the script calls for men or animals crashing through heavy brush or jungle growth. An ordinary kitchen broom in the skilled hands of the sound effects man is squeezed and plucked and punched close to the microphone. The result is as real as the jungle itself.

The ear-splitting rat-tat-tat of a riveting hammer defied the best efforts of the sound technician to reproduce it, until someone conceived the idea of attaching the vibrating clapper of a fire gong to the inside of a fifty-gallon iron drum. The resultant clatter instantly creates a picture of a building under construction. Next to door-closing, bell-ringing is the most frequently used and varied of sound effects. To meet all script requirements, the master of the sounds

must have at hand always a collection of bells ranging from a door-bell to a teacher's bell in the little red schoolhouse. The ringing of church bells, carillons and renowned bells like London's Big Ben or the Liberty Bell have all been captured in recordings. Automobile horns are also a much-used group in the sound man's equipment. Here he must exercise care in expressing not only the type of car but the period. The toot of a jalopy would be fatal on a police car or the sharp note of a later-day car would never do if the period of the script was in the early part of the century when the "honk-honk" of the bulb horn was the current signal for "car coming!" A taxicab in Paris sounds off with a horn that differs from a taxicab in Chicago as the cackle of a hen differs from the lowing of a lonesome cow.

Just as the stars who perform behind the mike receive their quota of fan mail from listeners, so too do the sound technicians receive mail from their air audiences. It is not always laudatory, however. As often as not, one of these letters will contain a scorching blast of criticism for some technical inaccuracy in the sound background of a program. Let a radio locomotive give an incorrect number and length of blasts for a crossing and the mail for days thereafter will contain sharp reproof or worse. Nor does this mail come exclusively from railroad men; farmers, preachers, traveling salesmen, school-boys and many who may be just classed as cranks—all take a fling at the blushing sound-effects man. A slip in Morse Code or an incorrect signal from a ship's bridge to an engine room will bring on a shower of criticism ranging from abuse to good-natured digs. So fearful of these boners are the sound technicians, they sometimes go to great lengths to assure accuracy in some effect that will reach the listener only for a few seconds. A recent script called for the sound of an early telegraph instrument. No one in the sound department had the faintest idea of what the instrument was like, to say nothing of the sound that came from it. Experts were dispatched to the Smithsonian Institution in Washington where there was one of the archaic models. It was carefully studied and then reproduced to its last finicky detail. When the program finally went on the air, there was not a peep from a listener.

*New York's Radio City, showing the towerlike RCA building, the home of the National Broadcasting Company. Thousands of sight-seers visit this nerve-center of the NBC network.*

# V

RECENTLY I asked a radio official a simple question, "What is a network?" I inquired, expecting a simple answer. It was as if I had asked him to explain in half a dozen words Einstein's Theory of Relativity. He looked at me a trifle condescendingly as one regards a child who asks a child's question.

He took from the drawer of his desk a map of the United States, simplified almost to a mere outline. Across its surface strong black lines sprawled from ocean to ocean, from the Canadian border to the southernmost points in Florida and Texas. "That," said the official with a sweep of his hand over the map, "represents a single network, broadcasting system or chain, call it what you will. It represents in fact the nerve system of the NBC Network, the first to reach from coast to coast. Superimpose on this the three major broadcasting systems—the Blue Network, the Columbia Broadcasting System, the Mutual Broadcasting System—then add the twenty-eight localized chains and you can see how thoroughly the country is blanketed by radio, even to the most remote of the thirty million radio sets that are forever listening."

Placing the point of his pencil on the spot marked New York City, he continued, "You will notice that the black lines radiate from here in northeasterly, northwesterly, westerly and southwesterly directions, and then branch off here and there to towns and cities, 141 of them, situated some distance from the main stem. Each of those towns and cities has an 'outlet station,' of which there are 135 affiliated with the network and six operated by it.

"Now these black lines are not imaginary as are the meridians or the equator on a map. They represent some 15,000 miles of telephone lines, most of which are buried underground, safe from tornado or blizzard or the paralyzing grip of the ice storm. They are the lines over which programs are piped from the originating station."

"What is an originating station?" I inquired.

"Any station," he replied, "in which a program has its origin. Of course New York, Hollywood, Chicago and Washington are the points of origin of most of the network programs, for the simple reason that those are the great centers of entertainment, culture and news. But any network station, no matter how small, may step into the role of originating station if it has a program that is worthy of national attention."

"By whom is this vast web of wires operated?" I asked.

"By the telephone companies," he answered promptly. "The networks pay for the use of those wires, just as you and I when we telephone a friend over long distance. The telephone bills of the networks run into millions of dollars every year."

"Network broadcasting is expensive business," I remarked.

He paused a moment. "Expense is comparative," he replied thoughtfully, "it all depends on the results obtained from the expenditure. Just as some things are expensive even when they cost little, so other things are cheap at any price—liberty or a sound education, for instance. The enormous expense of nation-wide broadcasting is borne first by the networks who are enabled to make their great expenditures by the revenue they receive from their sponsors, and secondly by the telephone companies from revenue from the

networks, and lastly by the sponsors who are enabled to make their huge appropriations as a result of increased sales, directly or indirectly, to millions of listeners. The combined efforts and expenditures of all three are aimed solely at pleasing Mr. and Mrs. John Citizen and their family of little Citizens."

"What are some of the benefits derived by the outlet station from network affiliation?" I asked.

"First of all," he replied, "it enables the station to tap a great reservoir of talent and give to its listeners programs that otherwise would be beyond its reach. Then it is assured of considerable revenue from network sponsors, and besides, it can put both the sponsored and the sustaining programs on the air at considerably less expense than similar programs originating in its own studio."

"How does that come about?" I inquired.

"Because good program directors, continuity writers, engineers and trained radio personnel are both scarce and costly. Affiliation with a network places at the station's disposal programs that have already absorbed the high cost of production—writers, directors, actors, musicians, engineers, radio advertising salesmen and other individuals necessary to produce a good radio program."

"What is the chief obligation of the outlet or affiliated station to its network?" I asked.

"Well, of course," he responded, "in that networks are established for revenue and revenue comes only from the sponsors, the outlet station is obligated to give the network so many hours of option time out of each broadcasting day—between the hours of 9 A.M. and 12:45 A.M. The amount of option time that the network may demand is fixed by a ruling of the Federal Communications Commission, or the F. C. C., as it is popularly called. This total of option time is usually divided up into periods mutually agreed upon by the outlet station and the network."

"Let us take the option time and its periods of the NBC Network for example," I said.

"A certain number of hours is allotted to the network," he ex-

plained, "that is known as broadcast time and is divided up into several periods ranging in length from half-an-hour to three hours. Sponsored programs broadcast during those periods enjoy a coast-to-coast listening audience. So do the sustaining programs which are interspersed here and there in the same periods."

"Do all networks have the same option hours?"

"Not at all," he said, "that is a matter of arrangement between the network and the outlet station."

"What about the outlet station's time not contracted for by the network?" I pursued.

"That is what we call station time and is entirely in the hands of the outlet station to use as it sees fit. It may use the time for local activities, such as education, news, religion, welfare or entertainment by local talent. Or it may draw all or part of its programs from the network which keeps every hour of the broadcasting day occupied with superior programs, all of which are at its disposal. In this way the network is like a nation-wide waterworks system, piped from the main reservoir into the network stations in which the receivers are faucets that may be turned on or off according to the individual needs of each station. During the option hours the network station confines itself to the programs piped from the originating station of the network, whether they be sponsored or sustaining programs."

"What is a sustaining program?"

My informant paused a moment before replying. "Roughly speaking," he began, "it is any program without a 'commercial,' or, in other words, without advertising. The cost of the sustaining program is borne entirely by the network. These non-commercial programs are in fact the very foundation of the entire broadcasting industry in that they establish a standard of program quality and so hold listeners and create new ones. Again they attract sponsors. Many of the sponsored programs on the air today began as sustaining programs. This, of course, was a logical sequence since great listening audiences were already assured."

"Give me an example of how a sustaining program eventually secured a sponsor," I interrupted.

The speaker paused a moment as if searching his mental card-index. "Well," he began, "let us take the Toscanini program for instance. When it was first suggested, the idea seemed a little farfetched. Conductor Toscanini was then at the apex of his career. His fame among music-lovers was world wide and his earnings were astronomical in the world of music. Besides, he was known to be explosively temperamental, particularly where the quality of his work was concerned. At that time even radio's stanchest supporters had to admit that the quality of tone coming from a loud speaker was not comparable in balance or beauty to that of a great orchestra pouring its collective soul into an auditorium. Besides, there was the problem of augmenting the NBC orchestra into one of the world's largest and finest musical organizations. And then there was the matter of cost which in all likelihood would be prohibitive.

"In spite of all these obstacles, arrangements were made with Toscanini for a series of concerts over the NBC network which eventually were to cost $400,000. Even the most prodigal radio producers shook their heads at such lavish spending. They had forgotten that if a better mouse trap or better music is produced, the American public wants it. The first broadcast of the NBC Symphony Orchestra under the baton of Toscanini set a new high in radio broadcasting. It not only benefited the network over which it went out, but it elevated the entire broadcasting art in the minds of millions who had heretofore looked on it as more or less musically unimportant.

"Before the final notes of the initial broadcast had melted into the ether, telephone calls created a traffic jam on the NBC switchboard. Next day an avalanche of mail poured in and continued to arrive from all parts of the country. Some of it was hysterical in its praise and some a sincere expression of appreciation. All of it reflected a gratefulness for the opportunity of listening to the world's best music interpreted by an acknowledged master and rendered by an orchestra composed of many of the country's finest musicians.

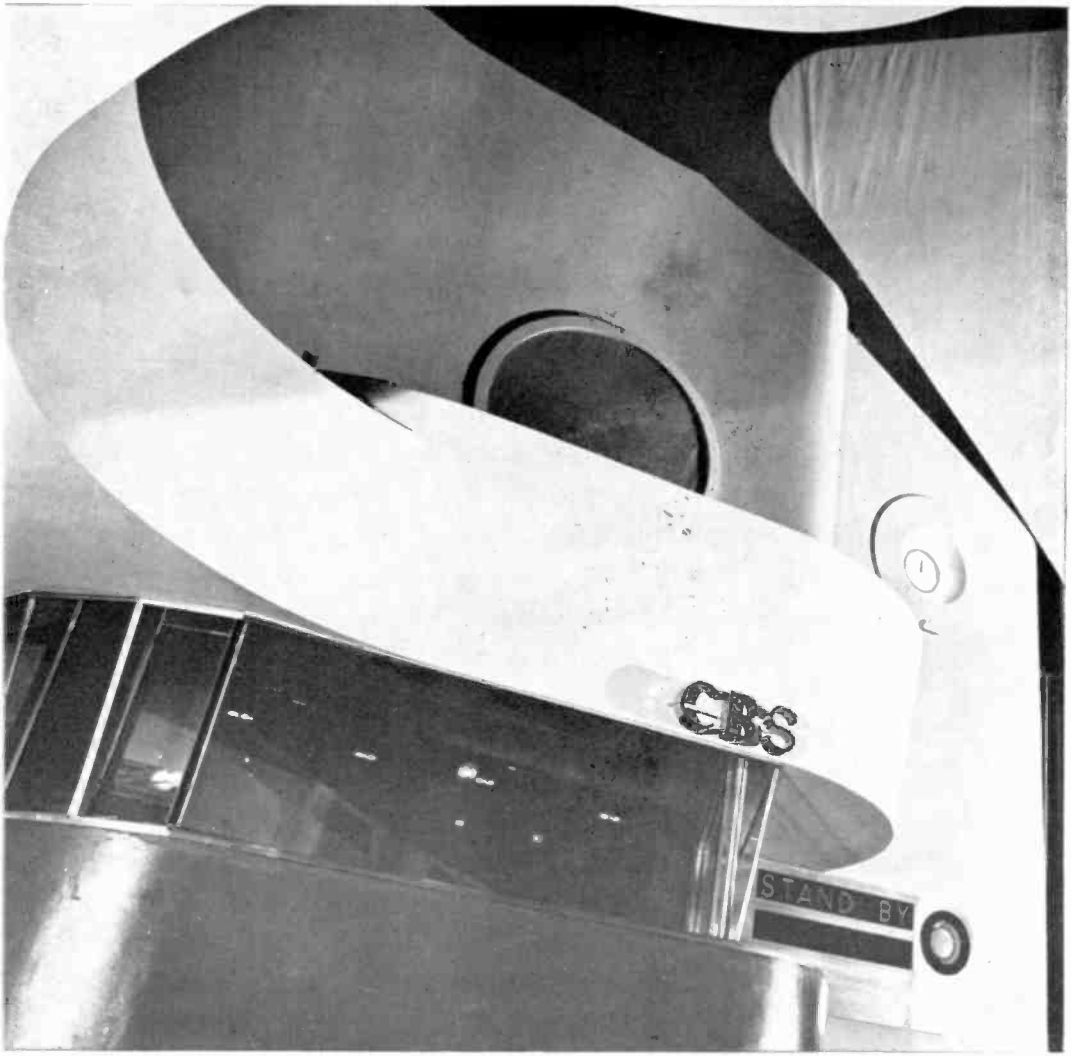
"After the program had been well established, a sponsor, one of America's great industrial concerns, General Motors, took over the program to the tune of a million dollars a season."

As we continued to chat, I learned something of the magnitude of the task of putting on the air a program of such great importance —the nervous tension, the anxiety, the engineering problems, the co-ordination, to say nothing of the outlay involved in each individual broadcast. The maestro himself, brimming with the fervor of his great art, was unpredictable as a bolt of lightning. On his arrival at rehearsal or concert, a hush enveloped the members of the orchestra and the studio operating staff. At rehearsal the slightest deviation from the desired interpretation was met with a menacing frown or a boundless fury, depending on the mood of the master.

Every note from every one of the hundred instruments was as audible to him as a telephone bell. The volume of a French horn during a certain passage, the quality of the mournful bassoon, the ping of a triangle or the deep tones of a bass viol must reflect to a scintilla the desired tonal shadings. He beckoned with fingers, hands, arms, body and the expression of his sensitive face—and heaven help the hapless musician who stumbled or strayed from perfection! Even a slight error, if it gave evidence of carelessness, sent the great conductor into a rage. Tapping his desk for silence, he would scowl under shaggy brows, then after a terrifying pause he would snap his baton into tiny pieces and fling them far and wide.

Broadcast night was an ordeal for all concerned. Tension was high among musicians, officials, technicians and even ushers. To this day the executives who deal directly with Toscanini cannot forget that he is the man who defied Mussolini while the Duce was at the peak of his power.

I mention the Toscanini program merely as typical in a greater or lesser degree of the problems that confront the management of any major network in bringing the work of great artists to millions of listeners. The cultural benefits of such broadcasts cannot be computed since only a few of the huge radio audience could ever have




*What could be more modern than this architectural detail of a CBS studio?*

an opportunity of hearing the world's best music interpreted or rendered by the world's greatest artists.

Comparable to the problems of broadcasting the Toscanini programs are those that accompany radio performances of the Metropolitan Opera Company as broadcast by the Blue Network. In the latter case the broadcasts are what might be termed a by-product of the opera which is intended primarily for the audience in the New York Metropolitan Opera House, where for half a century operagoers have heard performances of the great operatic works that are equal and often superior to the best given in other countries. Only a small handful of our population had ever heard the complete operas of Wagner, Bizet, Leoncavallo or the other great composers. Notwithstanding the fact that records of operatic arias sung by Tibbett, Pons, Martinelli and a score of others had sold by the millions, few believed that the American public would accept radio opera on its cultural or entertainment bill-of-fare.

Like the Toscanini broadcasts, the Metropolitan Opera broadcasts were at first sustaining programs. Sponsors were wary of investing such large sums in what they considered at best a problematical venture. Expert as they were in feeling the public's pulse where demand for commodities were concerned, they failed to sense the cultural demands of the American people. Perhaps this was because of the country-wide popularity of top-flight comedians and the lighter form of entertainment. It was difficult to believe that plain John Smith and his good wife who responded so readily to the quips of Bob Hope would respond with equal enthusiasm to the operatic art of Pons or Tibbett. But that is precisely what happened. Scarcely had the Opera been established as a regular program than the response from listeners came in by basketsful. Much of the approving mail came from farms and villages and from the congested areas of large cities. In the gilt-and-plush Metropolitan Opera House evening clothes were the rule. In the homes of America the radio listeners wore working clothes, overalls or aprons or the plain business attire of office or store.

Before Pearl Harbor I was at sea in an American merchant vessel. My mission was to secure first-hand material for my book, since published, *Youth and the Sea*. As is my custom, I spent much time with the crew as well as with the officers. One Saturday afternoon, while passing through some bad weather, I waited my chance, between boarding seas, to sprint to the crew's quarters forward. As I opened the door to the companionway that led below, I was startled by the quiet of the forecastle and the faint whisperings of a great orchestra. Some of the men were lying in the upper bunks; others were seated on the lower ones; all of them appeared to be in deep reverie. As I entered, one of the men motioned me silently to a seat beside him on the bunk that was his home and his castle. I soon recognized the opera being broadcast as *La Bohème*. On a sea-chest against the bulkhead was a radio set, and a good one. In fact, in the quality of its tone it was superior to the set in the captain's well-appointed cabin. As I sat down without a word, Rudolpho, one of the three starving artists in the opera, began his plaintive aria, "Ah, Mimi!" His rich tenor filled the dimly lit forecastle with a sublime beauty that was enhanced by the occasional thunder of seas breaking on the deck above. Some of the sailors lay with eyes closed; others sat as if in a trance. Not a word was spoken until the end of the act. A hard-bitten veteran of the sea lighted his pipe and remarked, "'Pears to me the weather's moderated a bit." "Yeah," replied a man in an upper bunk, "the wind's shifted a little. It'll likely go down with the sun." None of them as much as mentioned the music or the singers, but a lad in his late teens spoke up, "Boy!" he said, "this is the life—opera during the watch below! Just the same as the guys who pay five bucks for a seat in the Met. Funny, I lived at 39th Street and Tenth Avenue, three blocks from the Opera House, and I was never inside the door. And here I am, hundreds of miles away from it, listening to what is going on there this very minute."

As the final curtain was rung down and the men became talkative again, one of them asked me if I had ever been to the opera. When I told him that for several years my office had been less than quarter

of a block from the Metropolitan and that I often attended the opera, he seemed impressed. Another asked me, "What is an opera anyhow?" and when I replied that opera was merely a play set to fine music, he seemed a little confused. Then I told the story of *La Bohème* and of the three poor artists who lived in their cold garret-studio and of Mimi, the gentle consumptive girl, whom Rudolpho loved and of the sacrifices of the artists who sold their last belongings for medicine to give her and of her death in the last act. All this I told them as we swayed to the rolling of the ship while the great seas played leap-frog over the foredeck above our heads.

When I had finished, there was silence for a moment. Then Larsen, a raw-boned Norwegian, said, "By yimminy! I go see *Bohème* next time in New York."

The following morning while chatting with the first officer, I told him of my experience in the forecastle. He was of Italian parentage with all the love of music of his race. "Why not?" he said, "good music has the same universal appeal as good food. Poor food may be jazzed up with condiments and cooking tricks to tickle the palate, but it doesn't stick to the ribs. A good juicy steak is a meal for a man, be he sailor or banker. So with music—when it is good, it sticks by you, while the frothy stuff, swing, jazz, ragtime, call it what you will, is here today and gone tomorrow. To the men for'ard that opera was like sitting down to a good porterhouse."

While our music critics and commentators may not agree with the philosophy of the mate, I must confess the homely analogy of this seafaring man appears to me to contain the essence of what the pundits have been trying to say for years.

Wherever I turned in the network maze, I found one characteristic common to all of them—a burning desire to serve not only the listening audiences and the sponsors but the country as well. Nor is their service merely lip service. Millions of dollars are spent monthly and an army of people employed day and night, keeping the great spider-web of communication energized with programs intended to appeal to all ages and all classes. It must not be inferred, however, that this

urge to serve is prompted entirely by patriotism or philanthropy. Far from it. In all commercial enterprises the building of good will in the customer is the first step toward sound business. In radio, more than in any other venture, this good will is the very commodity it sells its customers. Fifteen minutes or an hour of any station's time is worthless unless it has the good will of an audience of loyal listeners.

A splendid example of a network's effort to build this good will is the American School of the Air, as broadcast every school day by the Columbia Broadcasting System. For several years I have listened with reasonable regularity to that highly informative program and have gleaned from it much material that has been most valuable to me in my work. Its dramatization of current events, nature subjects, geography, history and a host of other subjects is one of the highlights of present-day broadcasting. Until recently I knew nothing of its audience, where it went or to whom. Curious, I made inquiries and found that many affiliated stations of the Columbia System put it on the air for the benefit of schools within their listening area. In Ithaca, New York, for instance, I learned that station WHCU broadcasts the program every school day morning. Each week more than 3000 pupils in the fourth, fifth and sixth grades cease their regular studies when the program begins at 9:15 A.M. and listen at their desks to the thrilling narratives for thirty minutes. This educational venture of WHCU receives the full co-operation and approval of the school board, also the blessings of near-by Cornell University.

Another station, WCHS, in Charleston, capital of West Virginia, also a CBS affiliate, anxious to help in the national food emergency, borrowed a battery of cookers and a county Home Demonstration Agent and then went on the air with an offer to the listening audience. It ran: "Any housewife bringing in produce to the station may have it preserved for a trifling sum if she will do part of the labor herself." Next day fruit, vegetables, chickens and other foods began to arrive, accompanied by women determined to fight with food on the home front. Station and listeners went into action. Jars by the thousands were filled with palatable food, point free and ready for

the battle of nutrition. For two months the radio station looked like a mammoth kitchen set up in a produce market. Vitamins had contributed to victory.

Few, outside the inner circle of radio, know the lengths to which these networks go to awaken the world to the cultural talents that lie hidden in its far-flung nooks and crannies. These imaginative ventures of private enterprise sometimes seem as romantic as the tales of Jules Verne, yet they are based on sound business principles and typical Yankee horse sense. It is doubtful if the most daring fiction writer would challenge the credulity of the public with anything like the following factual story:

Shostakovich, a composer, until recently known only to the hierarchy of music, lives and labors in Moscow. Although his greatest works have been considered by many to be comparable with those of the immortals, they have never been heard by more than a few hundred people at a time.

More than two years before this chapter was written, Shostakovich had completed his *Seventh Symphony*, an epic dedicated to the Soviet people and war heroes. Rumors reaching the United States referred to it as one of the great masterpieces and surrounded it with a heavy air of mystery. Few Americans had ever heard of Shostakovich and fewer still had ever heard his music. In the music division of the National Broadcasting Company, however, there was a flutter of expectant excitement such as might seize a bevy of astronomers on the discovery of a new planet. The commotion spread to the program department where the search for new and better material goes on without pause. Soon the executive department was made aware of the impending birth of a great symphony, an event that would stir music lovers everywhere. Here was an opportunity to render a cultural service to millions. Of that there was no doubt, but—a broadcast of the symphony's première would be a task that entailed not only great expense but discouraging difficulties. Cable and radio messages from the company's correspondent in Moscow revealed that the symphony was still in manuscript form. That meant, of

*Erecting a modern Tower of Babel, a transmission tower from which will radiate radio programs in the tongues of many nations.*

course, that it was not available, since the risk of loss in shipment from Moscow to New York during wartime would be too great. Ordinarily that would have been the end of the project, but to private American enterprise it was a challenge. Science was enlisted. Said one of the bright minds at NBC, "Why not have the manuscript photographed on microfilm, such as is used in V-mail?" "Why not?" responded the others.

In a matter of days photographic films of the manuscript arrived at NBC. They had been flown from the other side of the Atlantic. Immediately the wheels of broadcast production began to hum. From the tiny films thousands of photographic enlargements of standard sheet music size had been made. A great orchestra was organized under the direction of Arturo Toscanini and rehearsals were begun. Affiliated stations of the network and the world at large were notified of the coming event. Engineers set up facilities for long-wave and short-wave broadcasting, and on a certain night at the tick of a clock, one of radio's great achievements went on the air.

Meanwhile the furore caused by the impending broadcast fluttered from NBC on New York's Fifth Avenue to Madison Avenue, only a block distant, and the Columbia Broadcasting System's headquarters. Long before the broadcast of the *Seventh Symphony's* première over the NBC network, CBS through its Moscow office was aware of the coming event. Then the friendly rivalry of competing concerns that has made America great stepped into the picture. Shostakovich and his music were already capturing the imagination and the expectancy of American music lovers—and music is the vitamin $B_1$ of radio.

Here again American imagination and American enterprise took over. At a meeting of CBS officials it was decided that, cost what it may, Shostakovich's next great opus, his *Eighth Symphony*, must have its première over the Columbia Broadcasting System. No sooner said than accomplished. Within the hour Columbia's Moscow correspondent was instructed to call on the composer and make the necessary arrangements.

It was night in the Russian city when the message arrived. A snow-


*Columbia School of the Air gives actual broadcast to assembly of James Madison High School, Brooklyn, New York. Shown are the full cast, director, producer and engineers.*

laden wind from the north was whipping through the darkened streets. Without a moment's delay the newsman, realizing the importance of his mission, set out for the composer's home several miles away. Half-frozen, he rang the door-bell and was admitted by the great man himself. Over a glass of steaming tea the correspondent explained his visit while Shostakovich listened with surprise and admiration for those music-mad Americans.

Settling into his easy chair the master was silent for a moment while he reflected on the world-wide fame that was overtaking him. Then with a slight shrug and lifted eyebrows he said quietly, "Alas, my friend, not a note of the *Eighth Symphony* has yet been written." There was a shadow of disappointment in his voice. The ormolu clock on the mantel ticked busily as both men sat in silence.

Suddenly the composer leaned forward, his sensitive hands spread in appeal. With voice now high-pitched he said, "You speak to me of the *Eighth* when the *Seventh* has not yet been played. This *Seventh* looks all right on paper but who can tell what it will be when we hear it—when millions hear it?" The thought of the world-wide audience seemed to frighten him.

The correspondent, always a diplomat, was full of sympathy. "Alas, tovarich," he replied softly, "you are right. But we both believe in the greatness of the future. Am I not right?"

"You are right," replied the composer warmly, "You are right. It is for the future we must work." And so it was settled.

Shostakovich went to work on his *Eighth Symphony*, drawing heavily on the springs of his emotions and his musical skill. His favorite haunts in Moscow saw little of him. The few cronies who now saw him rarely were deeply concerned about him. He was drawn and haggard and seemed to be entirely detached from the world around him.

Two war-weary years slipped slowly by. Meanwhile millions of music lovers in every corner of the globe had heard the pathos, the conflict and the triumphant spirit of victory that crowded every note of the *Seventh Symphony*. "But what of the *Eighth*?" they asked.

One bitter January morning a plane from overseas landed at La-Guardia Field, New York City. One of the first passengers to alight was the Moscow correspondent of the Columbia Broadcasting System. Under his arm he hugged a heavy package as tightly as if it contained the crown jewels. In it was the first authentic copy of Dimitri Shostakovich's *Eighth Symphony*.

So it came about that CBS broadcast the première of the *Eighth Symphony* in the Western Hemisphere. It was played by the New York Philharmonic Symphony Orchestra under the baton of Dr. Artur Rodzinski. This important musical event took place in Carnegie Hall, New York, where for more than half a century audiences of about 1200 have assembled to hear the world's finest music. The audience that sat enthralled by the *Eighth Symphony*, however, numbered unknown millions, since it was broadcast from the venerable building over a world-wide CBS hookup.

So far this story has but musical implications. Now it takes on a social complexion that speaks well for the future of the world. The important cultural achievement was sponsored by one of America's great corporations, the United States Rubber Company. If ever there was a gesture of friendship and the acknowledgment from industry to the very people to whom it owes its existence, this is it. Such is the service rendered to the community, the nation and the world by the networks or broadcasting systems, call them what you will. In no less important a degree, the independent stations contribute to the health, wealth and happiness of our country. Their collective audience is a mighty force in building a strong and a law-abiding nation. It is the 900 individual stations within our borders, be they network affiliates or independents, that constitute the great empire of communication that imagination and free enterprise have built.

An unmistakable index of the cultural results of these broadcasts of the world's finest music is the fact that during the last five years the sale of symphonic records has increased more than 800 per cent.


*The Cast of Information Please and a guest. From left to right—Oscar Levant, John Kieran, Jan Struthers and Franklin P. Adams.*

*Clifton Fadiman, editor, lecturer and master of ceremonies on Information Please.*

# VI

THE strutting cackle of a hen proclaiming the production of a new-laid egg must have been unquestionably the first attempt at advertising by sound. Through the centuries the muezzin's evening call from a minaret has been but a broadcast to all good Mohammedans, advertising the hour for prayer. Similarly Christians received notice of their devotional period through the pealing of bells and carillons hung high in church steeples so that the sound would carry far and wide. To this day the bellman or town crier broadcasts information to inhabitants of small communities in the British Isles and elsewhere in Europe.

I remember once in a small town in the southwest of Scotland a grizzled bellman strode, or perhaps limped would be a better word, along the center of the principal business street. He was followed by half-a-dozen small boys. As a result of a wound received in one of the wars, I think it was the Boer affair, his left leg was permanently bent at the knee; his gait, therefore, was in an up-and-down as well as in a forward direction. As he hippety-hopped along, he swung lustily a large bell in tempo with his syncopated step. Pausing at a street

crossing, he prepared for action. He brushed his walrus mustache, first to the right and then to the left, giving the ends a twirling fillip with his fingers, and waited until passers-by had come to a halt. Then filling his lungs, he bellowed in a voice that was unmistakably that of a drill sergeant, "This is to give notice!" He paused and scowled with official severity and went on to inform all and sundry that on a certain date certain lands and premises were to be sold for taxes. He wound up his oration in a vocal hurricane, "God save the King!" If he had had a microphone, the whole proceeding would have been a perfect spot commercial as used in modern radio advertising.

The broadcasting bellman is but a left-over from the days of heraldry. The early Greeks and Romans had their heralds on whom they bestowed great honor for their superb showmanship in broadcasting to assemblies of the people announcements of grave importance including the declaration of war. England, too, bestowed on her heralds high honor and went so far as to give them certain fees and lands for acting as announcers at public ceremonies. The technique of the herald was not unlike that of modern radio advertising. Immediately prior to his appearance on the air, "pursuivants" who were apprentice heralds, appeared on the battlements of the royal castle or before the royal marquee at the jousts and there with bannered trumpets sounded off their musical signature; flourish followed flourish for the edification and entertainment of the throng. At a precise moment the herald stepped up and read his script with all the suavity and aplomb of a modern top-flight announcer.

Even in those days royalty, although not considered too worldly-wise, knew the value of sugar-coating with music and stage direction announcements that would otherwise be unpalatable or uninteresting. They were sharply aware that when they went forth among their people, a good quartet of herald trumpets and a first-class herald announcer proclaiming, "Here comes the King!" added stature to the monarch in spite of the jouncing he was undergoing in his rough-shod coach.

For centuries this showmanship, combining art and advertising into

a homogeneous whole, has been found to be the short cut to the merchant's Mecca—the acceptance by the customer of the product advertised.

I spent some time recently in one of America's great advertising agencies, just watching the wheels go 'round. I chatted with firm executives, account executives, copy directors, copy men and women, art directors, artists' production men, space buyers, and in the radio department program directors, script writers, writers of commercials, production directors and a bevy of others whose jobs, while not definable, are of first importance.

As a writer of more or less informative material, I have developed a maxim which has become as necessary to my work as a trowel to a bricklayer or a scalpel to a surgeon. It is: "If you don't know, ask someone who does." The catch is, of course, to find the someone who knows the answer. I am also partial to derivations, particularly of words we use every day without a thought of where they came from or how they originated. It was natural therefore to ask as my opening question, "Just what does the word 'advertising' mean? What is its root or origin?"

Quick as a flash came the answer, " 'Webster says,' "

> "ADVERTISE: From the French *avertir* and Latin *advertere*, to turn the mind to. (2) to announce publicly, especially by a printed notice or a radio broadcast; hence, to call public attention to, by emphasizing desirable qualities in order to arouse a desire to purchase or invest.—To issue or sponsor advertising."

Webster's definition of the word epitomizes perfectly what goes on day and night in an advertising agency. No matter what the medium—newspapers, magazines, billboards, direct by mail, sampling or radio, all effort is aimed at the same end: to turn the mind of the customer to the goods or service advertised—that and nothing else. If that objective is attained, sales will follow as surely as the tail follows the dog.

On this premise has been based much of the industrial and com-

mercial success of America. Great manufacturing enterprises and consequently great fortunes owe their existence not so much to the merit of the article from which they sprang as to the ingenuity of the idea that caused millions to *turn to* the article through the potency of its advertising. Take Eastman Kodak as an example. In the first place the word "kodak" was an inspiration. It was an onomatopoeic word, coined because of its resemblance to the sound made by the shutter of the earlier Eastman cameras. When the button was pressed, the little black box went "ko—dak!" The name, while having simplicity and ease of remembrance, was not enough. In its early days photography was a mystery to most people; a camera was looked on as beyond the ken of Tom, Dick and Harry, something for the scientist or at least the scientifically inclined to play with. Frankly, at that time things looked black for the young concern.

One day someone ahead of his time hit on the slogan that eventually rang around the world: "You press the button—we do the rest." Immediately advertising returns showed that the American public had begun to turn to photography. Camera sales increased in volume somewhat in the manner of an avalanche thundering down a mountainside. And so was laid the foundation for one of the army of enterprises that have made America great.

About the turn of the century leading national advertisers seemed to have discovered a fact well known to retailers for many years: merchandise artistically displayed in show window or advertising received more attention from the public than did the same merchandise poorly displayed. In other words, a little of the esthetic was good for business.

With that established, manufacturers of advertised commodities began to splurge in art. Where formerly trifling sums were paid for tawdry advertising drawings, the new order called in artists of considerable attainment. Today five hundred dollars is not an unusual price to pay for a drawing, and many are bought for sums in four figures. I know half-a-dozen artists who receive from advertisers a thousand dollars and upward for a drawing that will glorify

some piece of merchandise that will sell for a quarter or less.

This lesson in art appreciation was taught industry by the advertising agent to whom the industrialist and the public alike are indebted, more than to any other influence, for the high standard of American living. This blending of art and industry, so successfully accomplished in visual advertising, set the stage for a similar union in audible advertising. Since there was no incongruity in the use of a five-thousand-dollar painting by Maxfield Parrish in an advertisement for an electric bulb, there was no good reason why the heavenly voice of an operatic star at several thousand dollars a performance should not become the vehicle for advertising a cake of soap. In fact it has been found that, all things being equal, a display of superior art in a radio program will actually sell more of the product advertised than will a program that is mediocre. The result is that art has become a definite radio commodity. Combining the variety of radio art forms, with the problems of production, merchandising and advertising, becomes a complex undertaking, requiring broad experience and a large organization of highly trained personnel—so large in fact that it would be unprofitable and impractical for any advertiser, no matter how successful, to maintain a fully equipped radio advertising department. That is why the advertising agency plays such a large and vital part in the radio picture. Where big radio advertising projects are involved, the radio station provides little more than the physical equipment that makes the program possible. It is somewhat in the position of an owner who rents his theater and stage equipment to a play producer at so much a night.

Desirous of learning at first hand how an advertising agency operates on a radio account, I chose one of the largest and more important of the agencies specializing in radio advertising. In this I followed my usual procedure of taking a specific subject for study rather than dealing in generalities.

My choice of the concern was governed only by the fact that it is typical of the advertising agencies that have been favorably known in the general advertising field for their service to the more important

of America's national advertisers. It is also one of the group that has done much to rescue radio from the chaos of hit-or-miss methods of advertising, and built in it our greatest medium of instantaneous communication with the American pocketbook. The foresight, knowledge and skill of this group have contributed much to the high standard and volume of entertainment, information and culture available at the flick of a dial to every owner of a radio set.

One recent morning I first visited the advertising agency of my choice, Ruthrauff and Ryan, with establishments in New York, Chicago and Hollywood. I went directly to the radio division which occupies the 55th floor in the Chrysler Building, New York City. Mr. Stauffer, vice-president in charge of all radio activities in the agency, was awaiting me. In his late thirties, he is the perfect type of the younger executive—alert, keen, courteous and faultlessly groomed. It did not take me long to realize that here was a man who knew his business in all its complex detail. His personal office was as severe and unadorned as a monk's cell. A desk bare as Jack Spratt's platter, a few comfortable chairs and a leather sofa made up its furnishings. Near the ceiling was a radio "loud-speaker" connected with the control room on the same floor. This special piece of equipment is as necessary to the radio executive as a stethoscope to a physician. Through it he can *hear* the programs that are the product of his organization or those of competitors. He can appraise talent on the air more accurately than if he gave each man or woman behind the mike personal audition. Through wax recordings he can put programs under an aural microscope and scrutinize them over and over at his leisure.

In spite of its austerity the office fairly oozed inspiration. Nearly 600 feet above teeming Forty-second Street, a breathtaking panorama was visible from its windows. The great metropolis huddled below was gashed with streets and avenues on which men and vehicles were punier than ants. Beyond, the broad reaches of New York harbor were flecked with sunlight against which was silhouetted the gray-green Statue of Liberty. The Hudson and East Rivers lay below,


*One of the strangest phenomena of radio. A block of applewood has become one of the world's best known personalities. Wooden headed Charley McCarthy and his co-star Edgar Bergen are one of the most expensively sponsored attractions on the air.*

their surfaces furrowed in ripple patterns not unlike those left by water bugs on a still pool. On one side Long Island, joined to the metropolis by spindling bridges; on the other the flatlands of New Jersey, forming a base line for the Watchung Mountains purpling in the distance. Everywhere flew the waving banners of industry, the rising pennons of milkwhite steam against dun veils of smoke. Within sight of those windows twelve million people worked and lived unmolested by tyranny. They were a vital section of the 130,000,000 at whom this man, perched high above them all, aimed his programs in the interest of his sponsors. Only from such a height in the heart of a great city can one grasp the true significance of people in the millions and the power and glory of their accomplishment.

To save time, I had previously formulated some fifty questions to which I wanted the answers. This I considered the most direct method of acquiring the full story of the operations of an advertising agency in the radio field.

Before I could make my first query, the vice-president took from the drawer of his desk a pad and pencil. "This is how an agency operates," he said and proceeded to lay out a diagram showing each unit of the organization and its relation to the others. So graphic was the delineation and complete his description of the functions of each part of the complex machine, I found that my questions, so carefully prepared, were being answered one by one without so much as a query on my part.

As I watched and listened to this mentor who spends millions annually in building American commerce through entertaining or informing the American public, I began to realize what an important part is played by radio in the lives of everyday people. In the cabin atop the Tennessee mountains, in the pent-house overlooking New York's Park Avenue, in the lunch-pail of the miner will be found products of which the owner had never heard until the voice of radio informed him of them. In my own household I find that the whistling call of the "bob-white" coming over the radio first brought attention to a soap-powder of unusual cleansing qualities. The call of the quail,

when translated into words, became "Rinso white! Rinso white!!" now as well known to millions of housewives as the postman's whistle.

Such miracles of mass distribution through radio are by no means the result of luck or whim of the public. They are in fact the outcome of intense study of markets, carefully formulated plans, thorough knowledge of reactions and mental processes of individuals who make up the public. Furthermore, they stem from intimate acquaintance with the entertainment world, cultural sources, newsmen, commentators, reporters, correspondents and all those who keep radio audiences informed on current happenings and their import. The agency list of radio talent is a "Who's who" that contains not only the names but the backgrounds and achievements of all those available in the fields of entertainment, culture and information in the United States at the moment.

While we sat as teacher and pupil, we were sometimes interrupted by the thundering of the winds outside our lofty conference room. Invisible billows, cramped in the canyons below us and obstructed in their escape by the tall buildings, set up a bedlam of sound effects that at times reached a crescendo alarming to one not accustomed to them. Once the winds vied for mastery with the loud-speaker which at that moment was giving a demonstration of the impact of audible trademarks.

There was one in which human lips obviously formed the letters B–O, but it was equally obvious that no human larynx was capable of the resonant sepulchral tones that made them audible. I learned that the startling effect of enabling a foghorn, bell, steam engine whistle or other mechanical sound device to form coherent speech is produced through the application of a technique known in radio as "sonovox."

Where, as in this case, a foghorn is to be made to utter words, a recording is first made of the bellowing signals at some lighthouse. Later the record is placed on a radio phonograph beside which is the person who is to supply the mechanics of speech. Two disc phones, connected with the phonograph, are placed in contact with

his throat. The phones supply the sound vibrations that ordinarily would be created by his larynx. By merely opening the throat and mouth, the sound of the foghorn emerges as from a loud-speaker, then the human part of the combination forms distinctly the necessary vowels and consonants with lips, tongue and throat while the foghorn tones are coming through the mouth cavity.

Why, one may ask, are such startling effects used? Do listeners enjoy them? Do they enhance the program? To be effective, all advertising visible or audible must impress indelibly the name or an outstanding characteristic of the product on the mind of the reading or listening audience. This I found to be the basic idea behind radio advertising whether the medium be an hour of symphonic music or a one-minute spot commercial. Of course there are among radio advertisers some sponsors that have such a diversity of products and brands that the firm name is used as a kind of comprehensive hallmark, as, for example, Dupont. On the other hand there are large advertisers, like the Bell Telephone system, who sell a service rather than a physical commodity. In either case the advertising is institutional. It is aimed chiefly at building good will, the foundation of all successful business.

Whatever the technique used, it is almost invariably the brain child of the advertising agency. If we examine one of these radio campaigns from its inception, we find that, regardless of the agency or sponsor involved, it follows the same general pattern as all the others. An advertising agency, like any other concern with a commodity or a service to sell, maintains an efficient if not an aggressive sales force whose duty it is to discover and develop potential advertisers. This holds true in the radio department as well as in the department concerned with visual advertising. In agency parlance, a salesman fortunate enough to have secured a more or less important client, is known as an account executive. Once he has attained that distinction he becomes a kind of liaison officer between the agency and the client. In the radio department the client is spoken of as "the sponsor." Since the account executive's income is in direct ratio to the sponsor's

advertising expenditures, it is only natural that he use every device to develop his sponsor into a lavish user of the air waves. The agency's income is also governed by the amount spent by the client and is usually fifteen per cent of the gross expenditures—a modest fee indeed for such a laborious task as we shall see later.

It was at a fraternity dinner that John Bangs, account executive, first met the advertising manager of a nationally known product. In such events conviviality never dims the eye for business, so it was inevitable that during the evening the two men should drift into shop talk. It did not take John long to sense that his new acquaintance was at that moment wrestling with the problem of introducing and popularizing a new brand. Such a period is always an anxious one for an advertising manager since the tenure of his job is often dependent on the success of his advertising efforts. Rarely has the advertising executive the ability or the facilities required to conduct personally an extensive campaign either visual or audible. His chief responsibility is mostly that of selecting the agency or individual best equipped to perform a certain task and to guide and supervise the efforts of those carrying on—all, of course, subject to the approval of his superiors.

A week or so later John Bangs visited his friend, the advertising manager, at the executive offices of the plant in which the new product was manufactured. In his brief case was ample evidence of the success of his agency in many hard-fought advertising campaigns on other products. He dwelt at length on the facilities of his organization and of the skill and experience of outstanding members of its personnel. He showed by chapter and verse how a certain radio campaign outgeneraled and outsold a competitive campaign on a similar product, and for less money. He compared listening with reading audiences, the audible with the visual trademark. He dwelt on the facilities for covering the United States with a blanket of network and spot broadcasting, proving each point by carefully prepared surveys and statistics. Naming several of the major current programs on the air, he leaned toward his prospect and solemnly asked, "Why have these sponsors increased their radio appropriations each year since they first

went on the air?" He paused before replying to his own question. "I'll tell you," he said, warming to his subject. "It is because they have found radio advertising profitable—that and nothing else. They are hard-headed business men; not one of them is in business for his health."

John Bangs' eloquence and his knowledge of the facts of radio won at least the first round, for after some further discussion it was decided that the advertising agency be authorized to present a plan to the prospective sponsor. A long-distance telephone call to the New York office of the agency set the wheels in motion.

At the agency a tactical board, consisting of heads of the talent, production, media, commercial and publicity departments, assembled immediately. The vice-president in charge of the radio division presided. With the deliberateness of surgeons around an operating table, the group took up the business at hand.

In all such conferences the first subject discussed after the product has been considered is a "spot," that is, the period of broadcasting time that assures the proper audience. A product with man's appeal could not be advertised profitably over the air during the usual business hours, since few men could or would listen in during that period. If the appeal is to the entire family, it is obvious that the period following the evening meal when most families are together, would be the most effective. Therein lies the bottle-neck of radio advertising since the most favorable time spots are usually occupied by other sponsors' programs. It is not unusual to find that no desirable spot is available. Almost as important as the spot itself are the programs that immediately precede and follow it. If these are outstanding programs, it is reasonable to expect that the listeners will leave the dials unchanged during the intervening period, thus benefiting the sponsor sandwiched between them. On the other hand a program may lose a goodly part of its audience by being sandwiched by two "opposite" programs with large followings. In radio a program is said to be opposite to another when it is transmitted from a different station or network at the same hour.

The head of the media department reported a thirty-minute spot that would be available on one of the networks and further announced he could buy the same time period on a number of independent stations.

Now that the time hurdle had been negotiated, the type of show was discussed. Drama, classical music, name band, comedian, news commentator—each was considered with regard to its appropriateness for time period and product. All agreed that for family appeal the delineation of a single character supported by a dramatic cast would be the most appropriate. But what character could be logically woven into the story of the lives of everyday people in a small town? A merchant, a policeman, a reporter, a clergyman were all considered and eliminated for one reason or another. It was finally decided that a kindly character in the person of the mayor was the most logical in that he had a lively interest in the community's welfare and in the day-to-day affairs of its people. Pathos, comedy, suspense and action are all to be found among the activities that make the mayor's office of an American town a busy place.

During this part of the proceedings, the talent department head was called on most frequently. To him falls the responsibility of devising programs, securing talent and choosing script writers. To be properly equipped for his job, he must know every available actor and actress in New York and Hollywood. He must know dramatists, script writers and all those equipped to contribute written material suitable for radio production. If there is a "hot show" in Dallas, Texas, or an outstanding band in Des Moines, Iowa, or a comedian who is "laying 'em in the aisles" in San Francisco, he must know all about them, for sooner or later he may have to call on them. Every theatrical agent and the specialties of the talent he represents must be at his finger tips.

If after consideration of many actors, the choice of the board for the part of the mayor is, say, Lionel Barrymore, it is the talent department that must secure him in spite of the fact that he is under contract with a motion picture concern. All the legal formalities must be care-

fully observed and a contract with the star signed for a stipulated period or number of performances. Then the supporting cast must be chosen with greatest care before the production department takes over.

When the producer-director puts his hand to the production of a show, he becomes a czar whose every word is final and whose every whim and suggestion must be carried out to the letter. The undivided responsibility for the success of the show is his. Like the expendable torpedo, the radio drama is designed to be used once and once only. If it reach its target, it is well worth its great cost; should it fail, it sinks into dark oblivion and is lost forever. Nor does its short life make its production less arduous. From the conception of the idea or plot, through script writing, editing, casting, rehearsal and final broadcasting, to say nothing of its mood music, sound effects and commercials, every detail is as carefully polished as if it were part of a production destined for a long run on Broadway. So exacting is the director's job in a major radio show, it has been found necessary to lighten his burden by assigning to him a supervisor who relieves him of all but the actual work of putting the show on the air. Scripts must be delivered on time, cut-ins on remote shows must be arranged for and timed to the tick of a watch. Should part of the program come from overseas, it must be cleared through the Army and Navy. These and a hundred other complex details make up the supervisor's job—a job by the way that is never finished until the station identification is announced at the end of the program.

So far the conference has dealt only with the problem of providing a vehicle that will draw audiences to a certain spot on the dial at a certain hour. Now the media department steps into the picture. It should be remembered that these elaborate radio programs are not volleyed into the air as one might fire a shotgun hit or miss into a flock of birds. To carry the simile further, these radio programs are aimed at individual targets—each target of course a community or area covered by a particular local broadcasting station. For instance, an oil concern distributing its products only in the Atlantic coast and


*Although well sprinkled with advertising, Mary Margaret McBride's daily program draws millions to the microphone. Her interviews of outstanding personalities are rich in human interest. Here she is interviewing Alexander P. de Seversky, world-famous aviation engineer.*

middle-western states would waste energy and money by broadcasting through stations in Seattle, San Francisco or Denver. It would be wasteful as well as futile to encourage the listener on the Pacific coast to drive to his favorite service station and ask the man to "fill 'er up" with Pepco gasoline when there was not a gallon of it nearer than a thousand miles. Therefore the territory to be covered by the sponsor's advertising is carefully defined. To the media department falls the task of seeing to it that every listener within that territory is included in the potential audience. This requires an intimate knowledge of every broadcasting station and its facilities—whether it is included in a network or whether it operates as an independent—what its power and the population of the area it covers. The media man's job parallels that of the agency space buyer who must be an encyclopedia of information on newspapers, magazines and the other media used in visual advertising.

It is this media man who prepares plans and specifications for the radio coverage of the areas to which the proposed program can be profitably broadcast, either over the networks or by means of spot broadcasting over independent stations. These spot broadcasts are done from recordings, that is, from phonograph records of the original program. These recordings reproduce the actual program with amazing fidelity. In fact, they so closely resemble the original that the Federal Communications Commission (F.C.C.) has ruled that, when they are used, it shall be announced that they are recorded or electrically transcribed, so that there may be not the slightest taint of deception.

The next contribution to the conference comes from the commercial department. In radio parlance a "commercial" is that part of the program which speaks specifically of the product or service advertised. At first glance it would appear that these announcements could well be written by the agency copy department in which copy is prepared for printed advertising. This is not so, however. Experience has proved that writing for the eye and writing for the ear are as distinct in their techniques as writing poetry and prose. Word se-

quences that might read well in print would lack the rapid-fire impact so necessary in audible advertising. A reader may pause over a word or sentence to get the full import. A listener, however, has no such opportunity; a word once spoken vanishes into the ether.

That accounts for the repetitive quality of the commercial as well as for the extreme care with which program announcers are chosen for clear diction. Although the commercials occupy but a small fraction of the broadcasting time, they bulk large in the discussions of the conference. Originality, novelty, terseness, simplicity, clarity and above all impact are combined into a smooth sales talk that rings sincerity in every syllable. Be the subject a motorcar or a medicinal preparation, the commercial must convince the listener that it is at least worth a trial. After that, it is the responsibility of the sponsor to prove to the listening customer that the quality of his product is up to the quality of his radio program. As every radio listener knows, commercials run the gamut, not only in style of writing but in style of delivery. Some are argumentative, some merely suggestive; others are suave and enticing and a few are hammer-and-tongs, now-or-never sales talks that will not take "no" for an answer. Whatever the style of the commercial, the substance is based on *truth* with an occasional exception for poetic license. This adherence to fact has for many years been an accepted dogma of the advertising agencies. In radio as in all other advertising media an occasional go-getter has burst over the air into plain ballyhoo only to find that the radio industry, the government and the public stood as one between him and his get-rich-quick ambitions.

The writer of commercials fills an important niche in the field of radio. While the script writer secures the attention and holds the interest of an audience, the author of the commercials loosens the purse-strings by creating a desire to buy the product advertised. Usually working on a salary, he receives from $5000 to $10,000 a year and in a few cases considerably more. Unlike the script writer whose background is often literary, he makes no pretense of creating written masterpieces. He is in essence a good salesman with a good ear for

the selection and sequence of the simple, everyday words essential to a good sales talk. Many of these supersalesmen hold one or more college degrees, yet several of the most successful of them can boast only of a high school diploma.

One of the most successful writers of commercials came into the field through a unique channel. While still in high school he entered a radio contest and won first prize without much effort. Encouraged, he entered other contests in several of which he was declared winner. On leaving school he took up contest work in a big way, participating in every one that came to his notice whether it was conducted over the air or in the public prints. Soon his winnings included more than twenty watches, several radios, a washing machine, a collection of other household articles and a substantial bank account built from sums of money he had won from time to time. Then sensing that his knack of winning contests might have a value to some advertiser, he approached an advertising agency and told the story of his strange success. He was employed at once and assigned to the commercial department of the radio division as a sort of apprentice. It did not take him long to learn the essentials of commercial writing. In a matter of months he was thrilled when he heard a short commercial he had written come over the air. It was a starting gun; he was off in a grueling race in which he has since gained a leading position as one of the highest paid writers of commercials.

Less spectacular was the career of a girl who entered an advertising agency as a stenographer. Just out of high school, she was assigned to the radio department where her time was occupied mostly in typing commercials. The apparent simplicity of the writing, the tricks of emphasis and repetition intrigued her. In her spare time she attempted writing spot commercials after the manner with which her job had now made her more or less familiar. She soon learned that writing for the ear was not as easy as it looked; sheaves of her effort went into the wastebasket; not one of them *sounded right*. Discouraged, she was about to give up, when it suddenly dawned on her that the best way to learn to write for the ear was through the ear. She became at

once a dial addict. Now she spent her spare time tuning in every type of commercial from those on the major programs to the one-minute spot commercials of the smaller local stations; she even memorized some of them. Little by little she absorbed the lilt or the rhythm or whatever it is that makes commercials acceptable to the ear when actually they might offend the reader were they put in type. After weeks of listening and study she again attempted writing and found that she had acquired a new facility. She submitted a few of her efforts to the head of the department who saw at a glance that she had mastered the almost indefinable tricks of writing commercials. She left her typewriter at once for a desk in the commercial department. That was but a few years ago. Today she heads the department in which fourteen writers are constantly employed.

Still another unit, the publicity department, must be heard from before the conference collates the ingredients of a campaign of radio advertising for the approval of the prospective sponsor. Many of the more important programs are advertised widely in the daily press, in periodicals, in the stores and not infrequently, in spot commercials. Frankly the purpose is to attract listeners from other stations or networks at a certain hour on a certain evening. Frequently publicity experts are employed by the agency to carry on this phase of the campaign. The professional publicity—or "public relations"—expert is a highly skilled technician with a thorough knowledge of the mechanics of publishing and a broad acquaintance among editorial personnel. A human interest story with pictures of the star of a certain program is worth its weight in gold as a good-will envoy to the listening audience. To get such a story into worth-while newspapers calls for sure-fire skill and imagination galore on the part of the public relations expert, sometimes known as the press agent. This publicity is often supplemented by paid advertising in the newspapers of the communities in which the program is to be broadcast.

There is often some confusion in the mind of the average person between "publicity" and "advertising," so let it be understood that publicity material is published as editorial matter, for which there is

no charge by the publisher, while advertising is bought and paid for by the sponsor at so much a line. The aim of the one is to create interest in the program; the chief function of the other is to inform the reading public that such-and-such a program featuring a certain star will be broadcast from station X at, say, 8 o'clock on a given evening.

The conference which may have taken hours or days has now drawn from the experience, the knowledge and the skill of its participants. Ideas and suggestions have been mulled over and accepted or discarded. An examination of the residue shows the component parts of a radio advertising campaign, disconnected but complete. Then follows a period of assembling the elements in their proper order with endless pruning and polishing. Scripts are written and edited; commercials are prepared; the talent is chosen. Announcers, a dozen or more, are auditioned and their voices recorded. Sound effects are assembled and often invented. A conductor and orchestra are recruited. Scores are written or arranged. A director and his supervisor are placed in charge of production. Rehearsals are held. In fact, the entire mechanism of program construction is set in motion. All effort is aimed at producing a "package."

When all the details of the proposed program have been worked out, the entire show is recorded on wax. The resultant disk is the "package" to be demonstrated to the sponsor. A meeting is arranged with the sponsor, his advertising manager, one or several of his brand managers and several executives whose opinion may be valuable in appraising the worth of the weeks of work that is now represented by the precious black "platter." There is usually considerable tension at those gatherings. They are really auditions in which the agency must prove its ability or accept bitter defeat.

As the sample "broadcast" begins, the jury of businessmen settle down in their chairs to listen to the evidence coming from the loudspeaker. The sponsor and his associates cock critical ears; the agency group, alert as crickets, watch the expressions on the faces of their prospective clients. During the early part of the program the sponsor's mood is one of "Show me!" Occasional notes are made—critical

notes. As the program proceeds, however, the critics seem to forget they are in a conference that may result in spending a vast sum and have a far-reaching effect on the future of their business. They have lost their austerity and are just home folks enjoying a radio program. As the final commercial closes in a fade-out of the theme music, they snap back to the work-a-day world, to the business at hand.

Praise and mild criticism follow, but the consensus of opinion is that it is a good show that should appeal to the average American family. Perhaps there is one unfavorable point on which all agree: the announcer may be a little too high-brow for the common folk. That is easily remedied. A telephone call to the control room and in a matter of moments a recording of another announcer reading the same commercials is on the air. The second announcer may be considered too forceful, and so it goes from one recording to another until a dozen perhaps have been fully appraised and the best man chosen. All this may sound finicky to the person not familiar with the psychological aspects of selling, whether the salesman be the announcer at the mike or the drummer with his sample case. As a matter of fact a large part of a salesman's success is directly attributable to his personality as expressed in his manner of speech.

The cost of the broadcasting program once a week for a period of thirteen weeks is discussed at length. Thirteen weeks are the usual contract period since they constitute one-quarter of the year. The network time alone will cost in the neighborhood of $130,000. If guest stars are introduced occasionally, they are paid according to their prominence in the minds of the public. A Hollywood star of the first magnitude is paid $5000 for a single appearance as a "guest." Lights of lesser brilliance are paid about half that amount while the run-of-the-mill of stardom are paid from $750 to twice that amount for their few minutes behind the mike. Besides these expenses is the important matter of the featured performer and the supporting cast. The Jack Benny show, for instance, costs $25,000 a performance, exclusive of network time—a sum tidy enough for any sponsor to ponder over before committing himself.

The conference ends. Sponsors and agency men resume their hail-fellow attitude. The program is acceptable; everybody is happy as the groups part. The sponsors return to their tasks of manufacturing and selling, somber in thought and perhaps a trifle uncertain. Of course they look for a large increase in sales, but that entails a large increase in manufacturing facilities, an increased payroll, increased selling problems and personnel, to say nothing of an increase of capital investment. The agency, after the first flush of victory fades, sees increased toil for a hard-pressed staff, for it must be remembered that experienced creative workers are not to be found by the wayside and the volatile temperament of many of those engaged in the radio arts raise havoc with the best-laid plans.

Sweat and tears and tempers frayed to shreds are often the price the agency production staff pays for the smooth performance that goes out over the air. Illustrative of this is the case of a sponsor who unwittingly strove to wreck his own program. A manufacturer of a beverage contracted with a New York advertising agency for thirteen weekly broadcasts. A lover of good music, although not a radio listener, he was desirous of giving the American public a substantial diet of works by the great masters. An outstanding orchestra was assembled and one of radio's most capable conductors engaged. The sponsor invited the conductor to lunch one day to discuss the musical menu of the première broadcast. During the meal he suggested a musical signature with which to open and close the program. With this the conductor agreed heartily and named several melodic fragments as suitable identification tags. None of them pleased the sponsor. "Then what would *you* suggest?" inquired the conductor. The manufacturer paused as he tapped a finger on the tablecloth, "Let me explain," he said. "The beverage we wish to push has the rich, dry flavor of the lime. It has the tang of the fresh plucked fruit. Does that suggest something to you?" The conductor, a little bewildered, shook his head. "Nothing," he said. The sponsor continued with some impatience, "I know the tune I want. It's running through my head but I can't get it out."


*The "Make-Believe Ball Room," one of the most successful of sponsored programs, illustrates the value of a good idea in radio. A versatile announcer, a microphone and a huge library of phonograph records coupled with good business direction have netted a fortune for WNEW in a few years.*

Encouraged by the director who was dying to know what in music could possibly suggest the flavor of a lime, the manufacturer whistled and hummed "la-la-la-la—la-la" over and over again, establishing the tempo and rhythm but missing the melody entirely. After hours of search in his music library, the conductor found something that he thought would coincide with the sponsor's idea; it was a passage in the *William Tell* overture.

"That's it! That's it!!" replied the sponsor over the phone to the mystified conductor who could not find in it the slightest resemblance to the dry flavor of a lime. An arrangement was made of the *William Tell* fragment, the show went into production and in due time was ready for the final rehearsal before the broadcast. The orchestra was assembled on the stage, on the left side of which was the control room. From this control room, through a large sound-proof window, there is a full view of the stage; the auditorium, however, is not in view. Director and engineer work behind the large plate of double glass. The director communicates with those on the stage by means of signals. When all was in readiness, the director signaled the orchestra to begin the musical signature. The announcer stood by his mike, awaiting the cue from the director and ready to read the commercial.

At the end of a certain number of bars the orchestra was supposed to play softly, thus giving a delicate background to the announcer's commercial. This had been rehearsed several times. At the proper moment the director signaled the orchestra to decrease the volume. He pressed down with outstretched hands, meaning *softer—softer.* Instead of complying with the signal, the musicians played louder and louder. The director was beside himself. Was this mutiny? In a rage he rushed from the control room into the auditorium. What he saw left him speechless. There was the sponsor in evening clothes, violently motioning the orchestra to play louder. In the studio the sponsor is king; he can do no wrong; at least that is how the musicians felt. The fury of the director and the still greater rage of the conductor must have alarmed the sponsor for he hurried from the studio pale and overpowered by the blasts of the outraged men. During the months

the program continued on the air, he gave them no further trouble.

No matter how perfectly a director may whip a program into shape, he dreads the unpredictable that may occur during the broadcast. One of the world's best-known baritones was engaged for a radio recital in conjunction with a symphony orchestra. Ordinarily this is an easy type of program to put on the air. The great artist requested that there be no studio audience. This was not unusual since many of radio's big names feel they can do better work in the informal atmosphere that goes with empty seats. The baritone selected as his opening number an excerpt from the opera *Boris Gudunov*. He was not too familiar with the libretto or the score; in fact, he was then studying his part for a Metropolitan Opera performance that was still three weeks off. A powerfully built six-footer, he stepped to the mike on receiving his cue from the director. Beside the mike were his sheets carefully arranged on a music stand. With shirt collar thrown open and in superb voice, he attacked the first passages of the difficult aria as if he had sung them a hundred times. As he progressed, he warmed to the part, introducing some of the "business"—the motions of arms and body called for by tradition. Robust in gesture as in voice, he reached a point in the aria to which a forceful sweep of the arm gave proper emphasis. However, in sweeping his arm, he swept the dozen or more sheets of music from the stand. They fluttered to the floor like leaves in an autumn wind. Horrified, he attempted to pick up a sheet or two, but kept on singing, faking words as he went. Then rage seized him; the pages were horribly mixed up. He swore the mighty oaths of a deep-water sailor and cussed out radio and everything connected with it. At each outburst of profanity the engineer tuned in the orchestra and cut down the volume of the singer's voice until the instruments drowned out his purple phrases. The director, a musician of parts, leaped to the rescue from the control room. He gathered up the music, sheet by sheet, and arranging them in their proper order, placed them on the music stand and pointed out the exact bar the orchestra was then playing. The baritone picked up his part and went on to a magnificent finish. For days sponsor and direc-

tor awaited the deluge of letters from an outraged listening audience. None came. This spur-of-the-moment co-operation between director, engineer and performer has saved many a program that an unexpected happening left teetering perilously.

From the foregoing it may be inferred that from producer to page boy, the agency's job is not an easy one. Jolts and jars, disappointments and discouragement hang over it at every step. A trifling oversight, a moment's lapse in watchfulness, a slip in co-ordination, not only among the immediate personnel but stations distant by thousands of miles, may bring the whole program structure toppling. A script writer, to get over a good line, may stray from good taste or transgress the libel laws. A commercial writer in his desire to sell the sponsor's product may exaggerate its quality or its potency and start a train of trouble that may take months to halt. That is why each written word is edited and scrutinized for slips of the pen and further probed for legal irritants that may lie hidden in it.

To this point we have considered only the aristocracy of radio advertising—the affluent sponsor, the country-wide networks and the larger advertising agencies to whom a million-dollar account is just another incident in a busy day. In this category advertising expenditures are reckoned in hundred thousands of dollars. Imposing as is the grand manner in which they make their appeal to the public and the vast sums spent, they represent only a fraction of the total advertising effort. In round figures a quarter-billion dollars are spent annually in American radio advertising.

Not all radio advertising is conducted on such a lavish scale. At any hour of the broadcasting day, while soap operas and symphonies and costly comedians are riding high on the air waves, millions of listeners, unimpressed by great names and expensive talent, prefer modest fare offered by their local stations. To many of them there is more enjoyment in hearing the soprano they have heard in their church choir for years sing a few simple songs than the artistry of an opera star rendering a Wagnerian aria. News of world events, the ceaseless output of the commentators, the oratory of politicians and

propagandists are secondary to the news of the home town. The fire at Centre and Main, the accident in front of City Hall, the hold-up out by the cemetery, the newly arrived twins in the Jones family—all these items are a part of their daily lives and as such take precedence over all other interests.

This abiding loyalty to the home town endows the local and the independent station with high advertising value. It gives the merchants of the community a direct and easy entry to the homes of its customers. A commercial telling of the up-to-the-minute style and superior quality of a house dress at $3.98 will attract women to its ready-to-wear department as surely as honey attracts flies. If the station is a small one with a low-power output, all the better. The local merchant is primarily interested in listeners within shopping distance of his store, and the restricted coverage of the station makes the cost comparatively low. Notwithstanding this community loyalty, the owner of a small independent station is in business for profit, and while he appreciates local support, he also makes every effort to sell time to the sponsors of nationally advertised articles. In this case broad coverage is essential. Increase of his listening audience benefits him in two ways: he gets a higher rate for station time and he gets better programs on the recordings supplied by the large advertisers.

I apply the word "small" to radio stations only in a comparative sense, because many powerful stations are small by comparison with such stations as WEAF and WABC. From the huge transmitting towers of these stations, broadcasts are hurled out to a potential listening audience of more than twenty million people, all within easy reaching distance of metropolitan New York. Yet much of the broadcasting material of these stations is lost over thousands of empty miles of ocean. I remember one winter evening on the North Atlantic. We were some seven hundred miles off shore, slopping through a snow-laden northeaster. The skipper, an ardent music lover and radio fan, probed the ether for what he called "some solid music." Soon the cabin was filled with the melodic tumult of Mendelssohn's *Fingal's*

*Cave*. It was being played by an unusually fine orchestra at Station WABC in New York City. Perhaps it was the coincidence of hearing the composer's interpretation of a turbulent sea while we were actually rolling in one that stirred me more deeply than any music I had ever heard. Then, too, the great T-shaped transmitting tower from which the program leaped was a neighbor of mine on Long Island Sound. I had sailed many a time within a stone's throw of the man-made island on which it stands.

This phenomenon of good reception far beyond the normal zone is not unusual. An executive of Station WNEW informed me that programs from that station are often enjoyed in Iceland, although the intended coverage of the station does not extend much beyond a radius of 250 miles. Incidentally, this same WNEW, though comparatively small, is a fine example of how a highly successful broadcasting studio can be established by mixing a lot of brains with comparatively little money. From the viewpoint of invested capital, it is one of the outstanding successes of the radio industry.

I had heard so much of this unique enterprise from so many sources, I decided to visit it. Situated on Madison Avenue, New York City, in a modern building, it is as compact and functional as a watch. I found it to be almost domestic in the friendliness of its atmosphere and in the appointment of its offices. Instead of conventional office furniture, well-chosen pieces such as one finds in a comfortable living room were in use. Its studios, while not large, were adequate for the programs broadcast twenty-four hours a day. The studio from which comes the "Make-Believe Ball Room" was as startling by contrast as any of the large and sumptuously furnished studios I had seen. A desk, a microphone, a turntable for playing recordings and two walls lined with 30,000 discs constituted its equipment; any more would have been superfluous. The "Milkman's Serenade," a program of recorded music, is another extremely successful program originating in WNEW. This broadcast, beginning at midnight and ending at 6 A.M., is aimed at the great army of night workers in the metropolitan area. The program consists of recordings of popular music

*A conference is held to discuss a script for a Jack Benny show. These conclaves of comedy are usually serious affairs.*

and vocals with a rich sprinkling of commercials and patter-of-the-moment. During cold winter nights the broadcasting of this program becomes a rugged experience. As is customary in most commercial buildings, the heat is turned off in the late evening. By midnight the studio is chilly, with the temperature steadily dropping. A stove performs the double function of supplying a modicum of heat and facilities for cooking a late supper, an early morning breakfast and a steady supply of hot coffee in between. In contrast with the luxury programs in which evening clothes are often worn, the hardy staff of the "Milkman's Serenade" often work in sweaters and lumberjack shirts through the long frigid nights.

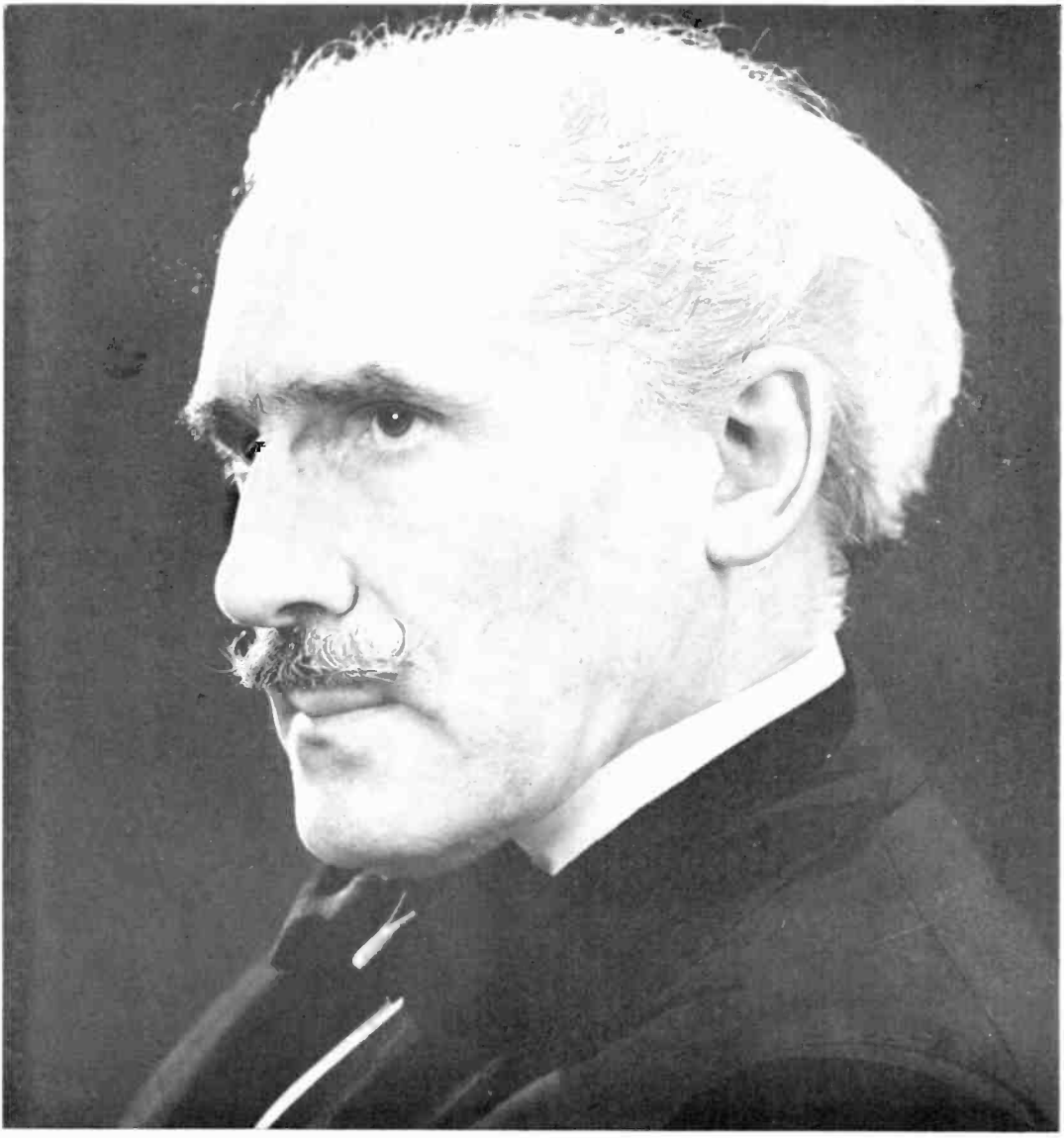
In radio as in any other business, competition is always keen. To be profitable a station must sell a certain portion of its broadcasting time—its sole source of revenue. This holds true whether a station be independent or affiliated with a network. In the case of the independent station the battle for success is particularly keen since, unlike the network station, it depends solely on its own effort to secure each of its sponsors. For that reason it stands ready to supply agencies and sponsors with helpful services. Typical of this aid to the advertiser is the case that occurred at WNEW. A prospective sponsor, a manufacturer of refrigerators, was considering a program to be broadcast from that station. Desirous of stimulating sales in the territory covered by the station, he asked the station representative the logical but difficult question, "How many families among your listeners still use old-fashioned iceboxes?" The salesman, undisturbed by the formidable query, replied frankly, "I don't know. But if you will give me a little time, I will give you a fair approximation of the number." He passed the question along to the station management. The answer was their responsibility, not his.

A conference was held to devise ways and means of determining the approximate number of WNEW listeners who were still on the calling list of the iceman. The very next morning an announcement was made during a broadcast and repeated periodically for several days. It was a simple statement with the directness of an arrow: "If

you still use the old-fashioned icebox, drop us a penny postcard today and we will send you free of charge the handiest ice pick you have ever used." In a matter of hours postcards, thousands of them, began to avalanche into the office. In a little more than a week the station was able to give its prospective sponsor a sort of Gallup Poll that was a reasonably accurate index of the sales possibilities among the members of that particular listening audience.

When I had heard the above incident, it occurred to me that such keen sense of housewives' reaction could come only from a woman. My surmise was correct, as I learned later. Surprise was also in store for me when I discovered that the manager of the station was a charming and brilliant woman. On entering her office I was struck by the sheer femininity of the room occupied by one of the busiest executives in radiodom. Flowers, linen drapes and dainty furnishings gave an appropriate background for a tastefully groomed woman. The place suggested an editor's sanctum in one of the exotic fashion magazines.

In conclusion, I have often heard the question asked, "Do not these great advertising expenditures by radio sponsors increase the cost of the commodity advertised?" To ascertain the answer, I interviewed several sponsors, their advertising agencies and radio broadcasting stations. Without exception the answer was "No." Let us say that a half-hour coast-to-coast network costs the sponsor $15,000, including talent, and the listening audience numbers about 15,000,000 people. If we divide the cost by the number of listeners, we find that the sponsor paid about one-tenth of a penny for each listener. There are programs that cost slightly more than this tenth-of-a-cent per listener and there are many that cost much less. Whatever the actual fraction, it is so small that it puts no perceptible burden on the price we pay for a product. As a matter of fact, the increase in sales resulting from one of these radio campaigns and the constant increase in the number of listeners tend to reduce rather than raise the price of the commodity to the consumer.



*The Maestro, Arturo Toscanini, who organized and conducted the NBC Symphony Orchestra, lifted radio broadcasting to a new high level.*

# VII

THE sustaining program—that is, the program conceived, produced and paid for by the station or network—is the heart and spirit of radio. It is true that the radio productions of the sponsors may sometimes overshadow in lavishness of expenditure or in quality of talent the best of unsponsored programs. It is also true that many of the outstanding sponsored programs attract large listening audiences through sheer merit, but it must be remembered that the sponsor, in buying time from a network or independent station, buys more than so many minutes; he purchases the good will of the listeners. And this good will is created by the individual station, each in its own community. In this the station may be likened to a well-established magazine in that it builds its reputation and its following on the quality of its fiction, its articles on current affairs, its household information, fashions and other subjects. These it buys, publishes and distributes at its own expense. In publishing parlance these are "editorial matter" and are identical with the sustaining radio program. To carry on its editorial work and defray the expense of publication, the magazine sells a certain proportion of its "white space" to advertisers

who buy the privilege of using that space to carry their messages to the readers. This is paralleled by the radio station which sells a certain portion of time to the sponsor who uses that time period to convey his message to the listeners.

In the case of the magazine the advertiser frequently spends more money for a page of illustration and text than does the publication for any single page of its editorial matter, but he knows that the reader favors the magazine not because of the high standard of its advertising but for the editorial content which he has enjoyed over a period. So, too, the listeners of the radio station or network are in the main more interested in the year-in-year-out quality of its sustaining programs than in the glamour of the high-priced entertainment offered by sponsors who may shift from station to station or who may go off the air after due notice, perhaps with good reason.

This loyalty of the listener to a favorite station or small group of stations is the result of the care exercised by the program department in the selection and preparation of its broadcast material. It is also due in no small part to habit. Millions of listeners tune in a particular station at a certain hour day in and day out for years on end.

While collecting material for a book, I spent some time in an isolated lighthouse on the Atlantic coast. It seemed to me that the radio was kept in operation twenty-four hours a day as an antidote for the utter loneliness of the place. Soon I noticed that all the programs came only from Station WABC. I said to the light-keeper, "Captain, I see you like the programs of the Columbia Broadcasting System. You've had WABC tuned in all day." Apparently my remark did not indicate anything out of the usual. "Yes," he said, "we like the radio. We don't seem to be so far away from the rest of the world when it's going." "But," I said, "don't you ever listen to the programs from other stations?" He looked puzzled for a moment. "'Pon my word," he replied, "I never give it a thought. You see, for years we had an old set that was given us by a friend ashore. I guess it was on its last legs when we got it. The only station that came in halfway

clear was WABC, so we didn't bother about the others. Finally the old set gave out. You have no idea how we missed it. Then one of the boys—I had two assistants—proposed we chip in and get a new set. I'll never forget the day it arrived on the tender. We had been without radio for a week and we were like children with a new toy. We could hardly wait to get it going. Charley, he was my engineer, got it rigged while we stood around. He turned the dial to WABC. I suppose because we were used to it, it's been there ever since. Don't know as we've missed much."

It is sometimes difficult to account for this adherence of listeners to a particular station. Recently I had a neighbor tell me her reason for listening to Station WOR and no other for her news broadcasts. She is a woman of middle age and comfortable circumstances. Each evening as 6:30 approaches, she takes her knitting to the radio and waits for the exact moment when the news broadcast begins. During the succeeding fifteen minutes her needles work at high speed. When the broadcast ends, she turns off the radio and goes to the kitchen to supervise the preparation of dinner. One evening I asked her if she ever listened to news coming from other stations. Her reply, while not enlightening, was perfectly honest. "Oh, I've tried several," she said, "but somehow they don't sound the same."

These listeners are comparable in their station loyalty to the "constant reader" so highly prized by newspapers. Fortunately our tastes in radio differ as widely as our tastes in food or clothing. Otherwise the output of our broadcasting stations would be doomed by a deadly similarity. The more deeply one delves behind the scenes in radio, the more evident becomes the vital importance of the program director's job. On his shoulder falls the responsibility for the program quality of the station or network to which he is attached. The procession of programs passing daily through the mikes under his control bear the stamp of his full approval. If they are guilty of bad taste or are rendered in a slipshod manner or if they involve embarrassing controversy, the ensuing avalanche of listeners' disapproval is dumped on his doorstep.

One day recently I lunched with Mr. Menser, program director extraordinary. Through his busy office pass for approval the thousands of programs broadcast annually from the studios of the National Broadcasting Company of which he is vice-president. I had heard much of the infinite detail and of the strange emergencies that are all a part of his daily routine. I was anxious to learn what manner of man was this whose word is law to hundreds of people, many of whom have the volatile temperament that frequently goes with unusual talent.

In his middle forties, robust and with the calm of a man sure of himself, I found him to be the antithesis of the nerve-racked person I had expected. In reply to my usual question, "How did you get into radio?" he told me the story of his evolution. It was as strange as any I had heard in this strange world of sound and silence. He began his career as a teacher, a professor of English and public speaking. As an avocation he devoted much of his time to directing amateur dramatics. During the course of this labor of love, he became conscious of the human voice and methods of speech as an index of character. He also discovered the significance of everyday sounds. A knock on the door, for instance, can indicate many things about the person who knocks. It may be loud and continued or it may be weak and hesitant. The *rap-rap* of a policeman's club, the soft tap of a woman's gloved hand or the timid impact of a child's knuckles all convey to the person inside a definite mental picture of the person outside. Radio being the voice and sound medium that it is, it was but natural that Professor Menser should become entranced by its magic. It was as a result of his familiarity with the merits and shortcomings of the new art form that he was eventually drawn into radio in the capacity of director.

I have found in my contact with men and women who have attained a full measure of success in their various callings that each attributes his advancement to a definite philosophy or ideal. In the case of Mr. Menser, he attributes his success to the guidance of a mythical old lady in Iowa. In his work of direction he aims every word, every pause,

every sound effect at her. Provincial and a little hard of hearing, she typifies millions of listeners who grasp only a part of all they hear. She is one of a million audiences rather than one in an audience of millions. Complete simplification of each production becomes an obsession. He uses the two chief ingredients, sound and silence, as the painter uses light and shadow, giving each its proper color value. To him the handful of bird seed used by the sound man as pelting rain is as important as the resonant notes from a Stradivarius played by the first violinist in the orchestra. To the little old lady in Iowa the one is rain from heaven, the other heavenly music.

When the day came in which he was made program director, he placed the mythical little old lady at his right hand where she remains to this day. Now he directs directors and all who work under them and with them. He still insists on simplicity and clarity almost to the point of being ruthless.

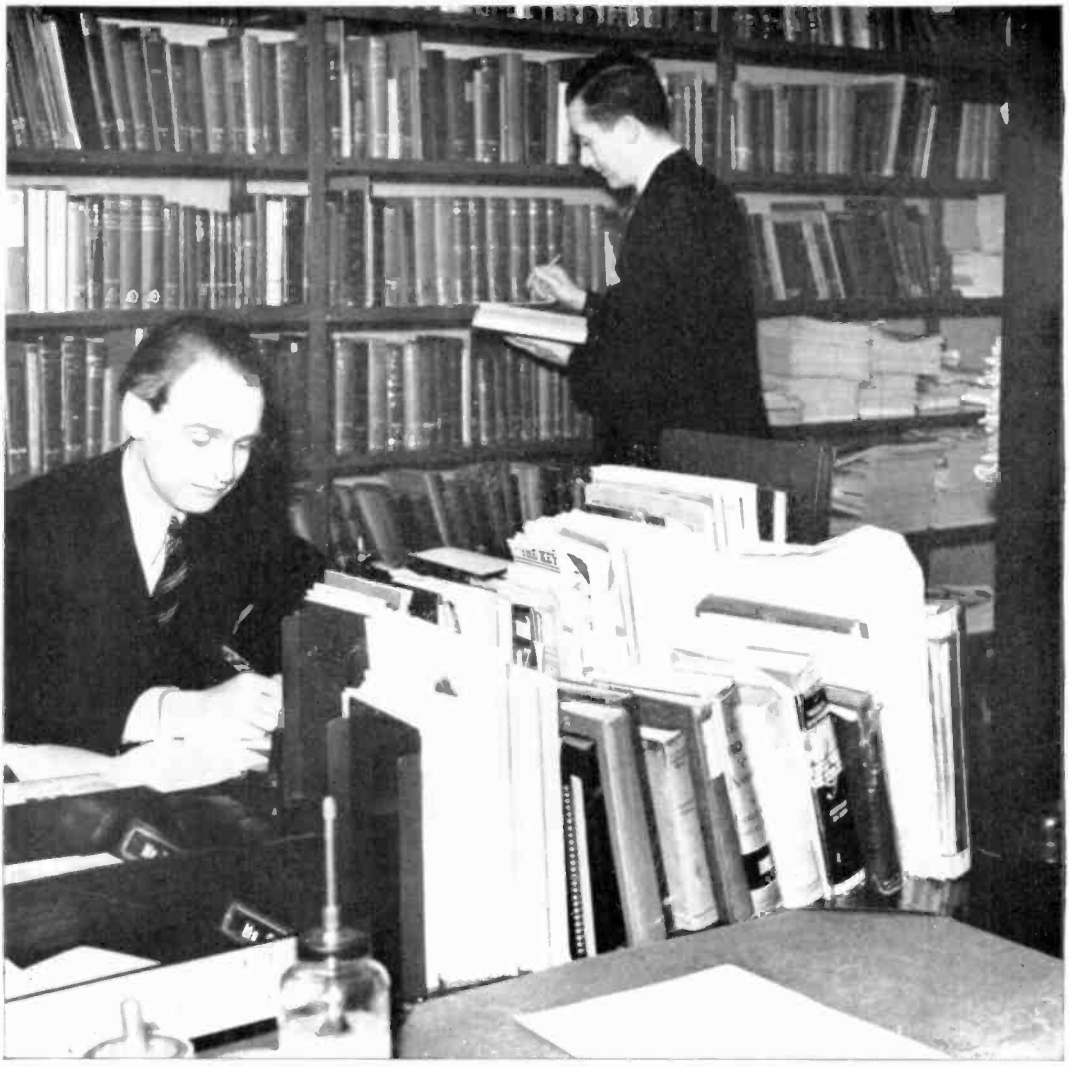
Recently one of his best directors, a young man of unusual ability, was entrusted with the direction of a gripping radio drama, the climax of which occurred as the leading character stepped off a train. The young director, sensing an opportunity for a fine piece of realism, made the approach, slowing down and stopping of the train a masterpiece of sound effects. The escaping steam, the metallic clank of the connecting rods, the rumbling of the great driving wheels over the rail joints, the harsh tones of the bell, the hissing of the airbrakes and the panting of the locomotive at rest were all mingled with a sound background of railroad station activity. The carefully executed approach of the train resulted in one of the high lights of realism in broadcasting.

As the head of the program division listened to the broadcast from the loud-speaker in his office, he made a few notes and sent for the director. "Roberts," he said, "what was that script all about?" The young director, proud of his recent broadcast, was a little surprised at his boss's coolness toward his effort, "Why, it was about a young couple in love, thwarted by an uncle and—" "Oh!" replied the man behind the big desk, "It sounded like a railroad story. Just at the

climax when you should have your stage cleared of all but the principals, you put on one of the finest railroad scenes I've ever heard. It was so perfectly done that the locomotive stole the show and left your principals stranded. The little old lady out in Iowa, who has never been fifty miles away from where she lives and to whom a train and travel suggest one of the dreams of her life, walked out on you and dreamed of travel when you should have had her drinking in the tenderness of the well-written love scene."

The young director, flustered and blushing, blurted, "I should have known! I'll remember the old lady from now on." "Good for you!" said the chief. "That is what I wanted to hear!"

The program division of a large broadcasting organization is both complex and varied in its activities. It is really the source of the great flood of sustaining programs that flow through the mike. Its most important function is the preparation and production of the material that goes on the air. On the quality of this material and the expertness with which it is prepared hangs the very existence of the whole broadcasting structure, for the radio listener knows no middle ground. A program is worth listening to, or it is not; it is either good or bad. That does not mean that all programs must have an intellectual quality, appealing only to the more serious-minded. A symphony orchestra or a round-table discussion or an analysis of world affairs by a competent commentator will have a well-defined listening clientele but there is also a vast audience that prefers the rhythm of a rumba band or the horseplay of a pair of comedians or perhaps a report of the current events in the world of sport. Both audiences are of equal importance—one merely complements the other in making up what is called the listening audience. In this respect the broadcasting station or network is like a large department store in which period furniture or exotic fabrics may be purchased in their respective departments by those who have a taste for that type of merchandise, while to the basement pots and pans and the excitement of the bargain counter draw thousands of profitable customers. If it be a good store the merchandise is good regardless of the part of the



*In this corner of NBC's extensive music library can always be found composers, arrangers, conductors, instrumentalists, and even lawyers who specialize in the laws of copyright.*

building in which it is placed on sale. If the merchandise is shoddy, the customers soon go elsewhere.

The maintenance of a nice balance in the variety and quality of its programs is one of the chief problems of the program department. The search for new talent, new ideas, new techniques goes on continuously. Assembling and reassembling the component parts of programs, the stimulation of creative effort, study of audience reactions —all these are merely a part of the work in this broadcasting beehive.

As in the case of the radio department of the advertising agency, the program department operates through several highly co-ordinated divisions. The production division, for instance, has the responsibility of preparing and broadcasting all programs. It acts in a more or less supervisory capacity in the broadcasting of sponsored programs while co-operating with the advertising agencies in which they originate. It also exercises a kind of benign censorship over the material and conduct of the sponsored broadcast. It sees to it that the rules of broadcasting are observed, that good taste is not transgressed, that the program goes on and off the air at the proper time, that libelous or controversial material is scrupulously avoided.

Then comes the script department, a wholly creative group. Here the words that later go through the mike first see the light of day on the typewriter of the continuity writer, after which they are read word for word by the script manager and his readers who have a sharp eye for policy, good taste, libel, and so forth. Besides staff writers, free-lance writers are also employed, particularly on dramatic productions. These latter are the upper crust of behind-the-mike society; some of them earn as much as $100,000 a year. The run-of-the-mill writers, however, are glad to receive $250 for the average half-hour one-time script. The writers of serials on five-a-week sponsored programs receive about $300 for each week's output.

There is another type of writer for the mike who is little known to the public. He is the "gag" writer, the jester at the court of radio. It is he who concocts the jibes and japes and humorous tidbits designed to throw the listening audience into stitches. In his day's work

*The first broadcast of this great NBC orchestra under the baton of Arturo Toscanini was an epochal event in radio history.*

the gag man is far from being a merry-andrew. He is a serious businessman with an office in some commercial building where among files and cabinets and windrows of clippings, his employees—stenographers, research and rewrite men—work as soberly at their jobs as if they were employed in a tax office.

And a profitable business it is too. Some of these jokesmiths are in the higher income brackets. Jack Benny pays as high as $1000 a week to the author of many of his quips. The lesser lights of gagdom get along on $200 a week or more.

It is no secret that the comedians of radio, stage and screen, to say nothing of many of the best-known comic artists, lean heavily on the gag man for their humor. Consequently the gag market is highly competitive. A good gag that is new and topical and sure of a loud guffaw from a million people is as salable as a diamond without flaw. A continuous supply of such giggle gems insures a life of luxury.

There is a gag man in New York who has in his index files nearly half-a-million clippings and notations of jokes dating from Joe Miller who compiled his *Jest Book* in 1739 to Joe E. Brown who illuminates his current jokes with facial contortions. Laughter has become a radio commodity that forever keeps the script division on its toes lest a suggestion of the smoking room tarnish, even to the smallest degree, the enviously clean record of radio.

Of all audible entertainment, music is the most easily assimilated by listeners, yet in no department of radio are there so many knotty problems. For instance, in making up a program every selection, motif or even single bar must be carefully cleared—that is, the station's right to play it without infringement must be established beyond doubt. Should the program call for a fade-out of, say, three bars of "Carry Me Back to Ole Virginny" and it were played without proper permission, legal entanglements would ensue. Then there is the "two-hour duplication rule" which prohibits the repetition of a piece within two hours after it has been played. Another arrangement or treatment of the same piece may be used, however, after an hour-and-a-half has elapsed. This, of course, is to prevent sameness

through repetition creeping into a program. Furthermore, each piece of music composed and arranged for a program is scrutinized for plagiarism; even an unintentional similarity to a piece already copyrighted may cause serious complications.

When a program of which music is an important part is planned, the production division, together with securing the script and auditioning the cast, puts in a requisition for the number of musicians who compose the orchestra, also for a conductor and a composer or arranger. This personnel is drawn from the permanent musical staff which is augmented occasionally by extra talent. In the case of a large organization like NBC, the musical division keeps permanently on its staff more than a hundred instrumentalists, six conductors, two composers and six arrangers, besides librarians, copyright experts, program consultants, contact people, music filing clerks, a secretarial and clerical staff as well as experts on short wave and television and a skillful recording staff—in all, more than 150 people.

The sound-effects division also operates as a unit of the program department, and a most important unit it is, for on it frequently depends the dramatic effect of the program. Much of the apparatus with which the sound-effects man works is heavy and often cumbersome. The sound table on which he uses recordings of certain sounds weighs nearly as much as a piano. Besides the recorded effects, the script may call for rain, wind, water running from a faucet, a slammed door and a window being closed. Each of those effects is produced by heavy apparatus mounted on movable platforms which must be used only at a specified time that will co-ordinate with the other time elements of the production. In such a program the porters who move these sound pieces from their place of storage to the studio are as necessary to the program as the actors. Then too, a certain sound man who can give out, shall we say, the lonesome howl of a wolf, is called for. Sound men, magicians though they be, are just like the rest of us; some are better than others.

Of the news and special events division and the announcing staff, all of which come under the jurisdiction of the program department, we will have something to say in later chapters.


*One of the busiest men in radio is Supervisor of Announcers, Pat Kelly. Through half-a-dozen means of communications he has his finger on the pulse of every program going out from the National Broadcasting Company's studio.*

# VIII

I HAD a two o'clock appointment with the supervisor of announcers at one of the large stations. I was desirous of learning something about these men whose voices are as well known in the average American household as are those of the family. In an outer office three young men were earnestly discussing a recent change of announcers on a certain program. Although I had never seen them before, I recognized two of them from their voices which I had heard come over the air many times.

As I was ushered into the office of the supervisor, I was impressed with its businesslike severity. One detail, however, set it apart from any office I had ever visited. At the right of the spacious desk, within easy reach, stood a kind of cabinet bristling with buttons, switches and a single jewellike light that looked like an oversized emerald. Attached were an earphone and a speaking phone. I was to learn later that the device was an announcer's "delite box"—identical with that used in the numerous broadcasting studios in the building. In function it reminded me of a switch tower from which incoming and outgoing railroad traffic is governed.

I was greeted by the supervisor, who from his appearance might have been a banker or a corporation lawyer. Formerly an actor of note who had also spent some time in opera, he entered radio as an announcer when radio was still very young. In those days the chief requirements were a good voice and the ability to "ad lib" or carry on the program extemporaneously whenever the unexpected happened, as it often did.

"I think," he said in a soft musical voice, "we had better start at the beginning. I am holding an audition in fifteen minutes. There you will see the raw material from which announcers are made."

The room in which the auditions were held is what is termed a "private studio." Paneled in oak and tastefully furnished, it is used for broadcasting talks by prominent people. A microphone stood on the Spanish table in view of the engineer's control room in which the supervisor and I sat and listened.

The first aspirant, an aggressive lad, was invited into the studio and seated at the mike. The oppressive silence of the completely soundproofed room in which he sat alone seemed to disconcert him. At a signal he began his test with an extemporaneous talk about himself—his education, his background and experience. With a good voice slightly tremulous from nervousness and with self-assurance that amounted to cockiness, he told his unseen audience of two that he was seventeen years old and a high school graduate. He had had experience in amateur theatricals and had acted as announcer for a radio program in which a group of young people had participated. He told of his ambition to be an announcer and of his certainty that he would be a good one. At the end of his "ad lib" came the second phase of the test. He read from a script a score of foreign names of people and places. Here he was completely beyond his depth. His floundering showed him to be unfamiliar with the classics and without even elementary knowledge of foreign languages. Beads of perspiration were now forming into little trickles on his face. The script in his hand shook as he began the third phase. After reading several

conventional news items, he began a commercial extolling the virtues of a mythical food product and ended with an announcement.

When the ordeal had ended, the supervisor stepped from the control room into the studio and sat across the table from the now thoroughly deflated young man. "You have a fine voice instrument," he said in a kindly tone, "but you do not know how to use it. You must remember that speaking is like singing. To be done well it must have soul and sincerity in it. Your tones are nasal but that does not mean that the nose should not be used in speaking. The good speaker aids his voice *through* the nose, the poor one speaks *in* the nose. Your delivery is amateurish and your accent is metropolitan. There is nothing in those faults that study and hard work will not set right."

The lad broke in impatiently, his cockiness returning, "Study will take too long," he said. "I want to start now, if only in a small way."

Decisively the supervisor told him that there was no other course to a job behind the mike, and went on to say that he knew of an opening for a beginner in a smaller station but he would not recommend the young man. Then with a few fatherly words and an invitation to come back when he had overcome some of his faults, he led the lad to the door.

For a moment I wondered if any young applicant could fulfill the requirements of this veteran of announcers. I was soon to learn the facts, however.

The second applicant was a young man of twenty-two, recently discharged from the army. He too was nervous and a little frightened when he found himself alone and waiting for the signal to begin. He almost choked on his opening words but bravely went on to tell of his background and his hopes for employment as an announcer. Among his qualifications he modestly included three years of voice study and several public appearances as a singer. When he came to the second part of his test, he appeared to be familiar with the foreign names, pronouncing them with little difficulty. In reading the commercial and station identification he faltered several times.

To my unpracticed ear he did not seem much better than the first applicant, so I was interested in the supervisor's appraisal of him. "You are like a man with a good violin who does not know how to play it," he said with kindliness in his voice. "There are phrases and rests in speech as in music, and modulations of tone just as in singing." Then taking a line from a commercial, he read it several ways to illustrate his point. The young man drank in every word and was grateful for the advice from the master.

"I believe I can teach you," said the supervisor thoughtfully, "but it will mean hard work for you and plenty of it."

The young man's face brightened. "I'll do my best, sir," he said earnestly. The whole matter was settled then and there.

When the auditions had ended I went with the supervisor to his office where we chatted at length about announcers and their work. "When I first came into radio," he said, "a good voice, a knowledge of how to use it and a willingness to turn your hand to all kinds of odd jobs were all that were required of an announcer. Today, all that is changed. A good voice is now only one of several essentials to becoming a welcome guest of every family circle with a radio receiver. Quite as important as the announcer's voice is his ability to meet a difficult situation with good humor and good judgment. The man behind the microphone must have a pleasant personality, an easy and dignified approach and a store of tact combined with mental alertness. He must have a fair knowledge of music and enough of a familiarity with foreign languages to pronounce correctly names, titles and places that occur in the news. Many of the widely known announcers now on the air have studied several languages besides having an excellent musical background. Here are the requirements of one of the large broadcasting companies:

> "An announcer is expected to have a college education—to speak at least one foreign language as well as he does English. Besides, he must have a basic knowledge of music and dramatics.

He must have a good vocabulary and a pleasant voice as well as confidence, initiative and the ability to think quickly. In an emergency he must be able to carry on without script. A good sense of news value in reporting current and special events is essential."

Practically all the large stations insist on at least two years' announcing experience before considering an applicant. Occasionally a young man turns up who is a "natural." He may lack many of the technical requirements but be endowed with all the instincts of the skilled announcer. Arduous training, endless study and plenty of hard work can place him eventually high in the ranks of the men behind the mike.

The chief duty of the announcer is to present the broadcast material to the listening audience in a pleasant and easily understood manner. But that is not all. At a pinch he must be able to write a good piece of continuity, take complete charge of the program and even on occasion act as producer or dramatic director. Several announcers have built up large followings of listeners on their ability to broadcast news effectively.

Even those who have already established themselves with their listeners are not exempt from sharp criticism. While talking with one of our most widely known announcers recently, he showed me a letter he had just received from a lieutenant in the Air Corps. It brought the announcer sharply to task for an alleged mispronunciation. During the course of a broadcast this announcer mentioned Mexia, Texas, and pronounced it "Mex-ee-ah." This roused such resentment in the soldier that he took the trouble to write an acid correction in which he reminded the man behind the mike that the correct way to pronounce the name of the town was "Mai-hi-yah." On investigation the announcer discovered that even in Texas many people pronounce the name of the town exactly as he did. Another announcer, sticking closely to the script he was reading, used a split infinitive. In a few days he received a sharp reprimand in a letter

which, strange to say, did not come from the dean of a college but from the proprietor of a laundry in a small western town. This type of critical correspondence is not unusual. There seems to be a certain section of our population that lies in wait for the slightest slip of an announcer, ready to pounce on him like a hawk on a field mouse.

In radio the speaker at the microphone, unlike the speaker before a flesh-and-blood audience, is without the protection of the disarming smile or the aid of graphic gesture. Neither has he the freedom of action to cover up a slip enjoyed by the public speaker. He reads from a script that has been carefully prepared for him and from which he must not deviate unless an emergency arises. Furthermore, his reading must sound as if there were not a script within a block of him. The sentence structure and rhythm of the commercial writer may be very different from the natural speech style of the announcer. Furthermore, his words must be doled out, so many to the second, so that the last word is spoken on the very second indicated by the terrifying red hand of the studio clock.

Occasionally an announcer, like the rest of us under stress of difficult circumstances, has his poise upset. One of the most successful of news announcers, a very young man whose news broadcasts are listened to by millions, was notified to be ready for induction into the army on a certain date but a few weeks away. As usual this meant an immediate readjustment of his affairs and those of his family. His hours at the studio were long and late—his final broadcast was at eleven each evening—consequently he had little time for his personal affairs. As the date of induction drew near, critical listeners noticed that he "fluffed" an occasional word. Those who did not know him personally thought that perhaps he was growing a little careless. Those who had daily contact with him and who knew the great strain under which he was then laboring, marveled that he could carry on at all.

During this trying period I chatted with him one evening between broadcasts. He was high-strung and very tired. He had just been through a trying set-to with his landlord over the lease on his apart-


*Where the story is, there goes the newsman. Here we have Bill Slocum, director of sports and special events at NBC, sending his story from a U. S. Army glider.*

ment. Later that evening when I had reached my home, I tuned in his broadcast. His voice was strong and clear. His buoyant delivery suggested a young man without a care in the world. Near the end of the broadcast he stumbled on a simple word. I could almost feel his taut nerves grow tauter. He tried to put a smile in his voice but it resulted in a nervous little laugh that for a moment seemed ominous. He recovered, however, and went on to the end of the news with complete control. As he began the sponsor's commercial, he held the mastery but apparently could not forget the involuntary but embarrassing little laugh. The commercial ended on a forceful statement about the advertised product. Then he added with a twinkle in his voice, "And that, ladies and gentlemen, is no laughing matter." On his own initiative he had added the short statement that turned a slip into a smile that was shared by millions.

Once when reporting hazardous occupations I spent some time with divers while they were engaged in their dangerous work. Many of them said the same words to me, "It's mighty lonely down there!" Once one of them said, "If anything goes wrong, there's nothing anybody can do about it. It's up to you to get out of it the best you can." Many times while observing announcers at work, I have remembered the divers' statements. I do not believe there is any job or calling in which a man is so isolated and alone, once the program is on the air. The metal thing he affectionately calls "mike" becomes a malicious gossip in an emergency. It broadcasts to the world his slightest ineptitude; a slip of the tongue that would scarcely be noticed in conversation is magnified into a disaster. Should an unforeseen mishap overtake the program, as it sometimes does, the announcer must tide it over the rough spot. If he fail, the failure is calamitous. The errors of others he covers up but there is none who can give him aid, even if a hundred people are engaged in the program.

This sense of ever-impending danger seems to give these men of the air waves an uncanny sensitiveness to the possibilities of trouble. Quite recently I was interviewed over the air. The script had been carefully prepared from data I had previously given the studio. Be-

fore the broadcast I read the script carefully, making notations on the sheets that would aid me in reading. The interviewing announcer sat at one side of a table; I sat on the other, a microphone suspended on a "goose neck" between us. After the few tense moments that precede the beginning of a program, the signal came from the control room. We were on the air.

The interview proceeded smoothly. I had no difficulty in reading my lines; the ordeal seemed comparatively simple until I was in the middle of a long passage, the story of an F.B.I. special agent who got his man solely by reason of being a good violinist. At this point the announcer's hand crept stealthily across the table to the script that lay in front of me. His fingers raised the corner of each sheet and drew out one which he gently put back in another place. Then I realized that, when reading the script, I must have put a sheet in the wrong place. That always causes an embarrassing interruption of the program. At the end of the broadcast I asked the announcer how he came to discover the error. "I don't know," he said, "I just had a hunch." Call it hunch or foresight or just alertness—whatever it is, it is a quality of which every good announcer can boast.

The owner of a middle western station said to me not so long ago that a good announcer is a station's most valuable possession. He not only attracts listeners but makes friends for the station. Where two programs of equal merit are being broadcast simultaneously by competing stations, an announcer well-skilled in his art can "steal" an audience from a rival station at which the announcer is mediocre. Not all radio people agree on that point, however, yet inquiries among a large number of listeners indicate its truth. I found that a large majority of people I interviewed had their favorite announcers.

I also discovered that several had "pet hates" to whom they refused to listen. Pursuing my inquiries further I learned that the most unpopular announcer is the aggressive kind who shouts his message at the listener as if to make his point clear by sheer force. The soft word, so effective in turning away wrath, seems to be doubly potent in getting the sympathetic attention of the radio listener.

One afternoon while in one of radio's greatest broadcasting stations, I met a young man of fine physique and unusually well-groomed appearance. The resonant quality of his voice and his ease of speech marked him unmistakably as an announcer. I soon learned that the voice to which I was listening was known and welcomed in millions of American homes. Here was a very young man who had risen to prominence in a highly competitive profession—a fine example of the evolution of an announcer. Our conversation soon became an interview. The reporter instinct in me manifested itself in a barrage of questions. Here is the substance of his story as he gave it to me:

He was born in Minneapolis of Revolutionary stock and went through a normal childhood that was undisturbed by any unusual happening. He attended high school in St. Paul and graduated from the University of Minnesota where he edited two of the school publications. The urge to speak in public made itself felt while he was still in his teens. Later he headed the debate team, was chosen national peace orator and became president of the dramatic club. Somehow he found time to star in football and basketball and become a champion hurdler. He worked his way through college, earning enough money during the summer months riding range and taking part in rodeos with short interims of ranching to see him through.

Immediately upon graduation he took up the study of law but had to give it up owing to insufficient funds. Downcast but not defeated, he talked of his plight with his mother, a woman of fine understanding. She said to him, "You talk all the time because it is the thing you do best. Why not take up something where you'll be paid for talking—radio, for instance?" No sooner said than done. Next day he applied for a job as announcer at WDGY, then a little one-kilowatt station in Minneapolis. After a stiff audition he was employed at a modest salary. Six weeks later he was chief announcer, program director and producer. His spare time was spent in sweeping, dusting and doing other chores that go with the upkeep of a station, even a small one.


*In no other industry is the workshop blessed with the functional simplicity of the broadcasting studio. Here we see an engineer and news announcer at work in Station CFCF in Montreal without even a superfluous sheet of paper.*

It was good experience. Each day he added to his knowledge of the radio business. Ambitious and filled with dreams of big things ahead, he sought employment in a more important station, KSTP, also in Minneapolis, and was successful. Here he acted as news and special events reporter.

Vacation time rolled around and with it came the problem of where to spend it. As he had never been to New York, he decided to take a fling at the great metropolis. Knowing no one in the big city, time hung heavily. He longed for the excitement that goes with each appearance behind the mike. More to kill time than with any hope of success, he applied for an audition at the National Broadcasting Company. Nobody could have been more surprised than he when he learned that he was hired. That was a few weeks before the war cauldron bubbled over with the invasion of Poland.

In New York he did radio news reporting and covered many assignments that admitted him within the gates of the radio reporters' heaven—the Howard Hughes flight, the visits of the Crown Prince of Sweden and the Crown Prince and Princess of Denmark. During the 1940 Presidential inauguration he flew over the nation's capital and carried on the first two-way conversation held between a plane in flight in this country and a broadcasting studio in London. During the flight he described the inaugural ceremonies as seen from the air to a British listening audience.

Other assignments were filled with excitement and sometimes with anxious moments when a cool head and a facile tongue were necessary to prevent complete confusion of announcer and audience. At the launching of the *America*, the largest passenger ship ever built in the United States, occurred one of those unexpected crises. The First Lady stood ready with the christening bottle poised. Dignitaries were thick as flies around a honey jar. Nervousness was in the air. Our announcer, standing at his vantage point, had begun to read his laboriously prepared notes.

"Ladies and gentlemen," he began in a voice thrilling with excitement, but before he could say another word, a mischievous gust of

wind, guided by one of those gremlins of radio, swooped along the side of the great ship and snatched the sheets of notes from his hand. To the multitude the white sheets pirouetting in the breeze were but scraps of white paper. To the announcer they were his job, his reputation, his whole future. Without so much as a pause he continued his report of the ceremonies, detail by detail, adding human interest here and there as he described the throng of guests and the holiday air that filled the bustling shipyard. He told of the mighty ship, her length, her width and of the feats of engineering that had made her possible. For thirty minutes he gave word pictures, vivid and clear without so much as a written line to help him.

I was amused at his narration of one of those humorous episodes with which every announcer is confronted sooner or later. It was during an assignment to Army aerial maneuvers that he entered a plane at the last minute before it took off. He was dressed in street clothes, entirely unsuited to the low temperatures of high altitude. Out of sheer pity for the lightly-clad announcer, the plane crew hustled him into a warm flying suit. The plane to which he had been assigned played an important part in the maneuvers, giving the reporter-announcer a wealth of material to broadcast. No sooner had the plane landed at the end of the flight than our hero, bubbling over with the things he had seen, jumped out. Still in the flying suit, he was about to hurry to "operations" to phone his station when he was received by a military escort, placed in an automobile and rushed to headquarters where he was generously saluted and shown much deference. Embarrassed by all the attention, he asked, "How was the broadcast?—and why all this fuss over nothing?" Before he received a reply, a major whom he had known entered and at once saw the embarrassing situation. He explained to the announcer that he was wearing the flying suit of a colonel and had been mistaken for the commanding officer of the flight.

Announcers as a class are reasonably well paid. In the smaller stations experienced men are paid $40 to $50 a week. In the larger stations located in important cities a good announcer receives twice

that amount while outstanding announcing specialists earn as high as $800 a week. There are also announcers who, having built a following among the listeners who form our national radio audience, sell their services on a free-lance basis to either sponsors or stations. These are the aristocracy of the profession. They command high fees and are considered a valuable acquisition to the program to which they are attached. They may contract to announce for a single fifteen-minute program or for a series of sixty-minute programs over an extended period. It is not unusual for some of these specialists to earn as much as $1500 a week.

No matter how capable an announcer may be, a program occasionally gets out-of-hand, since mischief-making gremlins constantly hover around the mike. On these rare occasions the announcer's best friend is the "stand-by." In the language of radio, a stand-by is a man or woman who fills in with music the minutes that would be otherwise silent, should the unforeseen happen. "Dead air," as it is called, unless promptly brought to life with sound, may well be fatal to a program. One evening I sat in a control-room while a congressman whose name was then prominent in the news delivered a radio address in the private studio on the other side of the soundproof window. He had more than a touch of mike fright. The script he held in unsteady hands trembled like aspens; his forehead was dewed with perspiration. He hurried his lines as if he expected to catch a train. About the middle of the broadcast I noticed the producer, also in the control-room, grow fidgety as he glanced at the clock. "Take it easy! For heaven's sake, take it easy!" he muttered to the speaker who he knew would not hear a word of it. The gremlins were at work; the speaker hurried his lines still more. "Stretch it! Slow down!" the producer growled and signaled, drawing his hands wide apart as if he were stretching a long rubber band. It lacked three minutes of the allotted time when the speaker finished. During his final words the engineer held his hand poised over a row of buttons on the control-board, and on the last syllable pressed one of them. Instantly a stirring march came from the loud speaker. A stand-by

at a piano in another part of the building caught the engineer's signal and began to play. To the unsuspecting listeners it sounded as if the whole affair was according to plan.

The stand-by, like the announcer, must be forever on his toes and ready for the unexpected. Like the announcer also, he must not only fill in the gaps but contribute to the program. That is to say, his interpolated music must be appropriate. In the stand-by room of one of the large stations there hangs a sign which reads, "It is IMPERATIVE that proper music should be played to fit each program for which you are standing by."

When King George of Greece ran short in his radio speech and a few days later King Peter of Jugoslavia did the same thing, the stand-by filled in with their respective national anthems. Since the stand-by cannot hear the program on the air, he must familiarize himself with its content before he reports for duty.

A complicated system of lights and gongs gives the stand-by in many studios his cues for starting and stopping. Since he has no idea of how long he may have to play, he keeps a goodly number of selections ready, all of which must be approved in advance.

Unscheduled "dead air," while always imminent, is becoming a rare phenomenon. This leaves the stand-by with considerable time on his hands. Frequently, he "works" for weeks without being called on to play. One of those who serve while they wait is a composer of some note. He does most of his composing while on stand-by duty. Others write, read or practice. There are some, however, that just sit and wait.

While the pay of these patient musicians compares favorably with that for solo or ensemble work, it is noticeable that they invariably heave a sigh of relief when the two-hour stand-by assignment comes to an end.


*In broadcasting room, seen through soundproof window, are announcer and reporter during a foreign news broadcast. The engineer, seated at control board, hears broadcast through speaker under clock at left. In foreground is the monitor who controls the channels which lead into the miracle desk at which he sits.*

# IX

THE cultural progress of man has advanced only as communications have developed. Long before the Christian era the Chinese used geese as carriers in their long-distance communications. So valuable was the service of those clumsy birds that to this day the Chinese postal flag carries a goose in flight emblazoned on it.

The fleeter carrier pigeon was later adopted and became an important factor in the economic and cultural life of the country long before Rome or Athens were founded. When Joshua invaded Palestine he used swift falcons to communicate with his armies on both sides of the Jordan. Richard Cœur de Lion established carrier pigeon service between his camp and that of Saladin, the Saracen leader. While the countries of Europe were using runners who covered twenty miles a day, Syria and Persia employed thousands of carrier pigeons that carried messages hundreds of miles in a few hours.

The so-called "V"-mail of today had its origin during the siege of Paris in 1870-71. The beleaguered city and its communications were cut off from the world by the German army. M. Ramport, the

Postmaster General of Paris, established a pigeon "V"-mail. Several hundred letters were pinned to a wall and a single photograph made of them on a thin film no larger than a visiting card. The film was placed in a goose quill and attached to the center feathers of a carrier pigeon's tail. Scores of birds were flown daily between Paris and Tours. When the birds arrived at their destination, the films were placed in a stereopticon and projected on the white wall of a room in which worked a hundred copyists. As the letters on the wall were copied, they were put in envelopes and addressed to the persons for whom they were intended. The homing pigeons were transported from their cotes to their starting point in balloons flown at night between the cities.

The American Indian had a system of aerial communication well developed before the white man invaded his domain. His apparatus was simple: a compact smoldering fire of damp vegetation was covered with a large blanket under which smoke and steam collected. When the blanket was whisked away and replaced quickly, a puff of vaporous smoke rose into the air. In liberating these smoky fleeces the Red Man used a simple code by sending them up in varying numbers and sizes.

Man's effort to learn of the happenings beyond the horizon, in short, to "get the news," is as old as history. The bards and minstrels, the medicine men and early postal couriers were always welcomed for their gossip and stories of distant events gathered in their travels from tribe to tribe or community to community. "What is new?" or "What is the news?" is asked in some form or another in every language.

The first practical application of radio to news was in 1898 when more than five hundred dispatches in Morse code, describing the progress of a yacht race, were sent to the Dublin *Express* from a steamer twenty-five miles off shore. Since then the globe has been girdled and regirdled, not only by code signals but by the human voice. An hour before this was written I listened to a correspondent in Melbourne, halfway around the world from New York, give

millions of Americans the news he had gathered that very day in Australia. When he had finished I could not help thinking of Lincoln's immortal address at Gettysburg and of the mere handful of people that were crowded within sound of the Emancipator's voice. Like millions of others I have listened to these foreign news broadcasts for years and have accepted them as one of the day's phenomena without a serious thought of the things that make it possible for a man in New York to say, "Come in, London!" to a man 3000 miles away.

Recently I sat in the newsrooms of two of the great broadcasting companies while their foreign correspondents from here and there all over the world flung in their voices over thousands of miles of land and sea. While the operation and equipment of these two broadcasting sources differ in minor details, the process of getting in the news is essentially the same. At NBC foreign news broadcasts emanate from two small soundproof rooms in full view of each other through large openings soundproofed by double-plate glass. In one room the news announcer and a commercial announcer sit at a reading desk, each behind an individual microphone. In the other—the control-room—two men also sit; one is the engineer who acts in the capacity similar to that of a symphonic conductor. Through the dials and buttons and switches on the instrument board in front of him he draws the webs of sound from their sources and weaves them into pleasantly audible patterns, softening here, emphasizing there, blending and smoothing the sound elements of the broadcast into a program that is easy on the listener's ear.

A few feet away the monitor sits at a small desk on which is a cabinet, as magical a thing as ever came from the hand of an artisan. Through this box flows a dozen or more mighty streams of human thoughts and human words channeled from the ends of the earth. London, the Mediterranean area, Australia, Honolulu, Chungking, Moscow, Berne, Stockholm, Buenos Aires, Rio de Janeiro, Washington—all are within reach of the well-modulated voice of the man

at the desk and as audible as if they were in the same glass-enclosed room.

He flips a switch. "Hello, London!" he says in soft conversational tone, "and how's the lovely lady this evening?" A girl's voice with a rather broad English accent replied cheerfully, "Quite well, thanks. How's the weather in New York? It's beastly here." "A beautiful spring evening," he replied, "any details on Churchill's broadcast?" And so the conversation went for a minute or two like that of two people on a party line. The switch was thrown another notch. "Hello John! Hello Cairo!" The man at the desk spoke casually as if his listener had been in the next room. After a few words of greeting and technical instruction, another flick of the switch captured Naples loud and clear. Here, too, was the same friendly note, the same informality. Meantime in the broadcasting room at the other side of the glass, the newscaster read his script, the announcer read his commercials, oblivious of what was going on in the control-room. As the red hand of the clock reached the predetermined split second and the newsman gave the usual signal, "Come in, London!" the London man who had been sitting, script in hand, watching for the same split second, English time, joined the broadcast. When he had spoken the last sentence, "Now I switch you to Cairo," the magic switch brought Cairo to the radio set of the farmer in Kansas or the banker in Boston. On the sixtieth second of the fifteenth minute the broadcast made its exit and another program entered.

At the Columbia Broadcasting System I found the scene slightly different but the foreign news broadcast was identical except in its material. There was the same friendly greeting flying from country to country, the same shop talk and the same cryptic questions and answers.

In a spacious and luxuriously furnished office a CBS man sat at a desk, bare except for a few sheets of paper and a microphone small enough to slip into a vest pocket. From his appearance he might have been a lawyer or the head of an enterprising business. He was, in fact, the director of news broadcasting. He told me it looked like a

routine day in the news, one that the communiqués would have called "uneventful." However, no one could tell what might come in through the foreign channels. It is that uncertainty that makes the job fascinating.

The director showed me a typed sheet. "This," he said, "is a split minute breakdown of the program. On the menu tonight we have London, Sydney, Moscow and Washington. Sydney will come in by short wave to San Francisco, and by land wire to this desk." "What about London and Moscow?" I inquired. "London will hop the Atlantic by short wave," he replied, "as for Moscow, let us keep our fingers crossed. It has not been coming in clear enough to re-broadcast for weeks, yet night after night at 1:15 A.M. Moscow time, a Columbia correspondent in the Russian city sits at his microphone and dutifully speaks his piece in the hope that one of these nights the beastly behavior of Russian electrons will permit him to come through. If that should luckily occur, we weave Moscow into the program. Of course, there is always the chance that the gremlins of the ether will play pranks that will prevent any short wave from coming in."

"What do you do—should that occur?" I asked.

He smiled grimly as he answered. "We are always ready for that contingency—with a well-edited program of news from Washington, San Francisco and New York. We are all set to fill in from 6:45 to 6:59:45." It was then 6:37, eight minutes to broadcast time.

From a loud-speaker near the ceiling a voice came through a fuzz of atmospheric disturbance.

"That is London testing," said the man at the desk.

The voice was interrupted in the middle of a sentence, but soon continued with an unintelligible babbling, "and so-and-so—and so-and-so—and so-and-so. How about it?"

During the silence that followed, the man at the desk volunteered, "The New York Telephone people are telling our correspondent how his voice sounds. We can't hear New York talk back here." A voice with a strong cockney accent came suddenly from the speaker. It

was the British Post Office checking the correspondent sending. It was coming through clear as spring water.

The man at the desk leaned slightly toward the tiny microphone before him and said in an almost confidential tone, "CBS ready with London." As soon as London replied, he said, "Hello, Bob, what have you for us tonight?" A fifty-word description of the three-minute broadcast that was soon to come from London came through the speaker. "Okay," said the desk man, "you're coming through fine tonight." "Good," answered London. "Okay, Paul." Then there was silence. The man at the desk flipped the tumbler switch on the ledge at his elbow. The actual broadcast takes place in an adjoining office plainly visible through a glass wall.

Three men and a woman were seated around a table set squarely in the center of the room. At the head of the table was the regular local announcer. At the other end of the table a sharp-faced man sat hunched in his chair, eyes and ears alert for every detail of the program. He was the agency representative for the sponsor. The commercial announcer was seated behind a microphone at one side of the table, while at the other side was the woman dividing her attention between her notebook, the studio clock and a stop watch which she held in her hand. As production assistant, she checked the passing seconds, assuring each phase of the program its allotted time and not a watch-tick more. So that the local announcer, a kind of master of ceremonies, may not be distracted by having to look up at the clock, the woman occasionally placed the stop watch before him. At one end of the room two newsmen lounged on a comfortable sofa. They listened intently to the news being broadcast, so that they would not repeat any of it later. The last word of the broadcast and the last second of the allotted fifteen minutes ended on the dot of 7 o'clock.

Even while I was witnessing this news broadcast, I was unable to understand how these men in many parts of the world could be assembled at their widely separated desks at a certain second of a certain hour of a certain day with last-minute news on the tips of their

*Formerly a radio newsman, now a lieutenant in the U. S. Army, Don Hollenbeck broadcasts from Naples by Army short wave. Note the rough-and-ready construction of the broadcasting studio.*

tongues and ready at the flick of a switch to give their story to an audience across the oceans. I unleashed a barrage of questions. At times it was difficult to follow the intricacies of such extensive webs of communication and how they operate. I discovered, however, that the foreign news mechanism and technique of both broadcasting companies were alike in their essentials. The description I give, therefore, may be considered a composite of foreign newscasting as it is carried on in the United States.

The news department of a great radio system differs but little from the newsroom of a large newspaper. It is a depository into which flows day and night the news of the world. Associated Press, United Press, International News Service, through their thousands of correspondents in all parts of the globe, supply a large share of the incoming news. Radio listening posts keep alert ears aimed at the foreign broadcasting centers, recording and digesting nearly a quarter of a million words a day. The nation's capital, where news is always in the making, is another fertile source. And so, from every nook and cranny of the world, good news and bad, big and little news, is poured into the great hoppers of the broadcasting companies. The greater part of this raw news-material is valueless or not suited for broadcasting. Here and there in the news stream as it flows through from the batteries of teletype machines are found news nuggets of varying worth. These must be detected in the rapidly moving mass, evaluated and polished for use by competent newsmen. These men write and prepare straight news broadcasts; they schedule commentators, arrange and handle foreign pick-ups and special events. Up to the time the news actually goes on the air the collection, preparation and organizational work closely parallels that of a press association or a large newspaper. Most of the radio newsmen have spent many years in the newspaper field and have carried into radio its high principles and awareness of responsibility.

With such an assembly of well-equipped newsmen and such extensive sources of general news, it is only logical that the broadcasting newsroom should be keenly alive to news trends all over

the world. The shadows cast by coming events are as real to the news director of a broadcasting company as to the editor of a metropolitan daily, and like the newspaper editor, he marshalls his men where the events are likely to happen. Should a certain situation of a few weeks ago in Moscow show signs of having its climax a week hence, the radio news director instructs his correspondent on the spot to be alert for the breaking of the story and be ready to send it by short wave to the home broadcasting station. These foreign reporters are on duty virtually twenty-four hours a day. They are constantly standing by, waiting for word from New York to appear at the microphone either for a special program or for the daily round-ups of international news. Once a week each reporter is informed by radiogram from New York just what broadcasting time has been assigned to him for the following week—and the exact minute and second he must go on the air.

Here is a typical radiogram:

ROMAG
MOSCOW
WANT 1208 TUESDAY THURSDAY SATURDAY
ALSO 2319 2321 MONDAY ETTHURSDAY
RETURNING NEWYORKWARD CONFIRM

To the layman such messages look like a lot of scrambled nonsense. To the reporter it is precise and entirely intelligible.

The numerals are Greenwich Mean Time. Instead of radioing the Moscow reporter that he should be ready to broadcast from 8:10 to 8:12 A.M. Eastern War Time, on the following Tuesday, Thursday and Saturday, the time is given to him in Greenwich Mean Time. On receipt of the radiogram the reporter consults a time chart which tells him what time it will be in Moscow when it is 12:10 P.M. in Greenwich, England. Then he arranges with Radiocenter Moscow to broadcast his talks by short wave at the appointed hour on the days named in his message from New York. From then on, he must work with split second punctuality since, as a result of Russian

censorship, he has no contact with New York or anywhere else before or during his broadcast.

Meanwhile the New York broadcasting station has arranged with a sensitive pick-up station on Long Island or in New Jersey to pick up the broadcast from overseas and feed it over telephone lines to the master control desk in New York. From there it is fed to the studio from which the news program is being broadcast—and simultaneously goes out on the networks.

Exactly ten seconds before the reporter begins his broadcast in Moscow, the master of ceremonies of the "news show," as it is called in the newsroom, will say, "Our next report comes from So-and-So in Moscow. We take you now to the capital of the Soviet. Come in, Moscow!" In a tiny fraction of a second after the words of the news report leave the lips of the Moscow reporter, millions of Americans are drinking them in with their morning coffee.

If that were all there was to foreign news broadcasting, radio newsmen would feel they were living a life of comparative ease. Besides censorship, which often thwarts their best-laid plans, they must contend with sun-spots, aurora borealis and violent atmospheric disturbances. A program may start with the signal coming in loud and clear, only to have it fade into an unintelligible staccato or get lost in crashing billows of static or get hopelessly snarled up in another broadcast on the same wave length.

When these contingencies occur, as they often do, the program is saved from chaos by split-second co-operation by the commentator who is conducting the program, the announcer, the production man or woman who holds the stop watch on the program, the engineer in the control-room who must select another foreign signal and substitute it for the one that is having trouble and feed it into the network on the precise second. Then there is the engineer at the foreign station that is in difficulty, his announcer and production man and a half-dozen or more people at vital points along the line.

One of these points is in the receiving control-room where a man sits beside the engineer and listens to all foreign signals ordered up

for the program. It is he who decides which one is worth feeding to the networks, and it is he who must bring them in at the precise instant they are wanted. Moscow is his bugaboo; it is the incorrigible of the ether waves. When the Moscow signal is coming in, all he can do is to approve it, if it is understandable to the listener, and await the time checks the Soviet station puts on the air periodically for several minutes as the broadcasting time nears. He hears the deep voice of the Russian say over and over in English, "Hallo! Hallo, New York! Hallo!! This is Radiocenter Moscow calling New York. Your reporter will be on the air at 3:00 P.M. and ten minutes Moscow time. It is now 3:00 P.M. and eight minutes exactly. Hallo, New York! Your reporter will be on the air two minutes from now!" This keeps up intermittently until broadcast time.

Our man keeps his eye on the clock while he listens. If the clock in Moscow is ten seconds fast, he must arrange for the cue that switches to Moscow to be given ten seconds earlier than planned. If Moscow's clock be slow, then he directs the New York announcer to "drag his cue," that is, fill in with words the extra ten seconds, even if it means cutting short the broadcast from another point which may be Australia, London or Algiers. This "special events man," as he is sometimes called, holds a kind of world-wide audition, choosing the best and feeding it into the network.

In wartime particularly the newsroom is literally the heart of the networks, a fever-hot center from which radiates the news-of-the-minute—news bringing anxiety or hope to still uncounted millions. Here men and women work around the clock under pressure that is both intense and unceasing. Commentators, writers, announcers, engineers, desk-men, translators, editors, teletype operators, copy-boys, typists, secretaries, messengers, each to his job, are driven by the slender finger of a pitiless clock. Each minute is sliced into seconds and every second must be accounted for. Wires, telephones, direct lines, listening posts, ticker tapes, teletypes pour in their endless stream of raw material that must be sorted, graded, polished and processed ready to be shot out again with the speed of light.

Some faces are haggard, some are flushed with excitement. Eyes burn with zeal of the struggle. Bells ring, machines clatter, flashes come by the handful. Coffee, sandwiches, aspirin . . . "Turkey's calling!" . . . "Boss, talk to Washington!" . . . "Here's a flash from London!" . . . "Paper!" . . . "Stand by, New York, here's Algiers!"—everywhere an orderly confusion of motion and sound. That is the newsroom at war.

Behind all this kaleidoscopic activity are endless planning, news analyses and appraisal of current happenings as they affect the future. From the news of today is gleaned a reasonably accurate picture of the news of next week. Radio must not only report current news; it must keep a goodly step ahead of it.

When a correspondent on the spot broadcasts a blow-by-blow description of some foreign crisis, radio newsmen know that it was not just luck that put him there. Weeks, or perhaps months in advance of the event, he had been instructed to stand by, ready to go on the air day or night when the crisis came. Many of the stories that have made broadcasting history have been the result of plans made and laid by a small group of radio men high in a building in the heart of New York thousands of miles away from the scene of the event.

A little known but most important source of radio news is the listening post. Some of the major broadcasting companies maintain these eavesdropping stations as channels of information on foreign broadcasting activities. Much of this information gives excellent clues to coming events; some of it is news in its own right, and some is propaganda from which may be deduced much that is valuable not only as potential news but as material of vital importance to one or more of our government departments.

When items of high news value are heard on the listening post, they are put on the air and, almost simultaneously, are sent by wire to newspapers and press associations.

It frequently happens that one of the eavesdroppers picks up a flash from some faraway corner of the globe that throws the entire radio news mechanism into high gear. A copy of the flash goes to an an-


*A threesome in the news broadcasting studio behind curtained window. The news commentator with earphones sits on the right. Facing him is the studio announcer. The third man, face hidden, is the sponsor's announcer reading the commercial. Note the array of clocks telling the time in different parts of the world.*

nouncer for immediate broadcast; another goes to a teletype. Even while the familiar "We interrupt this program to bring you . . ." is being heard by the listening public, the flash is on its way by teletype to editors and press associations.

If the flash is a "hot" one, if it indicates that something big is about to break, the news director puts in a call for his correspondent on the scene. "Take the air if it's hot," he says, "take three minutes." From halfway around the world comes the reply, "Okay, New York! We'll go on!"

Then the details are arranged. It is just a matter of minutes. The time is set, lines are cleared and from the master control-room the networks are switched to the newsroom. At that very moment a millionaire crooner may be pouring out his dismal ditties. Luckily he does not know he is now singing to a dead microphone. Important things are happening. The news has claimed the air. To the listening millions the announcer begins, "We interrupt this program to take you now to . . ." The shred of information caught at the listening post becomes news from across the world and now is flying into millions of American homes.

One evening recently while visiting the headquarters of the Columbia Broadcasting System, I ventured into a mysterious sanctum where few outsiders are ever permitted. It was a small room, as rooms go, in one of the great broadcasting palaces. Hidden away in a remote corner of the extensive newsroom, it is known as the "Listening Post." A man and two young women were at work there when I entered. Clamped to the ears of each of them was a pair of headphones connected with a panel on the wall behind their typewriters. The panel, on which was mounted a single switch, was no larger than this book and as free of gadgets as a dinner plate. One of the girls typed in furious spurts, then with head bowed and eyes closed listened tensely for a few moments and again typed with lightning fingers. The man was bowed as if in deep reverie. He, too, was listening, listening. The second girl, I discovered, was engaged in translating a speech of Herr Goebbels into English. Later, during my chat with her, she made the

remark that "Nazi German is more difficult to translate into German than it is to translate German into English." Beside each of the listeners, a machine was busily recording the incoming broadcasts on wax cylinders. These are used to check for accuracy, and when necessary, for amplification of the skeleton digests made by the listeners from the lips of the foreign announcers.

The CBS listening post begins its probe of the foreign language broadcasts at 6:30 each morning and operates for 20 hours. In the course of the average day it gleans from the air more than 200,000 words in a dozen or more languages. Most of the foreign broadcasts heard at the listening post are for home consumption and are intended as strong stimuli to war-weary people. A broadcast from Tokyo to the people of Japan, for instance, stated in all seriousness that Japanese planes had flown over New York and bombed—of all places—the Yankee Stadium. Out of Germany came at frequent intervals broadcasts intended to bolster the morale of Germans and German sympathizers in the United States.

These listening posts pride themselves in the accuracy of the dispatches they distribute for newspaper publication. Many a big story has gone into the wastebasket because its accuracy as a whole or in part was questioned. Every proper name is checked for correct spelling before the story in which it appears goes to the teletype. A list of names of the prominent people of the world is always close at hand for rapid reference.

The personnel of the listening post is usually made up of men and women who have lived in foreign lands and who are familiar with not only the language but with the politics, the intrigue and the who's-who in public life. Many of them went to school abroad and later received degrees from American universities. They are a versatile group. Any one of them can translate and write a digest in English, operate a recording machine, act in the capacity of editor, deciding what goes on the teletype. All of them are accomplished writers, able to turn out a first-class story, and in a pinch every one of them can operate a short-wave station.

Great as is the volume of these foreign broadcasts, it is trifling when compared with the overwhelming short-wave barrage that the U. S. aims at the countries of the globe. These streams of foreign broadcasts that are sprayed on the United States day and night as if from a battery of fire hose, are intended mainly as propaganda. Even when they take the form of news or entertainment, they are intended to soothe or arouse the individual listener and in so doing fashion public opinion in the desired mold. Nor is this propaganda bombardment of the United States a one-sided affair. We give tit for tat with the odds on our side. Besides our commercial short-wave stations, we have in the Office of War Information a super-short wave operation that makes those of other countries—with the exception of Britain—look puny. It is the largest single enterprise sending news, features and pictures overseas. Quite aside from its short-wave propaganda facilities, it has a cable-wireless daily output of more than 100,000 words—several times that of any of the great news-wire bureaus in the greatest newscenter, Washington. Through the world's greatest radio network are sent 350 programs daily—twice the number sent out by National Broadcasting Company and Columbia Broadcasting System combined.

From England also goes out a radio blitz in 24 languages on 26 wavelengths. Nearer the boiling war cauldron, it has the advantage of shorter distances over which to throw its verbal projectiles, and besides, it has available a supply of broadcasting "talent" that is sure-fire in catching listeners. I refer to kings, queens, diplomats, generals and the heads of the governments-in-exile.

The British Broadcasting Corporation, always fair prey for bombers, burrowed deep under London and there set up its headquarters. In spite of the watchfulness of the Gestapo, it is in constant communication with its agents on the continent who keep it informed on program reception and listener reaction. To offset this radio activity, the enemy has worked overtime in developing methods of filling the air with all kinds of noises intended to "jam," or blot out, the British broadcasts. England has retaliated by sending the same program on

as many as a dozen different wavelengths. The enemy, not to be outdone, has established thousands of small noise-making stations under the direction of a chief jam-controller. England, in turn, comes back with a new broadcasting technique. Special announcers are selected for their high-pitched voices and are trained to deliver their broadcasts in a slowly articulated monotone. There is neither beauty nor appeal in the tones of these propaganda announcers, but they cut through the sound-jam like the whine of a machine-gun bullet through thunder.

It has been proved frequently that enemy official circles pay strict attention to these British broadcasts, often relying on their credulity to the embarrassment of their own information services. Not long ago a U-boat commander reported to his superiors that in an engagement between a force of R.A.F. planes and three submarines, of which his was one, one of the undersea craft ceased firing, attempted to submerge and was sunk. The British flyers concentrated their attack on the other U-boat and sank that also. When, according to the commander, the odds proved too heavy against his return fire, he too submerged and escaped. Overnight he became a hero. Congratulations and favors were showered upon him. The enemy press used its best feature writers in building up the story of his courageous battle against heavy odds and his eventual escape. It made good newspaper reading and good radio listening for people whose morale was already tottering.

The broadcast describing the thrilling adventure of the U-boat commander was heard by the British Broadcasting Company. A check of the reports turned in by the attacking British flyers showed that the "hero" commander was really the one who had turned yellow and submerged before the battle had well begun, leaving the other two undersea vessels to their fate. This was too much for the deeply rooted sense of sportsmanship of the British. That very day the true facts were broadcast to the enemy. The counterfeit hero was court-martialed and condemned on the word of the very foe he was sworn to fight.


*John Daly, Columbia's seasoned newsman, has a last word with his network audience before his plane takes off.*

# X

IN THE excitement of war the radio foreign correspondent is by all odds the most glamorous figure on the air waves. He is usually to be found where things are popping. Whether in a bomb-torn city, hoping that he will live somehow through the inferno, or a passenger in bomber or fighter, trembling with cold and fear while others fight it out with the enemy, or in the muck and misery of the front lines. That strange instinct that seems to be born in the true reporter, that power of observation under all circumstances, takes possession of him. The story comes first, even if death follows. The roster of these correspondents who will never come back is already a long one.

Unlike the military fighting man who is ordered to his post of danger, the correspondent, fighting for the facts, participates in the dangers and hardships of the struggle of his own free will. If he so chooses, he may quit and return to the safety and comforts of wartime America.

I remember well Edward R. Murrow's unforgettable broadcast in which he told of his experiences during a bombing flight over Berlin on a bitter December night. In that short-wave talk Murrow said,

". . . there were two reporter friends of mine who didn't come back . . . Norman Stockton of Australian Associated Newspapers and Lowell Bennet, a correspondent for International News Service. There is something of a tradition among reporters that those who are prevented by circumstances from filing their stories will be covered by their colleagues. This has been my effort to do so."

Both the correspondents referred to by Murrow had their planes shot to bits by flak. Bennet bailed out and parachuted four miles down into an icy swamp in a Berlin suburb. He was captured and imprisoned, but escaped later. Subsequently he was recaptured. No word has come from Stockton but his fellow correspondents still hold on to the hope that he will return to their ranks some day.

A preponderance of these correspondents came to the air waves by way of journalism, bringing with them the same indefatigable spirit and all-out methods that had been instilled into them as newspaper reporters. A few, however, are entirely the product of radio. Starting as youngsters in nondescript jobs, they learned through association the mysteries of the newsroom and gradually acquired that most intangible of the reporters' assets—news sense. Some of these radio-bred reporters have given an excellent account of themselves in their highly competitive field.

Speaking of correspondents, I heard a story one night in the CBS newsroom that is, perhaps, worth repeating, since it indicates that radio reporters are born to their trade. Back in 1929 a boy actor appeared before a microphone in Chicago. It was his debut in radio. His part was a small one and his acting was by no means inspired. He was one of the endless procession of humans that pause for a moment at the mike and disappear into the silence. Later he attended law school and did odd jobs in radio stations in Rock Island, Detroit and Brooklyn, sandwiching a little acting between script writing and producing. He haunted studios, dividing his time between the control room and the newsroom.

One day fortune rubbed elbows with him; he got a job on the staff of WABC. While there he acted as producer of a harum-scarum

mirth-provoking program, and did it well. In his late twenties he found himself in uniform, the olive-drab of the U. S. Marines. His familiarity with radio broadcasting secured for him an assignment as combat correspondent.

On a murky morning, just about daybreak, his landing party hit the beach at Bougainville. While the ungainly transport nosed slowly into the shallow water, he was on deck with his "sound and wire" recorder. As the Marines went over the side, he snatched ten-second interviews here and there, seasoning them with his own lively commentary. From a palm-lined beach a few hundred yards away, a hurricane of Jap fire swept the water around the vessel and beat a sharp tattoo on her iron sides. A flotilla of landing craft snuggled close to the side of the smoke-gray hull while the Marines scrambled down the cargo-nets and took their places in the boats. Sharp commands from officers, good-natured ribbing and nervous laughter from the men mingled with the rumbling exhausts of the boats, the swash of surf and the screaming of gulls overhead. With true reporter's instinct, he caught every passing sound on his recording outfit and in steady voice described what was taking place around him.

Meantime the first waves of Marines had reached the beach and the battle was on. Several boats were wallowing in the heavy swell that ran along the side of the mother vessel. They had returned from the beach to carry the last of the Marines ashore. Loaded with his heavy equipment, the young correspondent went over the side and cautiously clambered down the cargo-net to one of the waiting boats. Soon men in sweat-soaked battle-dress were crouched around him, packed in so closely that their steel helmets looked like bonbons in a box. On the way to shore he unlimbered his equipment, so that the moment he set foot on solid ground he could hook on to the generator that had already been set up to serve the battle area. Although contrary to orders, he peeped over the side occasionally. Here and there lifeless figures bobbed slowly up and down in the surf. On the beach ahead lay others, stilled forever. Enemy machine-guns stitched the water around them with seams of darting spray.

The reporter got ashore squarely in the middle of the fight. The fine coral sand spurted up in tiny jets all around him. His recent shipmates had at least the comforting satisfaction of shooting back. He could only look and listen and record what he saw and heard. At times the battle raged so furiously around him, it was a miracle that he survived. Bullets whizzed within inches of him. Men were killed and wounded within arm's length of him. He inched his way along on his back to wherever the battle was fiercest and there calmly went on with his recording, interpolating between the rattle and crash of conflict a running fire of descriptive chatter. A lull came with sundown; only occasional machine-gun fire disturbed the tropical night.

At dawn the next day the fighting moved from the area served by the generator that made his electricity. So he moved forward too, following a ground wire through the jungle toward what he hoped might prove to be the command post. He overshot his mark and became hopelessly lost in the tangle of jungle growth. In the distance he could hear the staccato chatter of the Garands fired by the Marines and the distance-muffled crashing of shells. He estimated they must be at least two miles to the north. They might as well have been in Alaska since he was hemmed in by an impenetrable barrier. He sat down to rest and to think of a way out of his dilemma.

A cocoanut, falling through the undergrowth, startled him. Once he thought he heard muffled voices and a splashing in the oozy water of the jungle. "Japs!" he said aloud as he prepared to take cover. Then a voice with a Brooklyn accent whispered through the dense foliage, "Hey, buddy, what ya' doin' here?" It took an effort to refrain from shouting for joy as a patrol of several Marines snaked into the trail and told him that the command post was less than 500 yards from where he was sitting.

"I understand I can get 110-volt 60-cycle A C current here," he said in his most professional manner. "Got any?"

One of the Marines said with a snicker, "Go up the trail about a hundred yards and ask them there. They might have some to give you."

"Who's up there?" he wanted to know.

"Japs," replied the Marine, and the little group, within touching distance of death, burst into subdued laughter.

The next day while he was moving forward with the troops a Jap shell exploded within a dozen feet of where he lay hugging the putrefied vegetation of the jungle floor. For a fraction of an instant a monstrous pressure, accompanied by searing heat, enveloped him—then he lost consciousness. When he came to, he thought of the blessed opiate and sulfa he carried for just this emergency. He knew he must be badly wounded but he could not tell where. He moved his arms and legs. They seemed to be all right except for a bad case of "pins and needles." He felt his body but could find no wounds. Then he discovered that his recording outfit, which he carried strapped to his back, had been hit. A large shell fragment had demolished a vital part of it. He also discovered that the precious spool of steel wire on which he had made his recordings was uninjured.

That spool of wire on which the sounds of battle were captured is now at Marine Corps Headquarters in Washington. So revealing is the story it tells, it is considered in the light of military information. Someday when many of the secrets of the struggle can be told, it will be broadcast so that the world can add to the list of its heroes the name of the Marine reporter who lived up to the reporter's creed, "I will get the story!"

Ever since man decided to settle his interrribal or international disputes by killing those who differed with him, there have been men who gained fame by recording the feats-at-arms of the combatants and extolling the prowess of this or that general as a first-class fighting man. In all likelihood we never would have heard much of Hannibal or Attila or Richard the Lion-Hearted were it not for scriveners whose job it was to see to it that the home folks were kept properly informed of the feats of their men who went off to the wars urged on by the valor and might of those who commanded them. There is, and always has been, a certain glamour attached to the eyewitnesses of great events. That holds true today as it did in Caesar's day. Among

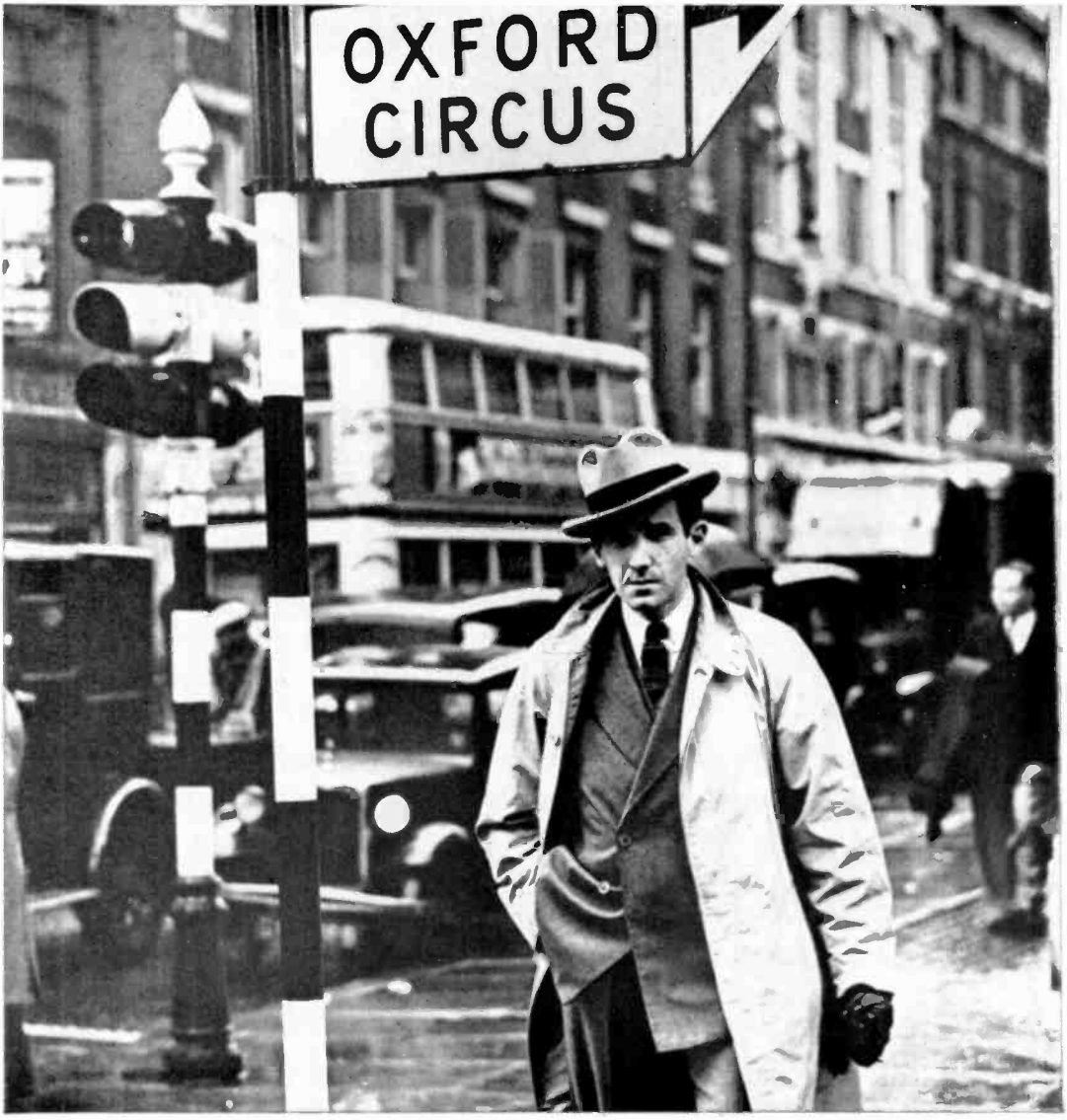
the radio reporters the lion's share of this glamour goes to those who don the war correspondent's uniform and take potluck with the men of whom they write and broadcast.

News on the home front, while often overshadowed by the catastrophic events of war, is nonetheless important to legions of listeners. Earthquakes, fires, floods, air tragedies, mine disasters, politics, sports, are all "good copy" that must be gathered on the spot by the radio reporter. "We interrupt this program, ladies and gentlemen, to bring you a bulletin just received," is a familiar introduction to a "hot" story fresh from the newsroom. Securing such a story often involves great effort and often high adventure on the part of the radio reporters assigned to cover it. Often a "mobile unit," a self-contained broadcasting studio on wheels, is sped to the scene of the story, or heavy broadcasting equipment is loaded in a plane or sea-going vessel and hurried to where a running story of the event is broadcast. Speed is all important as competition between broadcasting crews is keen. The first on the scene gets the cream of the audience.

Occasionally these assignments are packed with danger and hardships. Many a time announcers and engineers have turned from their broadcasting apparatus to assist in rescue or alleviate the sufferings of the victims of tragedy. Thirty- or forty-hour shifts without sleep and with little food are no strangers to these men behind the portable mike. They have often stuck to their posts for hours on end while battered by sleet or rain and often knee-deep in flood waters.

Not so long ago a little Missouri town was literally buried under a snow-pile that was thirty feet deep in some places. Roads leading to the town were blocked by impassable drifts. For nearly a month food supplies could not get through to the hard-pressed inhabitants; starvation was threatened; hunger was already making itself felt.

An enterprising network assigned two of its best men to the task of getting through the blockade and broadcasting the story of the stricken community to the outside world. Dressed in heavy clothing and carrying a complete broadcasting equipment in their automobile, they started out. They had only minor difficulties until they reached




*Edward Murrow, news chief of Columbia Broadcasting System, on his way to his London office whence his sensitive behind-the-news reports on life in the British capital are short-waved to a coast-to-coast audience in America.*

a point about ten miles from the town. Here they were confronted by snowdrifts as high as two-story buildings. All progress was blocked beyond that point. To make matters worse a heavy snow driven by a bitter wind began to fall. Abandoning the automobile, they plodded back two miles to a farmhouse they had passed an hour before. Luckily the farmer had a sleigh and a good team of horses, and better still, he was willing to try to get the radio men through to the town. Soon their heavy equipment and personal belongings were loaded into the sleigh. The farmer took a circuitous route in which there was less likelihood of high drifts. It looked for awhile as if their troubles were at an end. Their hopes soon vanished, however. The snowfall turned into an old-fashioned blizzard and the temperature dropped to twenty below zero. To add to their troubles, one of the horses became lame. As a result, they were forced to leave the sleigh and walk beside it the rest of the way. Almost frozen, they eventually reached the town and without waiting to thaw out, proceeded to set up their broadcasting apparatus in the police station. With throats raw and in wet clothing they broadcast the story of the snow-beleaguered town to the outside world twenty-four hours before snow-plows could clear the way for the first supply train.

Another personage of the radio newsroom is the so-called news commentator who in most cases merely analyzes or explains the current news. There has been much discussion as to the functions of these commentators. Some broadcasting organizations permit wide latitude in the expression of opinions or dogmas, even to the point of having the commentators' broadcasts considered propaganda. Others place a sharp curb on their commentators, prohibiting personal attacks and innuendoes and demanding that the man behind the mike adhere to news and its implications or developments.

There are many who believe that the radio commentator's remarks are equivalent to those of the editorial writer who may express his most pungent opinions without restraint other than the libel laws. On the other hand, there is a school of thought that stoutly maintains that the opinions of both commentator and editorial writer are but the

expressions of individuals as prone to bias or prejudice as the rest of us. Regardless of the category to which the commentator may belong, he has rendered a superb service in bringing to the homes of America a better understanding and a higher appreciation of the day's news than is enjoyed in the homes of any other country.

An ardent radio listener, I often wondered how these men and women who have implanted themselves in the consciousness of millions of Americans attained the eminence that entitled them to the dais in the forum of public opinion. On investigation I found that almost without exception they were men and women who had served a long apprenticeship in journalism as it relates to world affairs. Many of them have been identified with great news stories that have become history.

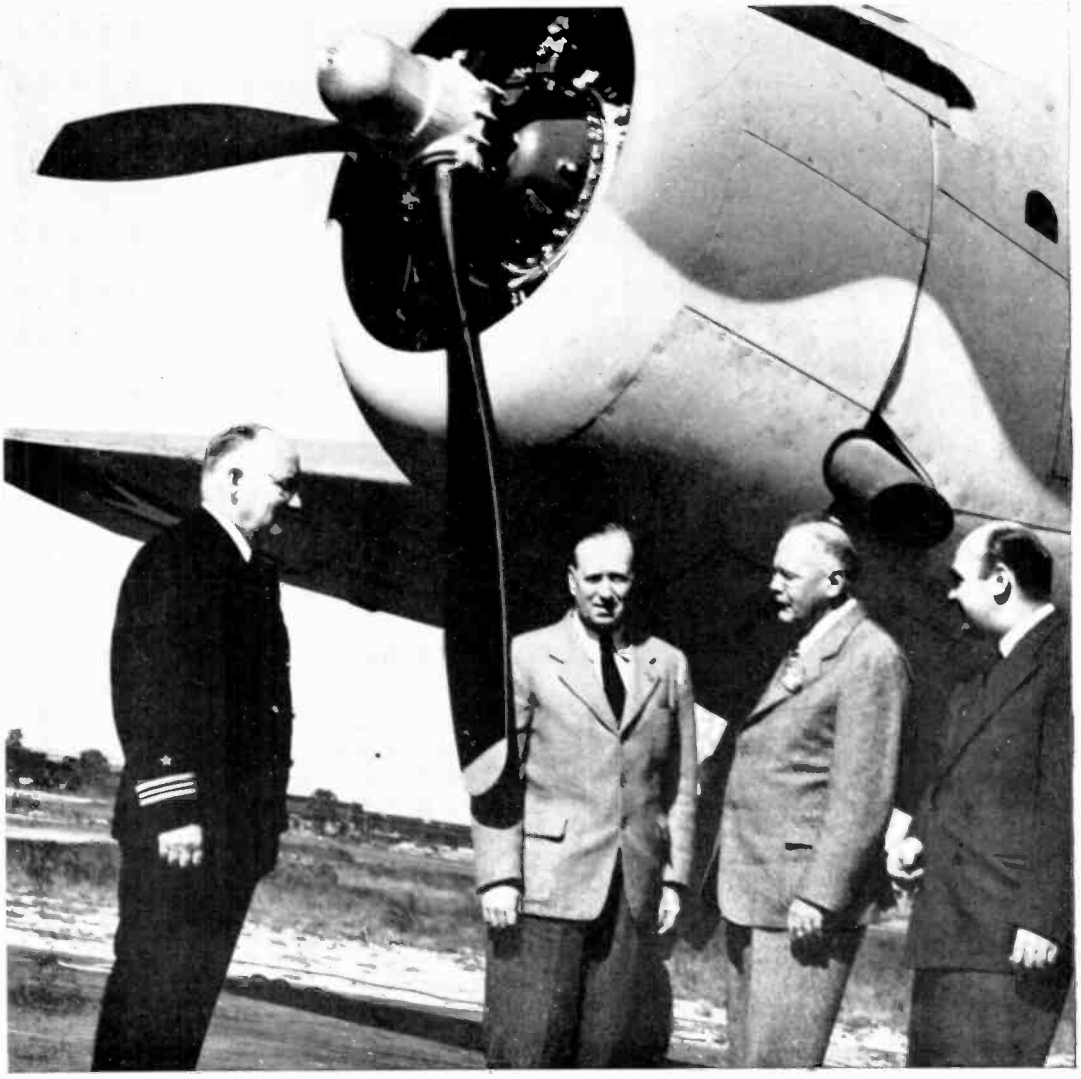
I learned, for instance, that H. V. Kaltenborn, sometimes called the "dean of commentators" started his career in the building materials business with his father, but ran away to enlist in the United States Army during the Spanish-American War. At the end of hostilities he returned, proud of his sergeant's chevrons and filled with the spirit of adventure. After a restless interlude in his home town, Milwaukee, Wisconsin, he signed on as a member of the crew of a cattle ship Europe-bound. His rough experiences as nurse and chambermaid to a seasick herd of longhorn steers merely whetted his appetite for excitement and adventure. After a few restless weeks at home he got a job on the Merrill (Wisc.) *Advocate* and before long became city editor. The wanderlust had gripped him, however; within a year he quit to go to France as a traveling salesman. Foreign scenes, customs and manners soon became commonplace. Selling in Europe was a humdrum job, circumscribed by formalities that were not only distasteful but also dull. He cabled his employers that he was quitting and returned to the United States where he soon found employment on the *Brooklyn Eagle* as a reporter. The city room of a metropolitan daily in those days offered plenty of excitement but not enough for Kaltenborn's restless spirit. While he was reporting for the *Eagle* he attended Harvard as a special student and graduated *cum laude*

with the Boylston Prize for public speaking and the Coolidge Prize for debating. Almost immediately after his graduation he was sent to Berlin as Secretary of the Harvard Professional Exchange. Later he was employed by John Jacob Astor as traveling tutor for his son Vincent. This was more to his liking since the classroom for his young charge was the palatial Astor yacht and the campus the high seas, with visits to foreign countries in both hemispheres thrown in as campus activities. When he had fulfilled his mission as mentor to the young millionaire, he returned to the *Brooklyn Eagle* as drama editor. His international first-hand experience stood him in good stead. He was appointed editorial writer specializing on international affairs. His next step was to the post of assistant manager from which he graduated to the chair of assistant editor. His radio career began when his address to the Newark, New Jersey, Chamber of Commerce was broadcast. His close-cropped sentences, his crisp style and his air of a man who was sure of himself established him overnight as one worth listening to. Since then he has combined his love of world travel with his acknowledged ability as a radio reporter. He has broadcast interviews with Mussolini, Gandhi, Hitler, Chiang Kai-shek and a legion of the great and near great. His incessant desire for adventure was more than satisfied a few years ago when he was captured by Chinese bandits and held for ransom. During the Spanish Revolution he was present at the attack on Irun and was the first reporter to cover a battle, microphone in hand.

That is the background that has enabled one of radio's more aggressive and outspoken commentators to build a huge listening audience.

A survey of the backgrounds of present-day news commentators shows that many of them were foreign correspondents for large newspapers and news associations. There is one outstanding exception, however.

Born in Nebraska, the son of a physician and a schoolteacher, Lowell Thomas from earliest boyhood had a hankering first to see the world and then to tell the world about it. Although he loved to daydream about far places, his dreams were of a practical turn. He



*Reporting on the home front, H. V. Kaltenborn visits the Grumman plant to inspect production of the Navy's famous Wildcat. Kaltenborn is third from left.*

saw a ready market for the travel tales he would bring back; he saw great audiences stirred by his stories of adventure and the wonders he had seen. He was a canny youngster, however, for he realized that to be a good reporter he must have a good education. Chock full of energy he applied all of it to his job as student—for it was a job with him. When he graduated from Princeton University, he had four degrees dangling from his belt, a constitution that was sound as a bell and a personality that burst through in a ruddy smile.

Scarcely was the ink dry on his diploma when he set out on the job for which he had prepared himself. A good salesman, he convinced the officials of a steamship company that it would be a good investment to send him abroad to photograph scenes of World War I which was then in full cry. There was one catch, however; there was neither salary nor expense money in the assignment. This did not stop him, however. Within a few days he smiled himself into the office of a prominent business executive. When he left he had a written agreement in his pocket, guaranteeing him ample backing for his first expedition.

Arriving in Europe he surveyed the scene with an eye to its lecture possibilities. At that time the British General Allenby was in the middle of his campaign for Jerusalem. Weeks later Lowell Thomas, the youngster fresh from the classroom, marched into the Holy City with Allenby himself. With a sharp eye for the dramatic and with graphic lantern slides uppermost in his mind, he photographed right and left. He made his photographic shots with the prodigality of a machine gunner, never leaving a likely spot uncovered.

When he had drained Allenby and Jerusalem of all available lecture material, he turned his attention to Lawrence of Arabia, then one of Britain's most colorful and vital figures. He gathered a fund of authentic information so startling and so full of action and adventure that it sounded stranger than fiction.

Soon the quiet young American with the winning smile began to attract the attention of British officials. His fresh perspective of the stirring events that they had taken for granted as a routine part of

their mission, often jolted them out of their smugness. As a result young Thomas was invited to come to London and tell the British at home what he had seen and learned in the Near East.

Word of Thomas' reportorial prowess had preceded him to Britain. During his series of lectures he spoke to some 17,000 people a day. Before each of his appearances, the doors of the great auditorium were closed to more thousands who could not gain admission.

Now established as one of the world's most dynamic lecturers, the world became his workshop. He combed Europe, Asia, Australia and Alaska for material. In India special trains, palatial boats and even the favorite elephants of Maharajas were placed at his disposal. Wherever he went he was welcomed because it was well known that he came not with a critical eye but with the true world-traveler's appreciation of the beauty and the dignity of the places he visited. With thousands of colored slides and negatives from which to draw, and with bales of notes made on the spot, he took to the lecture platform in a big way. In ten years he addressed audiences aggregating half a million people. In spite of constant traveling and strenuous lecture programs, he wrote forty-two books, every line of which sparkled with authenticity.

About thirteen years ago Lowell Thomas went on the air and was instantly welcomed as a brilliant and easily digested source of news. Even when reporting the most controversial subjects, he has carefully avoided controversy. From his opening, "Hello there, everybody!" to his "So long until tomorrow!" his newscasts have a tinge of good humor. He believes that after a day in the factory, the office, the farm or the schoolroom, the listener prefers to get his facts wrapped up in a smile.

A strenuous worker, Lowell Thomas gives ten broadcasts weekly. In addition to his broadcasts, he works all night twice a week in one of the newsreel studios supplementing the pictures with his verbal running story. A first-class executive, he has surrounded himself with an efficient organization and works harder than any of them. He often dictates his material in a taxicab and has more than once finished

his dictation on a pier in the shadow of a foreign-bound steamer just before the gangplank was raised.

He insists that so much effort would be impossible were it not that he keeps in the pink of condition. An outdoor enthusiast, he has been known to travel five thousand miles for a week's skiing. His work and his activities in the open leave him little time for parties or social activities. "When I am through with the day's work," he said recently, "I am ready to hit the hay."

Through the oversight of a secretary he went on the air not long ago with several pages of his script missing. So thoroughly informed was he on the day's happenings, he continued the broadcast from memory. No one in the listening audience apparently knew that anything unusual had happened.

One evening during the holiday season, I entered a taxicab at the Pennsylvania Station in New York. The driver, a bespectacled man of middle age, was listening attentively to a news broadcast coming from the radio in his cab. "Grand Central Station!" I said as I settled into the seat. He paused for a moment to catch the finish of a sentence before starting the motor. The traffic was heavy; progress was slow. "You like to listen to Lowell Thomas?" I asked by way of conversation. The man did not reply. I thought he made it quite clear that I had intruded at an inopportune time, so I remained silent. As we stopped for a red light at Madison Avenue, several blocks from where we started, Thomas' cheery "So long until tomorrow!" ended the broadcast. Instantly the driver snapped off the radio and turning to me with a friendly smile said, "Yes, I wouldn't miss him for the world." "Why do you like him so well?" I inquired. "Well, it's this way," he replied, "in this business you don't have much time for reading—and besides I didn't have much of an education. I like Thomas because I understand every word he says—no fancy stuff." Perhaps the cab-driver put his finger on the reason for Thomas' success—no fancy stuff.

There is another type of news program that has made for itself a permanent place on the air. Although its activities, except in a

minor degree, do not stem from the newsroom, the "woman's program," as it is called, brings to the American home a great fund of a certain type of news that is of more than passing interest to the housewife. The latest developments in the world of fashion and cosmetics, news of the theater and the screen, an endless variety of news about food in its raw state and cooked as delicacies, books, plays, music, and personalities in the public eye at the moment—all are covered in a chatty and interesting manner. In treatment these programs closely resemble the woman's department of a progressive newspaper.

Practically all of these programs are conducted by women, many of whom have had a background of journalism. In general pattern they are almost identical, but each one of them reflects strongly the individuality of the woman behind the microphone. Each of them is punctuated by short commercials advertising the commodities of a group of sponsors and no opportunity is missed to slip in a "plug" (favorable mention) for a sponsored article.

On several occasions I have appeared as a guest on these programs and have always been deeply impressed by the skill and the great amount of labor it takes to hold a large audience at a certain hour each day, five days a week, year in and year out. The leg-work required to gather good program material and to keep abreast of the sponsors' requirements is staggering. Each day's program is prepared as carefully as if it involved a great dramatic or musical production. For many of the women's programs, script for the entire show is written, edited, rehearsed and timed. The flood of letters from listeners are searched for nuggets that may be newsy or novel. On some of the programs a guest with something worth saying must be captured and led to the mike. The elements of the program must be co-ordinated and made into a "package," each element of course claiming so many minutes, for in these as in all programs the red hand of the ever-present clock slices off the seconds with alarming rapidity. Above all, there must be no hurry or confusion. The final word of the program and the last second of its allotted time must occur on the same dot.

In some of the programs on which I have appeared, it is customary to have a reporter-representative of the broadcaster interview the guest several days in advance of the program date. The material thus secured is written into the script in a way that is supposed to make the interview over the air appear to be extemporaneous. This has two advantages: it keeps the interview in the pattern that has made the program successful and it also lessens the possibility of slips that might involve controversy, good taste or even libel. Its chief fault lies in putting the guest at a disadvantage. The rhythm, sentence structure and vocabulary of the script are so different from that of the guest's manner of speech that it is almost impossible to conceal from the listener the fact that he is reading something that has been written for him.

The other school of interviewing radio guests on these household programs puts the guest at ease by leading him into an informal chatting mood through carefully aimed questions and a watchful ear lest he stray onto forbidden ground.

A master—or should I say mistress?—of the art of this chitchat type of interview is Mary Margaret McBride, beloved in millions of American homes for her bubbling good humor and her homely Missouri farm philosophy. Despite her accomplishments as author, journalist and world traveler, I could not help feeling as I sat opposite her with the microphone between us that all she needed was a spotless apron and an egg-beater in her hand to be the perfect model for the artist who would glorify the modern housewife.

We chatted for some twenty minutes before the program went on the air. She plied her probe with the finesse of the skilled reporter. Occasionally when she pried something from me that interested her, she exclaimed, "Go ahead! Tell them that!" meanwhile making a note of the tidbit. Our conversation was interrupted a dozen times by members of her staff. This certain sponsor wanted such-and-such mentioned in the commercial; another had sent instructions that something be eliminated, while a third felt that a certain feature of his merchandise should be emphasized strongly. Meantime an audi-

*Short-wave listening post at NBC. Men are eavesdropping on European broadcasters and gathering much valuable information.*

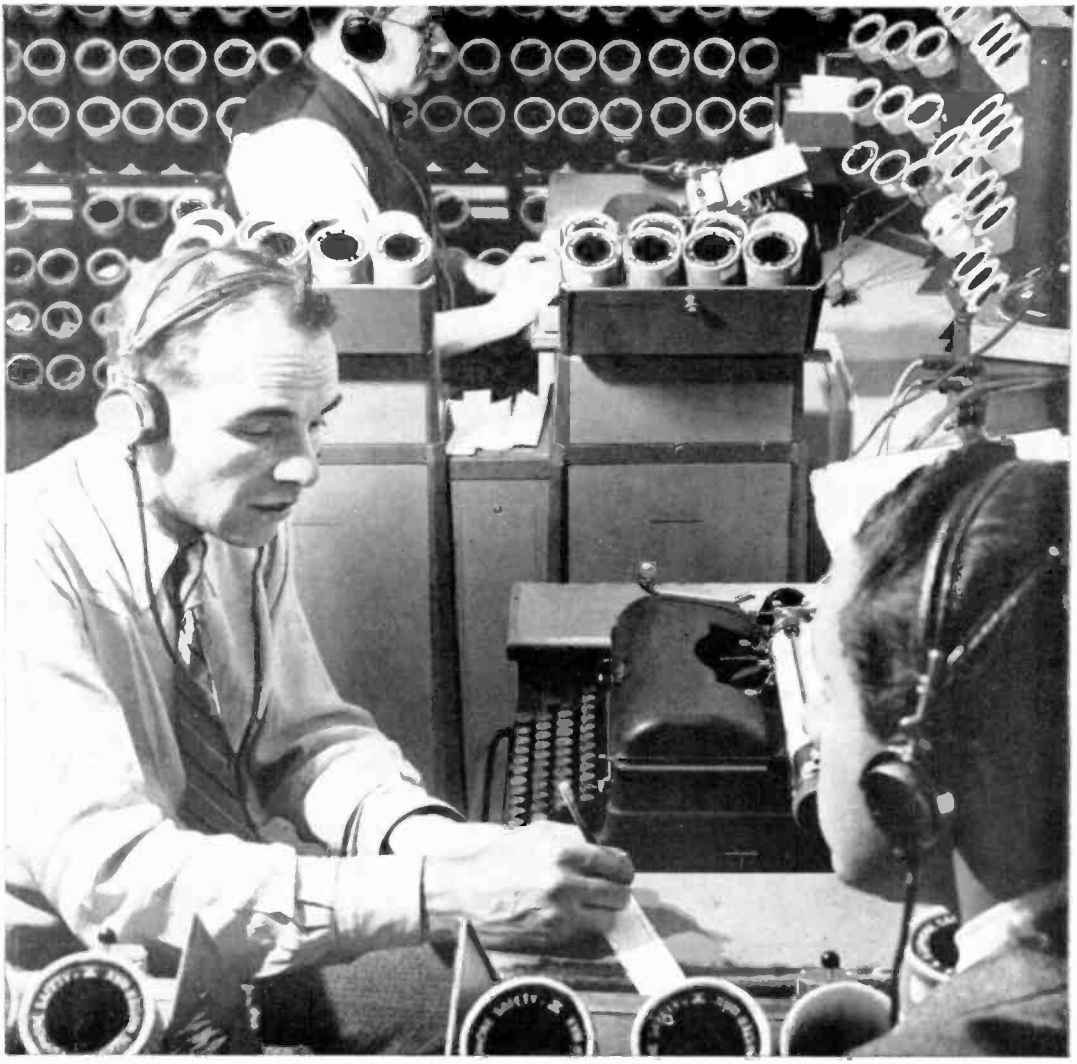
ence of fifty women, a ladies' auxiliary of something-or-other in the heart of New Jersey, sat expectantly and, I thought, a little awed as they watched the preliminaries of the broadcast. As the red hand approached the appointed hour, a signal for silence filled the sound-proofed studio with an oppressive hush. A wave of the hand from the engineer in the control room, a few bars of the theme tune, "Beautiful Lady," a few million pairs of ears listening eagerly—and the program was on the air.

It would seem that, while many of these women's programs follow a general pattern as they emerge from the radio set in the home, there is no hard and fast rule for the method of putting them into the microphone. In some of them in which I have appeared, I could feel a tenseness in the studio, a kind of high pressure that seemed to beget nervousness. I have read the script aloud in rehearsal, cutting it here and there to fit it into the allotted number of minutes, and, according to studio practice, have made numerous notations to make the reading easier. To the professional radio speaker, all this may be necessary in order to give a day-after-day broadcast of uniform quality. To the lay person, however, it is a terrifying ordeal.

In contrast to all this fussing with which a radio interview is often surrounded, I recall with pleasure several occasions on which I was interviewed by Martha Deane at Station WOR, New York City. In real life Martha Deane is Marian Young Taylor. WOR is located in a commercial building on busy Broadway, across the street from the Metropolitan Opera House. The hustle-bustle of New York is at high tide in that neighborhood, since the overflow from near-by 42nd Street, the crossroad of the world, swirls through it.

After a visitor to WOR has waded through the maelstrom of pedestrians interested only in merchandise or amusement and steps from the crowded elevator at the twentieth floor, it is like emerging from a boiler factory into the quiet of a cloister at eventide. In radio studios all unnecessary sound is captured and held in leash.

On my first visit a page escorted me to the studio in which the broadcast was to take place. It was a room of modest size and quiet



*This is a composite picture made from several photographs of the CBS listening post. It portrays the spirit as well as the substance of this most important radio activity.*

décor. In one corner the inevitable grand piano was flanked by empty music stands. A few heavy pieces of sound apparatus used in an earlier broadcast were waiting for transportation to another studio.

At a table near the control room Martha Deane was making notes on typed sheets of yellow paper. She arose to greet me as I entered. Tall, stately and with a musical contralto voice and charming manner, she proved herself also to be an accomplished interviewer. For twenty minutes before broadcast time we chatted about many things but chiefly about a book of mine that had been published a day or two previously. Without appearing to ask questions, she drew from me such material as she required, making notes as we went along.

A microphone on the table stared me out of countenance with its thousand sinister little eyes. At my right elbow several paper cups of water were placed as a kind of first aid for the frog-in-the-throat that often pesters the speaker behind the mike. Sitting beside me at another microphone, the announcer divided his attention between his script, the haunting clock and the engineer in the control room. Then came a signal for silence; the microphones were "live"; the program was on the air. During the silent period in the studio the theme tune was played into the mike in the control room; we in the studio could not hear a note of it.

When the music had ceased, the engineer signaled the announcer to begin his introductory. Meanwhile Martha Deane perused the script she held in her hand—some five or six pages she had prepared for the broadcast. As informally as if she were chatting with a neighbor over a cup of tea, she told of things she had seen and places she had visited on the previous day with a smile in every word of it. I could almost hear the listening housewives and their grown daughters say, "What fun it must be to conduct a woman's program!"

Sponsors are sponsors however. They insist that their particular commodity be aired on the air. Here and there during the running story, this or that brand of article is fitted in to the broadcast as a gem of practicality, a nugget of household news.

I remember a startling experience in one of Martha Deane's pro-

grams. I had just completed another book and was enjoying a few days rest with friends at their camp in the Catskills. Since we were many miles from the nearest village, newspapers were few and far between; the radio was practically our only source of news.

Early one afternoon I tuned in with the hope of catching at least a smattering of what was going on in the outside world. My search was fruitless; there was no news on the air. While dialing from station to station, I caught a fragment of a man's voice; it had something familiar in it. But then, there are many voices on the air that are as familiar as those of old friends; so I paid little attention to it and went on dialing. Somehow the voice haunted me. I felt I must listen to it. A slight movement of the dial brought it back again. Yes, it was the voice of someone I knew or had met. It was the style of speech and the enunciation rather than the voice itself that were familiar to me. In fact, when I analyzed the voice, I came to the conclusion that I had not heard it before. The speaker was relating a war episode in the Philippines, a common radio subject at that time. As I listened, it seemed to be one of those brain quirks in which something we are experiencing at the moment occurred in the past.

My host and hostess who had been on the porch burst into the room, astonishment and a shadow of alarm on their faces, "Why, I thought you had gone crazy!" said my host. I too was a little bewildered when I realized that the strange voice was speaking words I had spoken at some time. We were all mystified for a moment. Then I realized I was listening to myself broadcasting from New York, a hundred and fifty miles away.

Several weeks previously Martha Deane had interviewed me on a program that was recorded for use during her vacation. This was the program that proved so startling. Since then I have learned that when a speaking voice is recorded and then broadcast, it is easily recognized by all listeners but the one whose voice it really is. Just as we do not see ourselves as others see us, neither do we hear ourselves as others hear us.

"I have no idea," he replied frankly, "I suppose I would go to a radio station and ask for a job."

I did not want to quench the tiny vocational spark that had been kindled. The slightest puff of criticism might put it out forever. "Bill," I said, "I have a good friend who is now one of the most important men in all radiodom. When he was your age he was just such a healthy, energetic lad as you are, and he was just as innocent of the ins and outs of radio then as you are today. In fact, there was no radio as we know it when he was a boy. Maybe if I were to tell you his life story, how he got into radio and climbed to the top, it might interest you."

"Very much," a flash of eagerness spread over Bill's face.

"Well," I began, "in August, 1896, in the little town of Clifton, Kansas, a son was born to Principal F. E. Mullen and christened 'Frank' for his father. Mr. Mullen, a high school principal, was just starting out in life. Try as he would, he could not make ends meet, so one day when Frank was about three years old, he moved his family and household effects to Randolph, Nebraska, where he was employed as principal of the only school in town and studied law on the side. Here things were better for several years, but prosperity seemed to pass by the Mullen home without so much as a knock on the door. On again westward. The young lawyer-teacher, with the pioneer spirit of the west, moved to South Dakota where he took over a tract of virgin land for homesteading, and within four years proved up on the claim. Then he became a county judge. While on the farm Frank, now a husky boy, took over his share of a man's work as was customary on all farms in those days. He milked the cows morning and evening, sometimes in temperatures that froze the milk before it reached the house. He was assigned a five-acre patch of potatoes to dig and hoe and 'sprout.' When the rains came, everything grew in lavish profusion, but when they failed, the soil turned to an earthy dust on which the potato plants he had nursed so tenderly lay withered and brown.

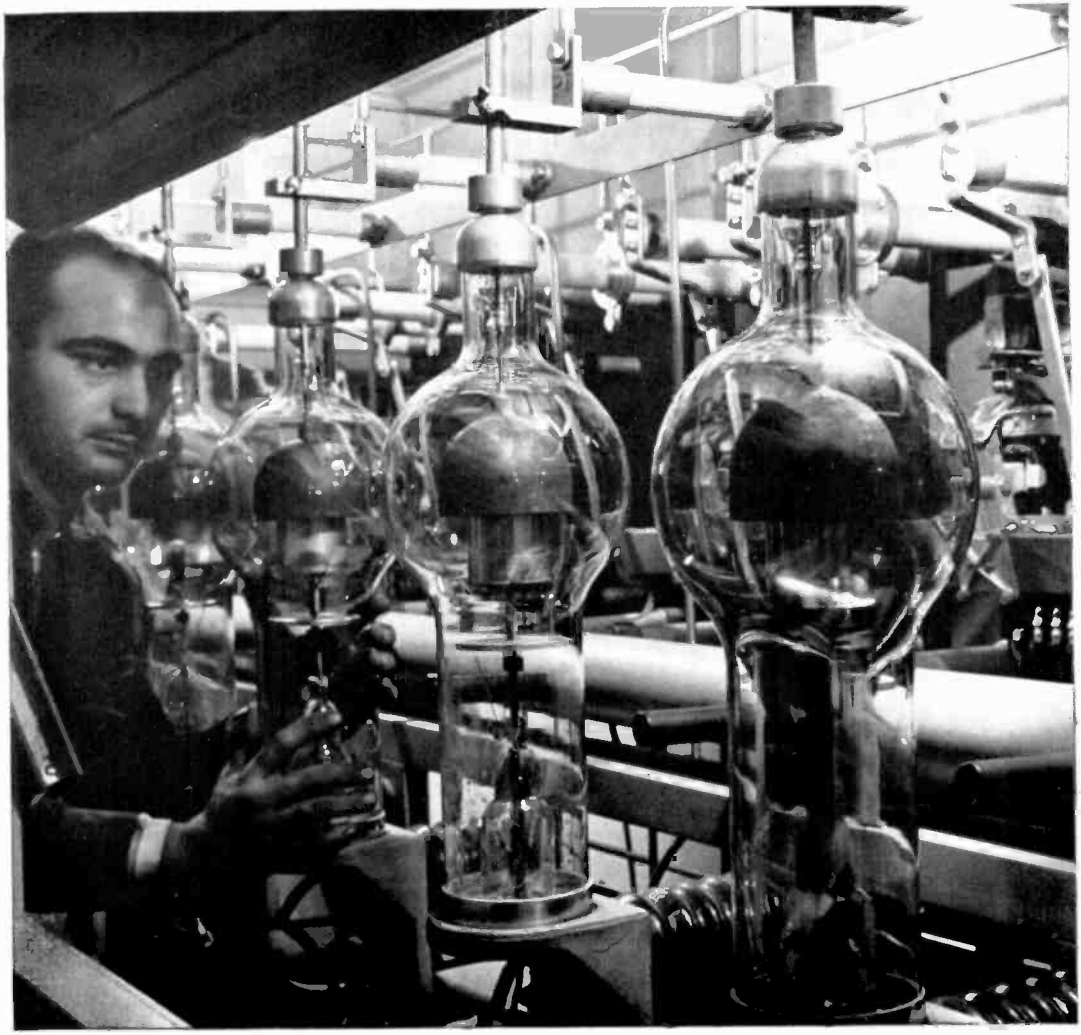
"It was about this period that young Mullen saw an ad in a mail-

order magazine extolling the wonders of 'wireless' and offering the unwary full instructions on how to construct this 'miracle of modern science' all for the sum of 'one dime, ten cents.' Although not scientifically inclined, the lad was of an inquisitive turn of mind. He also had visions of breaking the monotony of the evenings on a South Dakota farm by conversing by means of this wireless gadget with a boy he knew who lived on a section several miles away.

"But after all, ten cents were ten cents, a considerable sum to a farmer boy in those days. After carefully weighing the transaction, Frank plunged; he mailed a dime from his savings to the New York firm that advertised so glibly 'everyone his own wireless engineer.' Weeks passed while the boy fretted and fumed to be up and at the task of establishing the first wireless set in South Dakota. He had visions of the envy and the wonderment of lads of his own age for miles around. Then one day a packet arrived—a manila envelope with gaudy printing on the outside. The thrill of having his first mail take the form of such an important-looking packet was worth the dime he had so hesitantly expended. On opening it he found a confusing collection of sheets of printed paper, some of which lauded the scientific attainments of Marconi in the field of wireless; others contained a hodgepodge of pseudo information on the principles and practice of wireless engineering. There was scarcely a line in the packet that was either interesting or intelligible to the disappointed boy. Then and there he gave up all thought of ever dabbling in the dubious art of communicating through the ether. From that moment radio, or rather 'wireless,' to him was as foreign to his thoughts as building astronomical instruments.

"Life was dreary to the high-spirited boy, except when it rained and the near-by creek, usually as dry as an oven, roared furiously over its stony bed. Here and there on the bleak landscape were patches of scrub growth, but in all the forty miles one could see from the house, there was hardly a single tree—only some scrubs along the few creeks. As a result the desolation of erosion was everywhere.

"Despite the drudgery of the farm, Frank finished three years in high school. Large for his age and strong as a young bull, he began to yearn for the world beyond the distant horizon. His meager savings would not see him far on his dream travels; he must earn money. One evening after he had finished his chores, he sat out under the low-hanging stars and communed with himself. He thought of schemes for earning money but after careful scrutiny discarded them one by one. He realized for the first time that he had little to offer an employer. Then it occurred to him that teaching was about the only profession for which he could prepare himself quickly. When he entered the house late that evening, his mind was made up. Some weeks later he was a student in Kalamazoo State Normal School, working tooth and nail and longing for the day when he would be eligible to teach. When examination time rolled around, he was far from sure of himself. It was one of the happiest moments of his life when he learned he had passed—not with honors but with the narrowest possible margin. For the first time he felt the thrill of independence. He had now taken his place in the world and his dreams of the future were rosy. His first appointment, however, took him down a peg or two. The school in which he was to teach was a tiny one-room affair with eight pupils and eight grades; his salary was forty-five dollars a month. Living modestly he saved most of his salary. As the months passed and his savings grew, the wanderlust again made itself felt. At first it was but pleasant spells of dreaming, then it grew to impatience to be off on the great adventure. One day at the end of the term and soon after he had passed his nineteenth birthday, he dismissed his pupils and bade them good-by. For no good reason he chose Lexington, Kentucky, as his first stopping place in his search for life. While in that city fate in the guise of a recruiting sergeant stepped in. The young adventurer had stopped to look at a flamboyant poster extolling the advantages of service in the Coast Artillery and life in the Philippine Islands. The lush foliage, the verdant hills bordering an azure bay, the dark-skinned natives with brilliant flowers in their hair, and the khaki-clad sun-



*In contrast with the puny equipment of KDKA shown in an earlier page, this close-up shows the station's high-voltage rectifier. Should one of these valuable tubes "blow out," an automatic relay puts another in operation without interrupting broadcast.*

browned soldiers of the U. S. Coast Artillery presented the picture of which he had often dreamed. It reminded him by contrast of the colorless, treeless landscape of central South Dakota.

"While he stood drinking in every detail of the lithograph, a sergeant in dress uniform touched him on the shoulder. 'How about it, son?' he said jovially. 'How about seeing the world at Uncle Sam's expense—with spending money thrown in?'

"Young Mullen was startled. It seemed too good to be true that a stranger should offer him the one thing he wanted more than anything else—a passport to the world of his dreams. His Scotch blood made him cautious; before saying 'yes,' he would ask a question, 'If I enlist, will I be sent to the Philippines?' He nodded toward the poster. 'Sure,' replied the sergeant reassuringly. 'We send 'em all over there except a few now and then we send to San Francisco.'

"In a few minutes he was seated at a desk in a near-by building where the sergeant had led him, a pen poised in his hand. With a 'here goes!' flourish he signed the paper and was soon sworn into the United States Army. A day or two later he was shipped, not to the Philippines but to San Francisco. His youthful visions of romance and adventure in the far places of the world had been shattered. While he was glad to serve his country, he felt he had been lured into a trap from which there was no escape.

"Soldiering was an easy life when compared to what he had known on the farm, and on the whole was not unpleasant. He could not forget, however, that the recruiting sergeant had not been entirely honest with him. He soon learned the meaning of discipline and implicit obedience and often smiled at his resemblance during his first weeks in the army to the colt he had broken in, back on the farm.

"He had completed the first year of his enlistment when one day he had the surprise of his life. His father had come to visit him. Father and son talked long and earnestly and bared their souls. The older man was concerned mostly about the interruption of what he considered adequate education for his son; the younger chafed at

the restraint and monotony of life in an army post. Before long they arrived on common ground. 'Tell you what I'll do,' said the father. 'If you will return and complete your fourth year in high school I'll see what can be done about getting your discharge from the army.' 'It's a deal,' said the son.

"In a few weeks the young adventurer was back in school. He studied as never before. He must graduate—that's all there was to it!

"And graduate he did, with good marks! Whereupon he determined to go to college. That was good news for his father but it was not enough. The father believed that unless his son entered the final phase of his education with a definite objective, it would be time lost. It was agreed that Frank would take up agriculture. After several universities and colleges had been investigated, Iowa State College was selected. That was in 1916.

"While he was in college the young farmer-to-be often gave thought to what lay ahead of him. The family homestead gave little promise of a prosperous future. During vacations he often swept his eye over the flat country that had never known the comforting shade of a tree nor the grip on the soil of its roots. Trees, forests of them, were what that locality needed. Something should be done about it; perhaps he was the one to do it. And so he came to take a special course in forestry. One of the requirements of the course was that students devote a period of several months to practical field work. In the meantime the United States had entered World War I.

"While in the northern forest region, young Mullen and his fellow students were overjoyed to learn that the War Department had sent out a call for trained foresters, for work with the British and French armies. They volunteered to a man, enlisting in the 10th Engineers. Immediately they were sent overseas to a point south of Bordeaux. Here they cut trees and sawed lumber in such quantities as the French had never seen.

"Home from the wars in 1919, Frank Mullen lost no time in getting back to his course in forestry. He was then 23 years old and had never given radio a thought since his disappointing wireless venture

with the mail order house. Nevertheless, the pattern of his future success in the radio field had already begun to form. At the end of the college year he put out the *Forestry Annual* so successfully that he was elected its editor and business manager. He was also reporter and assistant editor of the college paper. So thorough was he in his journalistic work, a group of professors advised him to take up journalism.

"After graduation he secured a job on the Sioux City *Journal*. His chief assignment was to prepare a weekly farm page, but he also covered the commercial beat as a regular reporter, all for $35 dollars a week. While in college he met the president of his fraternity, who was also advertising manager of the *National Stockman and Farmer* of Pittsburgh, Pa. Impressed with Mullen's common sense and his grasp of the agricultural situation, the advertising manager introduced him to a friend, who was then advertising manager for the Westinghouse Company, owners of the first radio commercial broadcasting station KDKA. Here is where radio first crosses the path of a young man who in a comparatively few years was to become one of the world's top-ranking radio officials.

"One morning on arriving at his desk in the office of the Sioux City paper, he found a telegram from the Westinghouse Company. It read: 'Need radio editor. Job's yours.' After studying the message, Mullen wired, 'How much?' An answer arrived within a few hours: 'Forty-two fifty a week.' To this Mullen replied, 'I accept,' and so he was launched on his radio career. Before he took over his new duties, his voice was tested and found to be full and round, with the unmistakable homely characteristics of the farmers' speech to be found in every state. He was a genuine grass-root farmer speaking to farmers.

"He organized the Farm Department Broadcast which was soon waited for daily by middle-western farmers as eagerly as factory workers await the noontime whistle. Now that he was actually in radio his progress was rapid. Soon he became acquainted with H. P.

*NBC's famous studio 8. H. from which many of the outstanding programs are broadcast.*

Davis, vice-president of the Westinghouse Company, known to many as the father of radio.

"It was through Davis that he met David Sarnoff, President of the Radio Corporation of America and Board Chairman. The interview lasted only a few minutes, just long enough for the big man of radio to realize that the husky young farm lad before him was the only man in the United States who had practical down-to-the-dirt experience in agricultural broadcasting. Mullen was sent to the office of the president of NBC for an interview. Mr. Aylesworth, himself a farm-raised boy, son of a college president and an ardent student of public reactions, listened attentively to the few words Mullen had to say. In less than five minutes Aylesworth rose from his desk, shook hands with the astonished young farmer-journalist and said, 'You're hired!'

"A year later farmer Mullen established the National Farm and Home Hour, one of the high spots of radio broadcasting to this day. Selecting the hour between 12 noon and 1 o'clock as the time when farmers and farmhands took respite from their toil and gathered around the table for the midday meal, the program gave a delectable mixture of news, music, domestic economy, produce and stock prices with reviews of books and art and the general goings-on of the world. It struck a responsive chord and soon became known as the farmers' program for farmers. So extensive and attentive was its listening audience, that sponsors came knocking at the door with tempting contracts, and at a time when radio was struggling along from hand to mouth. Farmer Mullen despite strong opposition held to his theory that if radio were to survive, it must serve unselfishly. If sponsors would like time 'around' the program—that is, immediately before or after it went on the air, well and good; but the hour devoted to the farmers must be kept clear of entangling alliances. Mullen won hands-down and grew in stature accordingly. The National Farm and Home Hour was broadcast from Chicago. So great was the one-time farmer boy's joy in his work, he never concerned himself very much with his financial affairs until one day it occurred to him he

was not being paid in proportion to the work he was doing. He was far from being timid about such matters; it just had not occurred to him to ask for a raise. Now that he thought he was worth more money, he took action at once. He informed the manager that he must have a raise of $2500. It was not a request; it was a simple statement. The manager agreed he should have a raise by all means, say, a thousand a year more. Farmer Mullen was in no dickering mood; he quit then and there.

"He went directly to see his friend David Lawrence who was then building the *United States Daily*. 'I want a job, David,' he said simply. 'Okay,' replied Lawrence, 'it's yours.' While they were discussing the matter the telephone rang; Lawrence answered. It was David Sarnoff, chairman of the board of NBC, calling from New York. He asked Lawrence to find a man of big caliber to head the Information Department of RCA, Parent Company of NBC. 'Why,' replied Lawrence, 'up to an hour ago you had the best man in America right in your own organization.' 'Who is he?' inquired Sarnoff. 'Frank Mullen,' said Lawrence. 'Never heard of him,' replied the president. 'All right,' said Lawrence, 'you will. I'll have him phone you.'

"The following day farmer Mullen was on his way to New York. From RCA he moved back into NBC. He is still there. Now, however, he is vice-president and general manager of the National Broadcasting Company and a member of its Board of Directors. Marble and steel and the asphalt of city streets have supplanted the rocks and brown earth of South Dakota, but under his well-tailored clothes are still the body and soul of the farmer."

* * * * *

It was almost dark when I came to the end of my story; a single star shone pale in the waning light. Bill sat silent for a moment or two, then said simply, "I guess it can be done all right." Then he asked the same difficult question that has been asked by thousands "How do you go about getting into radio?" My reply was another question, "How did Frank Mullen go about it?" Without waiting

for the answer I continued, "First he acquired a good education and set an objective—forestry. His *Forestry Annual* and his work on the college paper singled him out to his professors as one cut out for journalism. On leaving school he went into journalism, specializing in agriculture, his best subject. Through journalism he got a combination job as reporter and radio newsman with a farmer audience. From there he stepped into a responsible radio post and created the National Farm and Home Hour, still an important program. His outstanding work there secured for him his job as Information Director of RCA. Here his journalistic experience was invaluable in his important radio post and lastly he was made vice-president and general manager of NBC, one of the world's greatest radio organizations.

"And so it is with many of radio's high-ranking executives; they have come from a great diversity of fields—publishing, advertising, engineering, music teaching, law, finance, the theater and scores of other everyday callings. The ramifications of the radio are so numerous and its broadcasting activities so diversified, it presents many vocational opportunities.

"So you see, Bill," I continued, "there is more to getting into radio or any other highly specialized industry than just asking for a job. There must be preparation in one or more of the fields it embodies."

Bill interrupted. "Suppose," said he, "you wanted to become a radio news reporter, what would you do?" Here was a direct question that called for a comprehensive answer. I paused before replying: "First I would decide that I wanted to be a reporter—one of the best. Then I would familiarize myself with the tools of the trade. Good English is as necessary to the reporter as a saw to a carpenter, therefore I would major in English. But good English alone will not make a good reporter. To write a good story he must gather good material —facts. This requires the power of observation, the faculty of accurate listening and the knack of asking pertinent questions. The latter calls for a pleasant personality. These, as I have said, are the reporter's tools; the skill to use them must be learned in actual prac-

*Radio attracts alert personnel. Whether in Station WGY in Schenectady, New York, or in the great studios of New York City in which thousands are employed. Radio folk are clean-cut, intelligent, industrious.*

tice. Some of our best reporters, newspaper and radio, began their careers on small weekly newspapers, where the tempo is not so fast and the beginner is not confused by the rapid pace of the daily.

"If my first step toward radio reporting were on such a weekly, my job would probably include sweeping the office, washing presses, doing odd jobs and running errands. But each of those activities would familiarize me with the mechanics of journalism. One cannot sweep around a linotype machine or wash down a pony press without absorbing some of the aura of printing ink which hovers around every newspaperman. Picking up and writing locals covering the Town Board meeting on Wednesdays or the cake sale at the Methodist church are but preparatory steps toward doing more important stories and a better job. Meantime I would be acquiring the vocabulary of journalism. The deadline, the rewrite, the galleys, the forms, the banner, the masthead, the by-line, all meaningless to the layman, would be the everyday language of my job, so that when the time was ripe and I sought a job on a daily newspaper, I could speak to my prospective employer in his own language—a first essential in getting a responsible job in any industry. My subsequent work on one or several dailies would soon make me a serious if not seasoned newspaperman. Meantime with a radio future in mind, I would listen, listen, listen to the work of commentators, radio reporters and announcers. I might go so far as to take instruction in voice and diction. I would concern myself with the affairs of people and peoples and acquire as broad a general knowledge as reading and listening could give me. With all this 'foraging' mixed with courage and just a dash of luck, my objective—that first day behind the mike—should not be far off.

"The same formula holds for entering any of the more important branches of radio. Preparation is essential. A live mike is the greatest tattletale in all the world. It lays bare to millions the inexperience, the clumsiness and the slightest mistakes of all who work behind it. Announcer, director, engineer, commentator, sound man, script writer, commercial writer and all who contribute in any way to

the program are members of a perfectly co-ordinated team in which fumbles are fatal.

"Now all of this applies chiefly to the young man or woman who would take up radio as a career. To those who merely seek a job today, letting tomorrow take care of itself, radio offers no more or no less than any commercial business. Even in the lower brackets of employment, it is a fast-moving and exacting industry with little room for laggards or lazybones. The irresistible flight of time as recorded by the moving red hand of the studio clock can be felt in every radio activity, for here as in no other industry time is a commodity sold at so much a second."

During my long harangue Bill proved a good listener. On his strong young face there was the preoccupied look of one who is solving a problem. When I had finished he said quietly, "Funny how little a fellow in school knows about what is ahead of him. Now that I know what it takes to be a radio reporter, I guess I'd better get busy."

"Good luck, Bill," I said as we parted.