

# The Inauguration of Television

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FEW realize the immense strides forward made in very recent years in the development of television. And yet many persons in and around a few large cities have already had the thrill of seeing as well hearing their favorite radio programs, and in less than a month from the time I write a limited number of television broadcast stations will begin regular service to the public.

Television is defined as the electrical transmission and reception of transient visual images. This may be by either radio or wire or both. The television programs will, as a matter of fact, combine visual images and sound so that the audience may both see and hear the events as they transpire.

The question is often asked, "Why has television development been less rapid than that of sound radio broadcasting?" This answer involves, among others, the following factors: first, the inventions on which the art depends; second, the frequencies available for television transmission; and third, the standards and regulations upon which the operation of television equipment must be predicated.

Television inventions have generally been subsequent to those of sound transmission and have been more difficult and less rapid in their development. The scarcity of frequencies has presented a difficult practical problem both in television operation and in the allocation for the various services. The frequencies now allotted to sound transmission are too crowded to take care of television. Picture transmission requires a much wider band than does sound transmission. Such very wide channels, as are required for television, are now available only in the ultra-short wave section of the radio spectrum. Ultra-short waves operate similarly to light waves. This tends to limit the television station's range to the visible horizon. The millions of impulses handled each second in television make impossible, at least in the present state of the development, the use of telephone wires, as in radio broadcasting, for connecting television stations.

Public interest has at last brought about such development of the art of television as to make possible on July 1, 1941, the inauguration of commercial television programs.

From the foregoing it is clear that television operation could not be successful until inventions in the art had sufficiently progressed to make possible reasonably satisfactory transmission and reception of pictures or images, regardless of the availability of frequencies for its use. Whatever its achievements, television is yet in its infancy. Experiments began in this country prior to 1927 and great accomplishments have been made to date. But it was not until within the last two or three years that the inventors and the

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Commissioner Paul Walker (left) and Dr. E. F. W. Alexanderson (right) view a relayed television picture, explained by C. H. Lang (center) of the General Electric Company, at Schenectady, New York. The program was transmitted 142 airline miles.

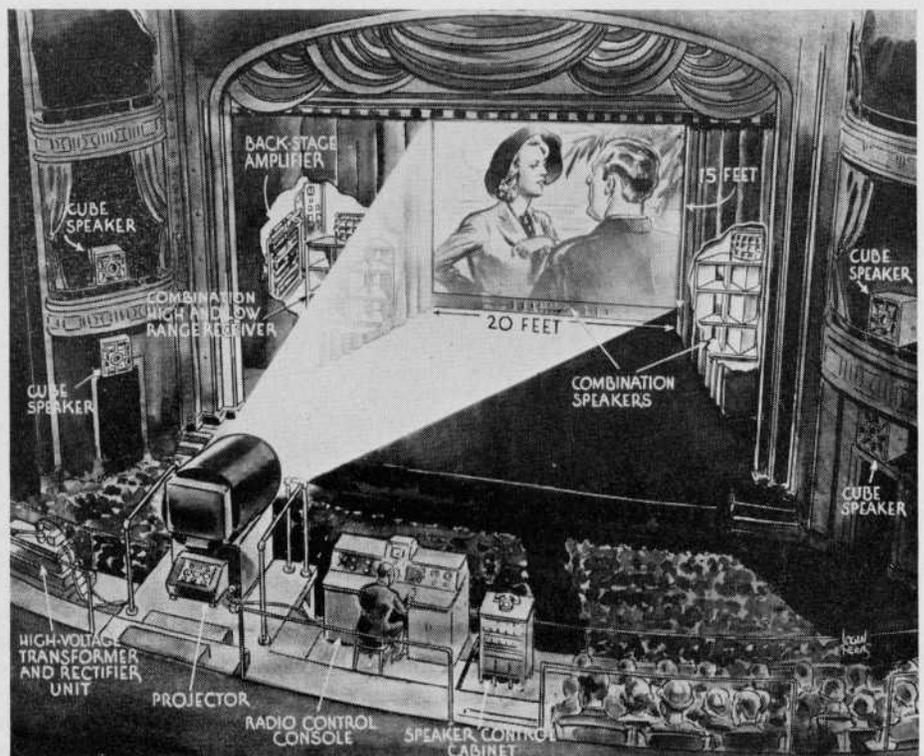


Illustration of theatre screen television as demonstrated at the New Yorker Theatre, using a projector in a balcony to give a 15 by 20-foot picture on the screen 60 feet away, and employing a new multisonic sound system. Television pictures were automatically relayed from NBC mobile television unit at Camp Upton to New York.

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manufacturers have had sufficient confidence in its accomplishments to recommend the establishment of television stations on regular programs.

The Federal Communications Commission, under the Communications Act of 1934, as amended, is empowered to "study new uses for radio, provide for experimental use of frequencies and generally encourage the larger and more effective use of radio in the public interests." Under this provision of the law, and with the further duty to "regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of emissions from each station," the commission has taken an active part in the development of effective television.

One of the major concerns of the commission with regard to television has been to insure that standards of broadcasting are on a reasonably high and satisfactory level before public service is begun, and the standards thus become fixed, or static, thereby practically preventing further rapid development because of the investment in transmission equipment and in receiving sets.

Late in 1938 the Radio Manufacturers' Association, which includes in its membership all of the leading manufacturers and many of the inventors, proposed transmission standards for operation on a commercial basis, and early in 1939 the commission appointed a committee of its own members to investigate on the standards thus suggested.

Five months later, the committee made its report and a public hearing was held early in 1940. The testimony at this hearing showed that the industry was divided in its opinion as to whether the time for the inauguration of television as a public service had yet arrived. Some believed that it could not yet offer sufficient entertainment value to justify public service, and that the adoption of standards, which many believed were unsatisfactory, in the early stages of development would "freeze" the science and make impracticable further research and improvements. Others, however, held that television broadcasting should at once proceed on a commercial and widespread basis. After thorough consideration of the evidence, the commission found that further experimentation and development and, particularly, many field tests were needed before full commercial operation should be considered. The commission did, however, sanction sponsored programs, beginning September 1, 1940, provided no charges, either direct or indirect, were made by the licensee for the production or transmission of such programs.

With this sanctioning of semi-commercial operation, one large manufacturer began an extensive advertising campaign to sell television receivers conforming to the

standards offered by the Radio Manufacturers' Association in 1938. Realizing that the widespread selling program of such apparatus was preventing further research and development and thereby retarding necessary improvements, the commission suspended its rule permitting sponsored programs: and at a second public hearing, in April, 1940, the commission refused again to sanction even semi-commercial operation, pending further development. To encourage research and the establishment of higher standards of transmission, the commission during June, 1940, approved a number of applications for new experimental television stations, each upon the condition that the licensee undertake research for the improvement of standards.

Thereafter, in July, a further step forward was made when the Radio Manufacturers' Association formed the National Television Systems Committee to cooperate with the commission in the development of standards of efficiency.

In contrast to the American method of withholding general broadcasting until methods are improved, Great Britain inaugurated public television service in August, 1936, and continued it until October, 1938, when the war prevented further operation. During the three years of uninterrupted operation in Great Britain only one television station was used, that being the government station in London. Its programs had a potential audience of 4,000,000 people. Public interest, however, never became sufficiently aroused to stimulate the acquisition of any great number receiving sets in the homes. Fewer than 4,000 television receivers were sold. Apparently the most practical and widespread use of television was in the theaters where prize fights and other sporting and public events were witnessed as they occurred.

Under our methods, television has made far greater strides in America in its technical development. On January 6 and 7 of this year the Federal Communications Commission inspected television in its most advanced stage. In Philadelphia it witnessed the transmission of signals so synchronized as to hold the pictures in place in spite of all sorts of adverse electrical interference conditions.

Color television, though only in the laboratory stage, had been produced to the point where transmissions were made indicating in the minutest detail every variety of color represented on clothing, flowers, animals and insects, thus adding a most vital element to interesting television reception.

In New York, the Commission inspected a home receiver which using a projected cathode-ray tube, will produce pictures 13½ by 18 inches. Most impressive, and perhaps most significant in its implications, was a theater demonstration in which was transmitted pictures of Army maneuvers taking place at Camp

Upton, Long Island, 68 miles away. Three television relay stations located between Camp Upton and New York were utilized in this performance, and a double relay showed clearly Camp Upton pictures over a 136-mile circuit.

The Commission had previously witnessed the transmission of a program from the RCA transmitter located on top of the Empire State Building in New York City to the General Electric Company receiver atop the Helderberg Mountains, an air-line distance of approximately 129 miles. From there the program was relayed to the General Electric Company transmitter and then sent to Schenectady, 12 miles distant, and satisfactorily shown at the television receivers in the homes of that city.

The inauguration of television on July 1 follows the most recent effective television research and development. On January 27, 1941, the National Television Systems Committee submitted its first report, and the next day a public hearing was announced by the Commission for March 20 to consider granting permission for commercial broadcasts. As a result thereof, on April 30, the Commission adopted transmission standards and certain regulations to govern television broadcasting. To assure the public a definite program schedule the Commission provided that each station shall, after the July 1 inauguration of service, broadcast at least fifteen program hours per week, and that on five days of each week at least two hours of this programming shall appear between 2 p. m. and 10:30 p. m.

Another development necessary for the joint use of sound with visual programs is the requirement of the use of frequency modulation in sound broadcasting. This method of transmission insures freedom from static and far greater sound fidelity. It, also, makes available any additional frequencies for sound transmission, without interfering with ordinary broadcasting. Vast improvements in picture reception are shown in the standards now adopted. It is not improbable that in the not too far distant future additional standards can be adopted for color television so that it may be a part of the regular broadcast programming. The addition of color, when it is perfected, will obviously add tremendously to the popularity of television.

And now that television is here, what may we expect as to its development and its significance? I think it only fair to suggest that present conditions are not conducive to the most rapid development of television and widest possible sale of television sets. In the first place, there is a scarcity both of properly equipped and trained television personnel and of material necessary for use in the manufacture of television receiving sets and transmitters. Its immediate development may, however, be more widespread and

rapid than I contemplate. That is my hope.

Its social significance and impact on the people to be served is beyond comprehension. However influential has been the printed page with its daily account of the news, and the radio with the voice to announce the events of the moment, and facsimile to flash the images for immediate reproduction on page or screen, neither nor all of these combined can be of greater significance than television alone; for here into the home, or the theater, is brought a combination of all these, and one both sees and hears the event in the making. The possibilities of television in the home, the school, the church and the theater are beyond our imagination.

Nor can we predict the possibilities of television in national defense or in war. Potentially it is an important factor in military and naval operations. And when the world has come back to a peace status, television will undoubtedly be one of the most important industries stabilizing the national economy.

But it is in its social significance that television is most important.

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## Muldrow Alumni President

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The board approved a tentative budget for the association's next fiscal year, beginning September 1, 1941, as submitted by Executive Secretary Ted Beaird. Mr. Beaird explained that some alternations might be necessary after the financial statement for the present fiscal year is completed. The tentative budget is practically the same as that for the present year.

Following is the annual report submitted to the executive board by President Brillhart:

Today, June 9, 1941, marks the end of the business year and the beginning of a new year in the affairs of the University of Oklahoma Association. To say that the past year has been a most unusual twelve months period is but to make a mild statement—for at no time in the history of the Association, so far as I know, have so many situations, loaded with dynamite, developed within the space of one year. I refer specifically to:

1. The resignation of the president of the University and the selection of a man to be the president.

2. The resignation of the director of athletics and the entire football coaching staff and the selection of men to replace them.

3. The submission of a constitutional amendment, which reorganized the mechanism of the Board of Regents structure, to a vote of the people of the State.

4. A regular session of the Legislature with the usual bills of a nuisance nature as well as the headaches of the appropriation bill.

In reporting to you the attitude adopted by your Association regarding these problems, may I re-state the policies, the purposes and the objectives of the Association. For this purpose I make no apologies in quoting verbatim from the report of Mr. Hicks Epton, because he stated them so well:

"Due to the fact that the University of Oklahoma Association deals in what we might call

'intangibles,' it is necessarily hard to set out in cold type the accomplishments during the year. However, these intangibles have a very vital and definite bearing upon tangible results. Further, and in this connection, we re-emphasize that this Association is not one vested with any legal authority or possessing any ambitions to rule or control the University. Rather it is a vital organization of the forces sincerely interested in the welfare of the University and deeply concerned that it render the greatest service to the State of Oklahoma. All our efforts are directed to accomplishing these purposes. The Association has always emphasized these objectives rather than the aggrandizement of any individual or group of individuals."

Concerning the problem of selection of a man to be president of the University, this being the official duty of the Board of Regents, your Association, fully realizing the deep sincerity and earnest desire of the Board of Regents to choose the right man, officially withheld all comment though often urged to take a definite stand for or against some individual.

The same conditions and the same attitude prevailed regarding the director of athletics and the football coach. Judging from the reaction of the newspapers of the state as well as from opinions expressed by individuals, I believe the selections made by the regents were very favorably received and the policy of your Association wise.

Concerning the constitutional amendment, a meeting of this Executive Board was called for Sunday afternoon, January 19, attended by fifty-four vitally interested alumni; a four-hour discussion was held and a committee appointed to formulate the policy of the Association. The committee met in Guthrie on Tuesday, February 21, and framed this policy, which was sent to the members of the Executive Board for a mail vote. The result was the adoption of a policy endorsing the co-ordinating amendment. I believe this Association was the only alumni group from any state institution of higher learning to officially endorse this amendment.

The Legislative session was passed without anything more turbulent than a bill which would have placed a tax on the Union Building, if passed. The bill which vitalized the co-ordinating amendment came under careful consideration. The committee appointed from this Association to study the wording and portent of this bill thought it satisfactory.

The rather non-aggressive attitude summarized above is not to be interpreted to mean that the legions of the Alumni Association were not ready to march, or its officers and individual members ready to jump into the breach had anything appeared which was not to the best interests of the University, for such is not the case.

Membership in your Association has always been and still is one of the most vital objectives. I am pleased to report to you that the membership has grown substantially during the past year, especially in the Life Membership group. As of June 3, 1940, the Life Membership was 406, while today it is 543, an increase of 137 Life Members during the year.

During the months of April and May, 1941, a plan was inaugurated whereby groups of outstanding students from the senior classes of each of the schools of the University were invited to noon luncheons in the Union Building. At these luncheons our executive secretary, Ted Beaird, explained the purposes and objectives of the Association, and solicited life memberships in the Association under a very liberal payment plan. The idea behind this plan was not only to increase the number of life members, but to enlist the active interest of a younger group of alumni in Association work. It is a sad but well known fact that most seniors graduating from the University, feeling the necessity and burden of establishing themselves in the business or professional field, take no particular interest in Alumni Association affairs for a period of ten to fifteen years after graduation. It is believed that this plan of senior class luncheons, sponsored by the Association, will help sub-

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