

# The History of Television

HENRY R. AUSTIN

THE part television plays in the everyday life of most Americans is great, since the television set often goes on with the coffee maker in the morning and goes off just before, or even after, the thermostat is turned down at bedtime. Its ability to let us be eye-witnesses to an overseas war, the events surrounding the assassination of a President, the blast-off of a space rocket, or the professional football championship game is taken for granted. We are inclined to accept or criticize what television has to offer without knowing much about how it works or what has made it into the kind of phenomenon it is.

The first television experiments in the United States used a whirling, mechanical scanning disc, following earlier experiments by Paul Nipkow in Germany. C. F. Jenkins made successful public demonstrations using this method but the possibilities were extremely limited. A breakthrough provided an escape from the limitations of the mechanical method: in 1923 Vladimir Zworykin applied for a patent on the Iconoscope, a television tube that made electronic scanning possible. Large corporations such as General Electric, Westinghouse, and RCA, along with individual researchers including Philo Farnsworth and Allen DuMont, were among those working toward an electric system which would allow transmission of an acceptable picture.

During the 1920's and the 1930's the quality of the television picture was improved by increasing the number of lines of scanning in the broadcast image, making greater definition possible. In the 1920's, television demonstrations

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*Henry R. Austin is associate professor of speech (radio-television) at the University of Michigan. He has been associated with network television as a performer and technician.*

were limited to crude pictures of less than a hundred lines. The number of lines increased gradually, until by 1939 scanning had advanced to 441 lines.

In 1941, the present scanning standards for broadcasting in the United States were established: 525 lines repeated 30 times each second. Other broadcast standards established at that time included the assignment of 18 VHF channels (later reduced to 12), the adoption of black-and-white picture only, and the transmission of television sound by FM. CBS urged the adoption of color television standards, but no authorization of color broadcasting was granted at that time.

### *Early Television Broadcasting*

Regular television broadcasting began in 1939, when NBC's experimental station WXBS went on the air and the first home receivers were sold by DuMont. Many people saw their first television picture at the New York World's Fair in 1939, and it was there that Franklin D. Roosevelt appeared in a television address. Before the expansion which seemed imminent could take place, however, the United States entered World War II and production of television sets stopped. During the war years, only six commercial television stations were in operation, broadcasting to less than 10,000 receivers.

Even after the war was over, television's expansion was held up first by a shortage of material, then by controversies over the allocation of channel assignments. In addition, CBS once again tried to gain acceptance for its color system. To gain time to consider these questions, the FCC imposed a "freeze" on all new television station assignments, a restriction which permitted some 70 stations with construction permits to proceed but which terminated the issuance of new permits for almost four years.

In April of 1952, the Federal Communications Commission issued its "Sixth Report and Order" which added the UHF (Ultra High Frequency) channels 14 through 83 to the VHF (Very High Frequency) channels 2 through 13 already in use. The Commission set aside 242 channel assignments, later raised to more than 300, for educational noncommercial stations. The end of the "freeze" brought about a great increase in the number of stations on the air and the number of sets

in use. But, except for educational use, UHF did little to satisfy the increasing demands for broadcasting licenses.

Of the commercial UHF stations which did go on the air, a high percentage failed because they could not compete commercially with the already-established VHF stations. The reason was that the television sets could not receive UHF signals without the addition of a comparatively expensive converter. With network programing already available on established VHF stations, the public had little reason to seek UHF reception.

### *Color Television*

In 1950, the FCC decided that the CBS system of color television was the best of those then available and worthy of authorization for broadcasting. Even though the CBS color system gave what was considered an acceptable color picture, it had a major drawback. It was "incompatible" in that it could not be received on a black-and-white receiver. RCA continued developing an electronic system of color reproduction, which was "compatible." Finally, in 1953, the FCC switched its authorization to RCA's electronic system.

RCA contributed most to the progress of color broadcasting during the following ten years. CBS did little in color broadcasting and ABC had no color broadcasts until 1962. In the mid-60's, a combination of improved transmission and reception, an affluent American economy, and lower-priced receivers promised to make color reception commonplace in the American home.

As in early radio broadcasting, the first telecasts were exciting merely because they were a reality, no matter what the content of the broadcasts. They consisted mainly of vaudeville and night club acts, quizzes, and indoor sporting events such as wrestling and boxing, which were readily available to the TV cameras. Many of the early programs were "simulcasts" of existing radio programs. In presenting the Arthur Godfrey radio broadcasts in 1950-51, the television transmission was merely incidental to the radio broadcast.

The high production costs, as compared with radio broadcasting, had a limiting influence on programing. Despite the fact that until 1951 television operations lost great amounts

of money, the networks were confident that their investments would eventually be repaid. NBC and CBS were joined by ABC and DuMont, a network newcomer. DuMont was unable to keep pace and in 1955 sold out, leaving only three major networks on the scene.

It was NBC which achieved the first great programing success, with "The Milton Berle Show." In 1948 and 1949, Tuesday night was known as "Berle Night" in New York. Bars, most of which invested in television sets, were crowded to the doors and many night clubs closed for the night.

### *Live Network Shows*

After the "freeze," American Telephone and Telegraph's coast-to-coast coaxial cable and microwave relay facilities brought live network shows to a greatly expanded audience, putting television in a position to spend larger and larger amounts of money on programing. Big-name performers left radio for television. Previously television had to be the incidental part of simulcasts, but now radio networks were using sound recordings of such TV shows as "People Are Funny" or Groucho Marx's "You Bet Your Life" to fill the gaps left by the exodus of talent to television.

Evidence of the phenomenal effectiveness of television advertising encouraged industry to pour an increasing amount of its advertising budget into television. One of the many examples of this effectiveness is to be found in the sales of Saran Wrap. With television advertising, sales of this Dow Chemical product increased from 20,000 cases a month to 600,000 cases a month, a jump of 3,000 percent, in one year.

Under the impetus of competition for the sponsors' favor, network programers tried many things during the ten years between 1955 and 1965. In addition to variety programs usually built around a personality host or singer, television channels were at times dominated by dramas, quiz shows such as the popular "\$64,000 Question," situation comedy series of the "I Love Lucy" type, a great flood of Westerns started by the success of "Gunsmoke," older Hollywood movies, college and professional football which monopolized every weekend during the fall and early winter, and a host

of science-fiction, detective, doctor-and-nurse dramas, and various other attempts to hold the interest of the seemingly-fickle television audience.

### *Television in the United States Today*

In the latter half of the 1960's, television shows no signs of losing its important place in the day of almost every American. The surge to color is great. Every color or monochrome set manufactured or sold in the United States is capable of receiving both VHF and UHF channels, giving the many UHF channels potentially as great an audience as VHF.

One of the most exciting prospects in broadcasting is the advent of the satellite as a means of communication. Not only are transoceanic live broadcasts no longer a novelty, but the prospect of domestic transmission by satellite presents the possibility of broadcasting nationwide without the use of coaxial cable, microwave relay or even local affiliated stations.

The advent of small, portable transistor sets makes the television medium even more attractive and all-enveloping. In many homes, children spend more time with television than they spend under the direct influence of teachers or of parents. Many educators and others concerned with the influence which television exerts believe that television can become more "meaningful" in the educational sense if the schools, meaning the teachers in the schools, do more to influence programing by more definitely communicating their views to students and to local and network broadcasters.