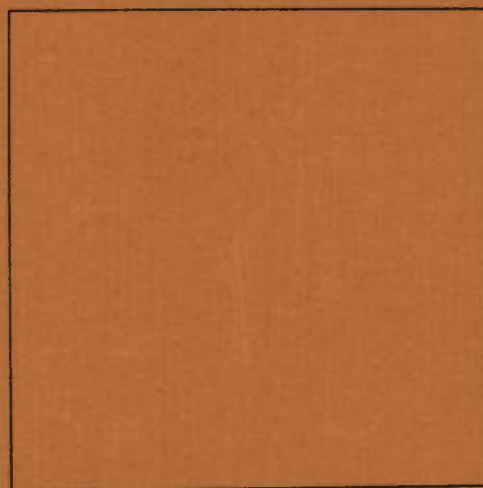
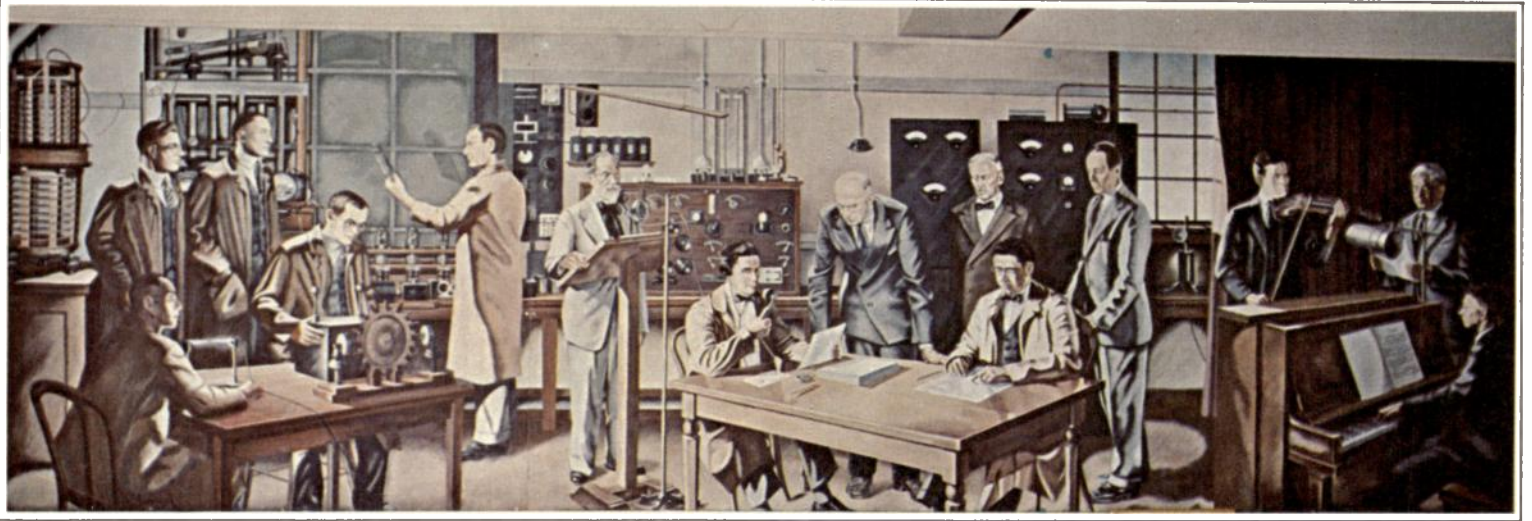




The First 50 Years
of University of Wisconsin Broadcasting
WHA 1919-1969
And a look ahead to the next 50 years

This mural in the lobby of Radio Hall on The University of Wisconsin campus depicts early developments in the history of WHA. *At the left* are students and technicians who played a part in the 1917 – 1919 transition from telegraphic to telephonic transmission: J. B. Davis, glassblower; Roswell Herrick, Burton Miller, and C. M. Jansky, Jr., students; and J. P. Foerst, mechanician. *In the center* are faculty and students who guided WHA through its early years: Professor William H. Lighty, student Malcolm Hanson, and professors Andrew W. Hopkins, Edward Bennett, Earle M. Terry, and Henry Lee Ewbank. *At the right* are broadcasters symbolizing early programming: Waldemar Geltch, Professor Edgar B. Gordon, and Paul Sanders. (Painted by John Stella in 1941)





9XM-WHA

"The Oldest Station in the Nation"

On this campus pioneer research and experimentation in "wireless" led to successful transmissions of voice and music in 1917, and the beginning of broadcasting on a scheduled basis in 1919.

Experimental station 9XM transmitted telegraphic signals from Science Hall until 1917 when it was moved to Sterling Hall. In that year Professor Earle M. Terry and students built and operated a "wireless telephone" transmitter.

In 1918, during World War I, when other stations were ordered silenced, 9XM operated under special authorization to continue its telephonic exchange with U.S. Navy stations on the Great Lakes. After the war, programs were directed to the general public.

The WHA letters replaced the 9XM call on January 13, 1922. Thus, the University of Wisconsin station, under the calls 9XM and WHA, has been in existence longer than any other.

Marker Erected 1958

WHA...Radio Pioneer

Most claims to extreme old age are based on human memory, scanty records, mighty legends, and good publicity. So it is in radio.

To the earnest question, "Whose station is the oldest in the nation?" comes a many-voiced reply: "Mine is." To judge which reply is to be favored with the label of absolute truth, one must answer such questions as "Has the station been in continuous operation since the beginning?" and "Has the station been licensed to the same party, remained in the same approximate location, and on the same frequency?" Even if one could decide that these questions are relevant, the most controversial puzzles still remain: "When does an *experiment* become a *broadcast*?" and "What do the words *regularly scheduled* mean?"

Since so much concerning the beginnings of American broadcasting is obscure, the answer to our initial question has become a matter of pride and of choosing sides. The marvel that is radio began as the enterprise of numerous "experimenters in bedrooms, attics, shacks, and rooftop laboratories." They were the beginning.

From 1915 to 1920, a number of experimental transmitters were intermittently on

the air throughout the country. Most of them were ordered to shut down operations for the duration of World War I, and since then many have gone off the air altogether.

WHA is among those pioneer stations whose descendants still exist today. Our claim as "the oldest station in the nation" does not diminish the achievements of others, nor do their claims diminish ours. We were all responsible for the birth of broadcasting.

Historically, broadcasting activity on the campus of The University of Wisconsin had its inception in a physics laboratory under the direction of Professor Earle M. Terry. Professor Terry and a group of enthusiastic students including Malcolm Hanson, Grover Greenslade, and C. M. Jansky, Jr., used makeshift equipment and handmade tubes to put together a transmitter which in 1917 achieved its first "successful" transmissions of voice and music. Previous to that time, code transmissions over a spark transmitter had been taking weather forecasts, crop reports, and similar information to homes and business places in the state via wireless telegraph over experimental station 9XM.

The first transmissions using the homemade triode tubes were feeble and halting. Tube failure was frequent and there was little

certainty that any program would be completed. Students often worked through the night to have a broadcasting tube ready for morning, only to see their work lost when the tube burned out after a few minutes on the air. Such success did they achieve, however, that their tubes were eagerly sought by other institutions and laboratories.

By 1919, after 9XM had spent the war years cooperating with the U. S. Navy in wireless transmissions between the Great Lakes Naval Training Station, other Navy installations, and Navy vessels, a regularly scheduled broadcasting service was offered. Previously the transmitter had been operated on an experimental basis without much regard for program content.

The call letters WHA were assigned to the University station on January 13, 1922, by the U. S. Department of Commerce, which then controlled wireless. Also that year, Professor William H. Lighty was appointed program director for the station, and the emphasis shifted from the development of the science of signal transmission to the technique of using the instrument for taking the University to the people.

Radio developed rapidly in the middle

twenties when businessmen sensed its potentialities as an advertising medium. At this time, despite many efforts, WHA was unable to get a good spot on the dial and the power that it needed to serve the entire state. It was relegated to daytime-only broadcasting with low transmission power.

In the early thirties, following the appointment of Harold B. McCarty as director of the station and Harold Engel as assistant director, radio had a renaissance on campus. In addition to the farm and homemaker's programs which were already mainstays of the service, the "Wisconsin School of the Air" and "College of the Air" began. The "Political Education Forum," offering free time on the air to all qualified candidates for statewide elective office, took its place on

the schedule. Radio drama became a familiar feature.

In 1934, WHA moved to Radio Hall. During the next few years the hours of operation expanded and the power and attendant wider coverage were increased.

In the forties and fifties WHA developed a statewide FM network designed by Glenn Koehler and Jack Stiehl. Television was added in 1954, and 1965-1966 marked the beginnings of the Subsidiary Communications Authorization (SCA) and the Educational Telephone Network (ETN).

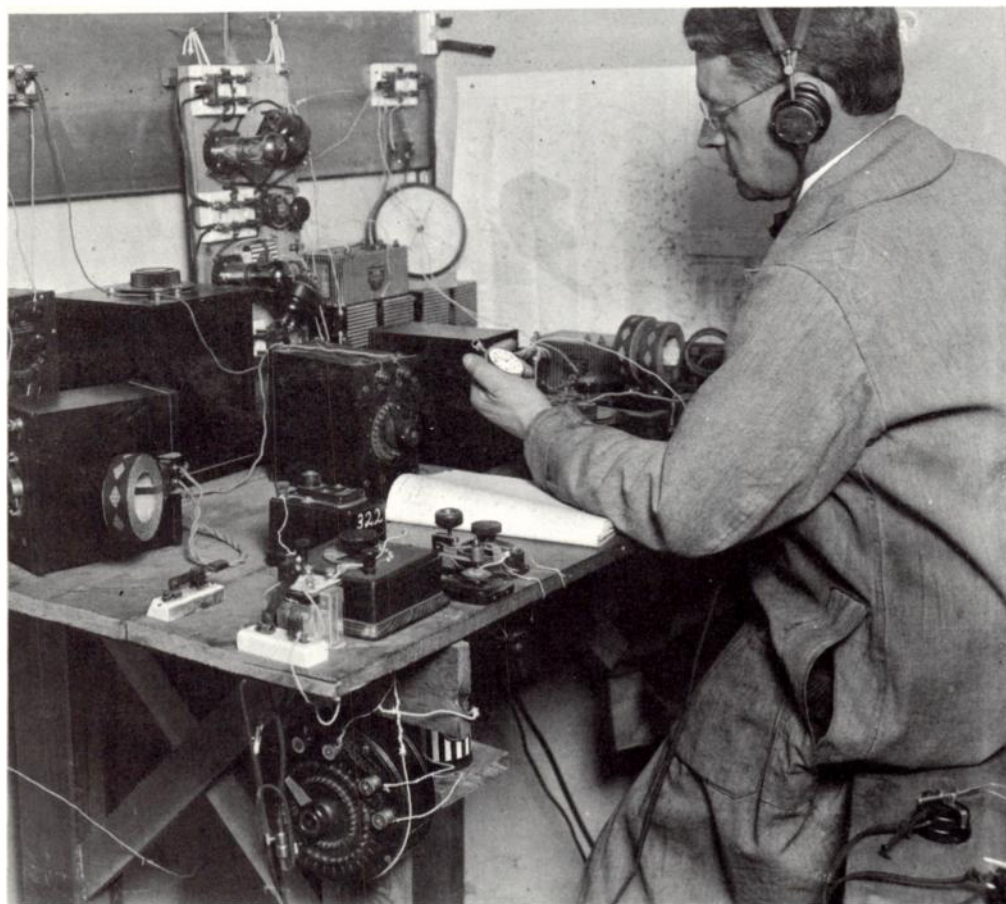
As WHA's service and coverage have increased over the years, so have the number of persons responsible for the countless pro-

grams broadcast and the untold number of loyal listeners. It is to them that we dedicate this short record of the highlights in WHA's first 50 years — the pioneer era.

1. Professor Terry at work on 9XM-WHA equipment of the early 1920s.

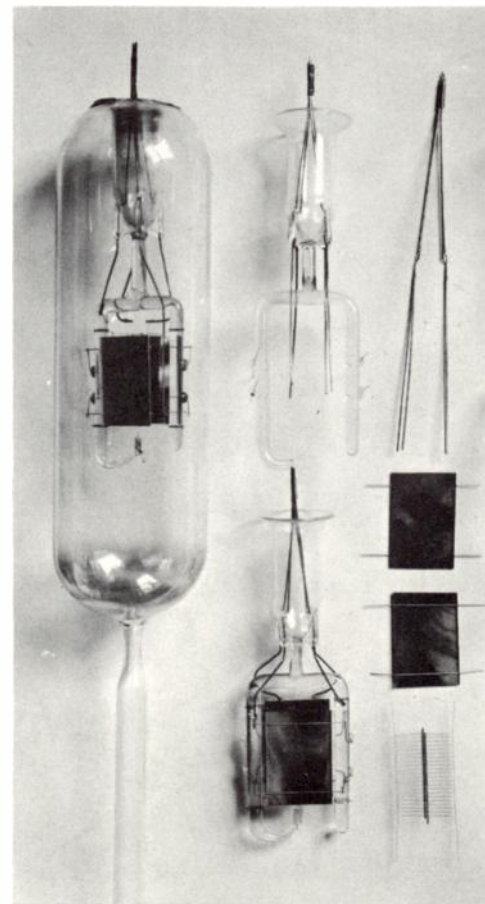
2. Historic transmitter tubes used by station 9XM (which later became WHA). These tubes were designed, constructed, and tested by Professor Earle M. Terry and a group of his students, including Malcolm Hanson and C. M. Jansky, Jr.

3. The main control room of present-day WHA, key station of the state radio network.



1.

WHA



2.



3.

LICENSE HISTORY OF 9XM – WHA

9XM			
	1914	2000 watts	475 meters
	1915	2000 watts	475 meters 750 meters
Dec.	1916	4000 watts	1700 meters
Sept.	1917	2000 watts	1000 meters - code 1300 meters - voice
Jan.	1919	2000 watts	1000 meters - code 1300 meters - voice
Dec.	1920	400 watts	475 meters - code 800 meters - voice
Dec.	1921	400 watts	485 meters
WHA			
Jan.	1922	500 watts	485 meters - noon 360 meters - evening
Jan.	1923	500 watts	485 meters - agriculture and weather 360 meters - other
Oct.	1924	500 watts	275 meters

Feb.	1925	500 watts	535.4 meters (560 kilocycles)
Apr.	1925	750 watts	535.4 meters (560 kilocycles)
Jan.	1927	750 watts	560 kilocycles 590 kilocycles - special
May	1927	750 watts	940 kilocycles
Nov.	1927	750 watts	900 kilocycles
Sept.	1928	750 watts	570 kilocycles
Mar.	1929	750 watts	940 kilocycles
Nov.	1932	1000 watts	940 kilocycles
Sept.	1934	2500 watts	940 kilocycles
Sept.	1936	5000 watts	940 kilocycles
Mar.	1941	5000 watts	970 kilocycles
Sept.	1969	5000 watts	970 kilocycles

State Network – September, 1969

WHA-FM	10,000 watts	88.7 megacycles
WHAD	10,000 watts	90.7 megacycles
WHKW	10,000 watts	89.3 megacycles
WHRM	10,000 watts	91.9 megacycles
WHWC	10,000 watts	88.3 megacycles
WHLA	7,500 watts	90.3 megacycles
WHHI	10,000 watts	91.3 megacycles
WHSa	7,500 watts	89.9 megacycles
WHMD	5,000 watts	91.5 megacycles
WLBL	5,000 watts	930 kilocycles

HISTORICAL CHRONOLOGY

- 1902 Wireless experimenting begun at Wisconsin by Professor Edward Bennett.
- 1916 *June*: The University officially licensed to operate station 9XM.
December: First regular broadcasts of weather information by wireless telegraph.
- 1917 First experimental telephonic broadcasts by station 9XM.
February: First wireless (telegraphic) broadcast of an intercollegiate UW athletic event.
April: First transmission of music and speech. Fearing sabotage, government shuts down all wireless activity.
May: 9XM ordered to continue broadcasting in order to carry on experimental work in transmission and reception with the Great Lakes Naval Training Station.

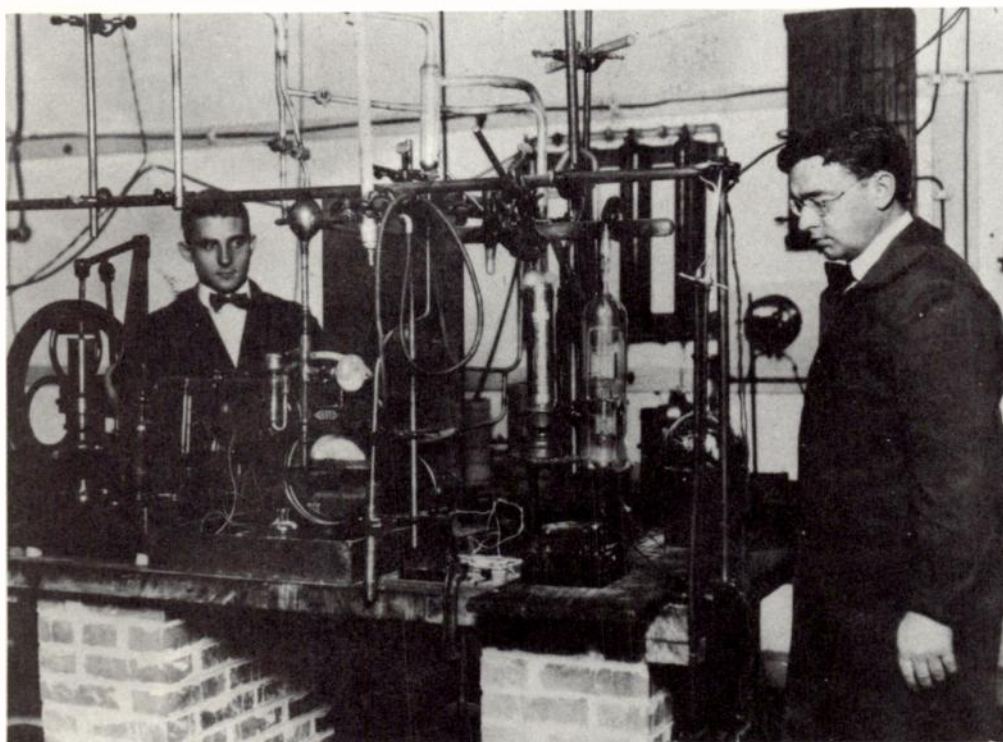
"To generate continuous waves and to modulate them for radiotelephony, we had to have three-element power vacuum tubes. Professor Terry assigned me the task of building them. . . . Learning to build vacuum tubes meant learning to be a glassblower. If there is a technique to try the patience of Job, it is glass blowing. Many were the tubes I carried through the various stages of construction and, in some instances, through the process of pumping out the air, only to have a crack develop somewhere. Thus, several weeks' work would end and I would have nothing to show for it except experience. Then I would start over." (C. M. Jansky, Jr.)

"At times we were one or two tubes ahead, but at other times we would have accidents to some of the tubes, which meant staying up all the following night and continuing the following day before sufficient tubes could be completed to continue our broadcasting." (Malcolm Hanson)

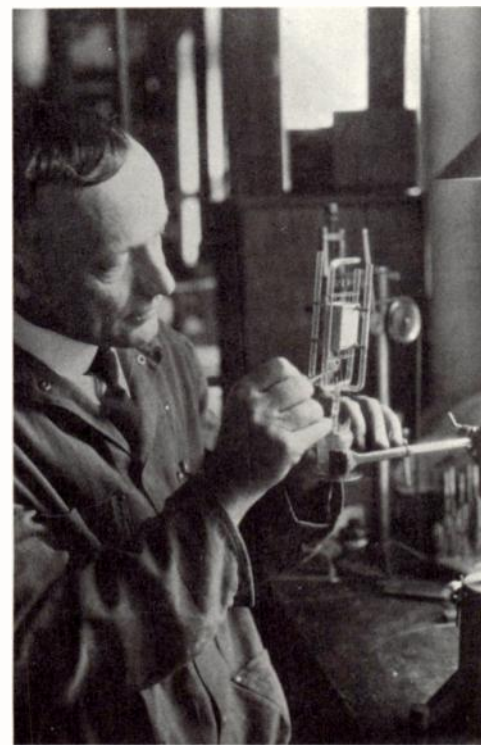
"Gentlemen, the time will come when wireless receivers will be as numerous as bathtubs in Wisconsin homes." (Professor Earle M. Terry)

"Professor Terry's vision extended beyond the stage of experiment with physical principles and properties. When telephonic transmission became a possibility, Professor Terry and several others grasped the significance of radio broadcasting in Extension work of the University." (Professor Edward Bennett)

"In my opinion, the chief value of a station such as this to a state university is the direct way in which the university is enabled to serve the population at large by giving an opportunity to receive timely information and educational lectures from the best available authorities. The radio station gives the university the opportunity to interpret for the citizens and taxpayers of the state various lines of valuable work available." (Malcolm Hanson)



1.



2.

"He [Terry] is wasting time with a play-thing!" (Anonymous Physics Department faculty member)

"The first experimental telephonic broad- casts were in the early part of this year [1917], and we were able to broadcast music quite successfully before we found it possible to do much with speech. We had not eliminated distortion and speech was somewhat garbled and difficult to under- stand when picked up by receiving sets. By the time the United States entered the war, this broadcasting of speech was pretty well perfected." (Grover C. Greenslade)

1. *Malcolm Hanson (left) and Professor Earle M. Terry constructing tubes in 9XM laboratory.*

2. *J. P. Foerst, UW Physics Department mechanic, who constructed tube elements used at 9XM.*

3. *C. M. Jansky, Jr., examines one of the tubes he made for 9XM as a student.*



1918 9XM moves to Sterling Hall.

1919 **Beginning of regularly scheduled telephonic broadcasting by 9XM.**

1920 *Fall:* Completion of a new trans- mitter designed for telephonic broad- casting.

1921 *January 3:* Beginning of regularly scheduled telephonic weather fore- casts.

March: First broadcast by remote circuit.

Spring: Introduction of newscasts reporting University news, activities, and information.

Fall: Professor William H. Lighty comes to the microphone as the station's first program director.

The first regular broadcasts of mar- ket reports.

More broadcasting by remote cir- cuit — the concerts of Mabel Garri- son, Josef Lhevine, and Pablo Casals.

November: Live broadcast of the Cincinnati Symphony under the di- rection of Emil Heerman.

4. *Eric Miller, veteran weather broadcaster for 9XM-WHA.*

"As far as I can remember we used to send out phonographic music but at first could play only Hawaiian music because any other kind would become distorted and 'tinny.'" (Malcolm Hanson)

"Am getting along fine with the wireless telephone. Our concerts are heard in Boston, Texas, North Dakota, and a lot of places. Have a lot of good fellows with me in the wireless work who make it easier for me, so that it does not take so much time for me anymore." (Malcolm Hanson)

"Promptly at 12:15, standard time, Mr. Hanson starts his wireless message. First, he radiates [sic] the telephone communication, which takes about 25 minutes. Then he begins all over again and sends it all by telegraph spark. At about one o'clock the job is done, and those who have been eavesdropping along the ethereal pathway are satisfied — if their instruments are in tune." (*The Wisconsin Farmer*)



1922 January 13: Federal government assigns to 9XM the call letters WHA.

February 8: The first broadcast schedule is ready for release to the press.

March: On-the-air program previews are begun.

Malcolm Hanson broadcasts details of a robbery which furnish police with clues leading to the arrest of two suspects.

March 25: In the first lecture course by radio, Professor Edgar B. Gordon begins a series on the "Appreciation of Music."

March 27: First radio committee of the University appointed by President Birge.

May 5: Daily noonday broadcasts of ten-minute lectures and readings prepared by faculty members. An evening lecture series begins shortly thereafter.

June: First broadcast of a University commencement.

July 4: In what may be the first "sing along" ever broadcast, Professor Gordon invites the radio audience to join in singing "America."

July 10: The market reporting service is expanded to include talks on agricultural problems and "country life."

1925 WHA experiments with and elaborates on its programming.

March 30: Listeners are given the opportunity to judge the winner of an intercollegiate debate.

April: The Richland Center High School Band offers the first program by a non-University group.

June 8: A Wisconsin entry for a Texas patriotic song contest is submitted via WHA.

1926 "Homemaker's Hour" begins.

1927 WHA fights for air time as it shares frequency with other stations.

"These first Extension broadcasts were sent out from a little booth, formed by multi-colored crazy quilts which had been retrieved from a bale of rags furnished the instrument maker, and which served to eliminate the reverberation in the basement room." (Malcolm Hanson)

"I will never forget the little box into which I was asked to enter. Heavy curtains were draped on all sides of this 'telephone booth,' no air, no sound, no hope was available for him who entered here. Once inside, lights began to dance merrily, dictating the procedure. They flashed 'Begin' - 'Faster' - 'Slower' - 'One minute' - 'End' - etc., until the poor mortal who thought he was reading a well-prepared script was not sure whether he had read it in an intelligent fashion or mumbled it to an unseen friend or foe. Weak with nervous perspiration, I stepped limply from the ordeal, hoping that never again would I be called upon to participate in this strange field of broadcasting." (Charles Brown)

"It is not surprising that occasionally our speakers would suffer from a case of microphone fright or become disgusted with the relentless flashing of the signs, in which case it was usually my job to complete the talk with as good an imitation of the speaker's voice as I could muster." (Malcolm Hanson)

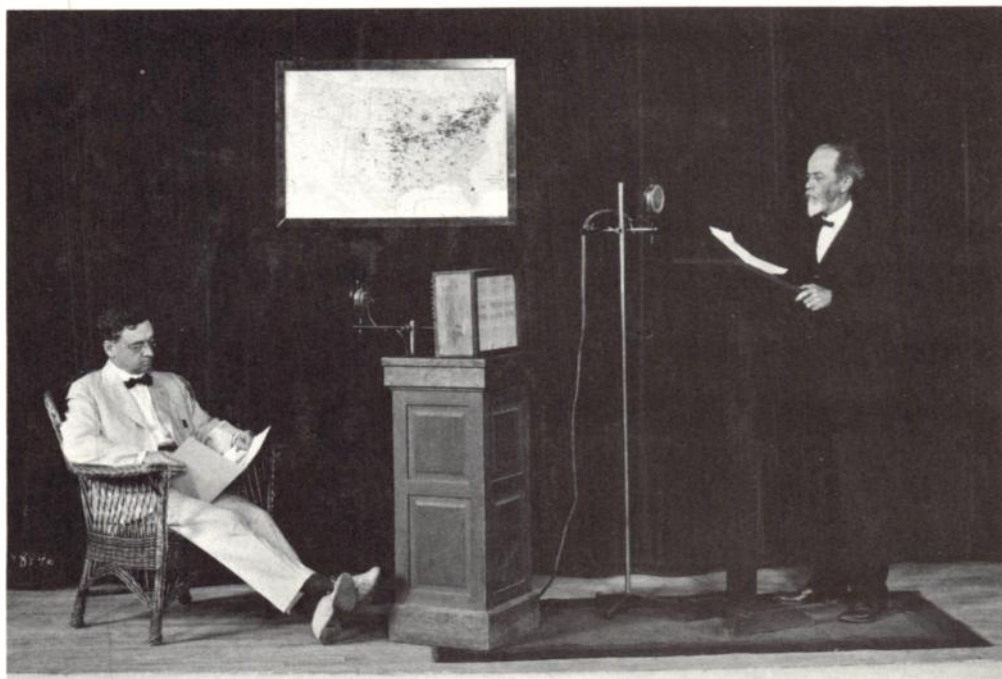
"I believe Wisconsin has pointed a way, as she so often does, to the solution of a serious problem. Today the radio is more or less a pest. It is not the educational force, not the social guide it should be." (William Allen White)

5. Professor Terry and Professor William H. Lighty (right) on the air.

6. An early music broadcast over WHA, 1923.

7. A 1922 remote broadcast of a UW basketball game - then a novelty.

8. Cage-type directional antenna on the roof of Sterling Hall, 1922. Professor Terry (left) and Burton Miller.



GENERAL DIRECTIONS FOR BROADCASTING, 1923

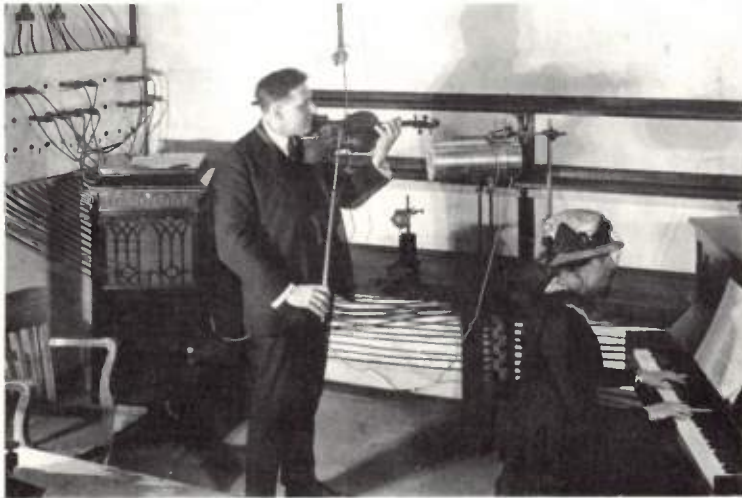
Persons giving radiocasts should be at Radio Studio, Room 132, Sterling Hall, before 8 P.M. on the night of their engagement.

Under the regulations governing our classification, the broadcast must begin promptly on the stroke of eight.

With our new studio and improved facilities for radiocasting, it is possible to give a brief preliminary test which makes more of your broadcast.

If it is impossible to give the radiocast yourself, you should see that the chief operator

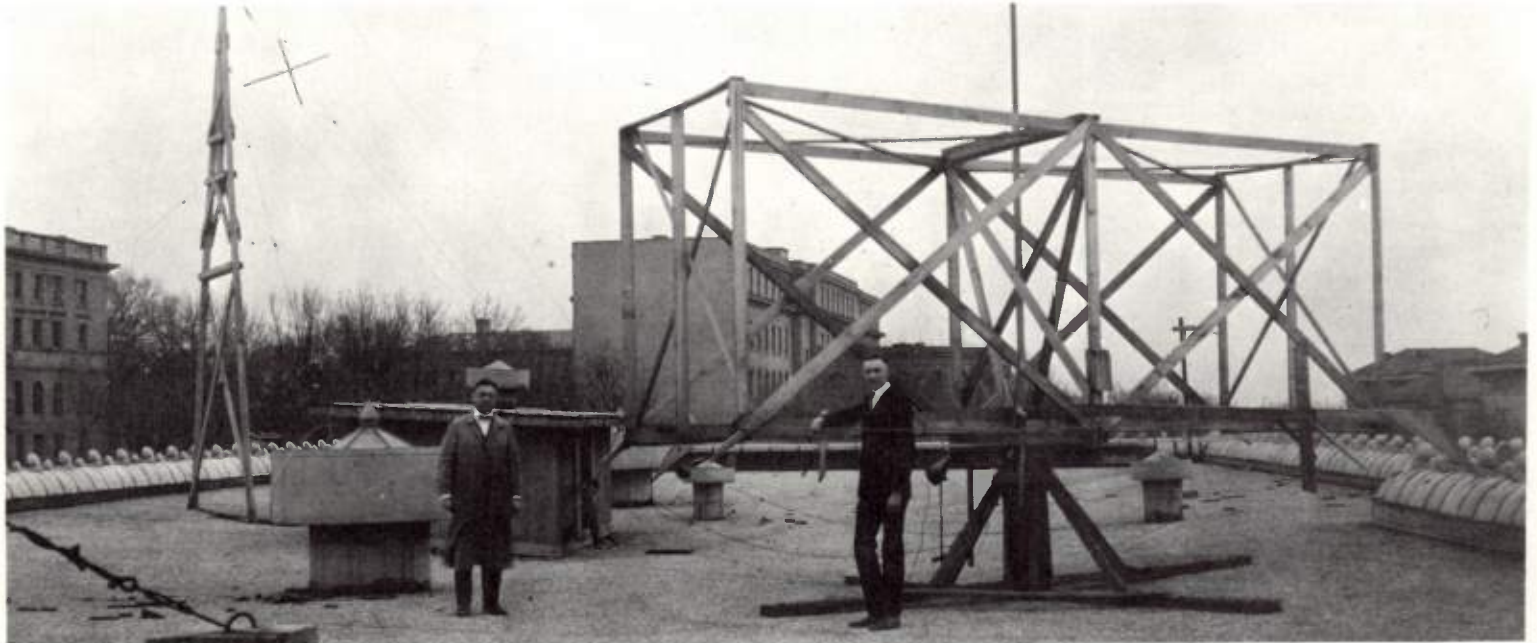
of the University station has a copy of your broadcast at least 48 hours before it is given, in order that he may become familiar with it before radiocasting it for you.



6.



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8.

1928 *January*: In cooperation with the Wisconsin Highway Department, WHA begins broadcasting road reports. The College of Agriculture establishes a radio committee to supervise farm and home programming.

Professor E. Earle Swinney develops a studio choral group to support soloists and other program numbers, a forerunner of the supporting choral groups that have become so popular.

1929 Appearance of a radio drama group presenting original student-written-directed-acted plays. From this group will evolve the WHA Players.

Professor Edward Bennett takes charge of the technical operation of WHA, succeeding Professor Terry. A University radio committee under the chairmanship of Professor Henry Lee Ewbank handles programming together with the agricultural radio committee under the direction of Professor Andrew W. Hopkins.

1930 *Spring*: Joined by five other college stations, WHA unsuccessfully attempts to form a network via short wave signals.

August: Another local station's interest in the "Homemaker's Hour" prompts establishment of the WHA policy of making its programs available to any station, provided they are broadcast unsponsored and the receiving station bears all costs of the pickup.

WHA, severely limited in power and hours of operation, proposes to merge with WLBL at Stevens Point and apply for a clear channel.

October: WHA originates a broadcast for the NBC national network.

1931 *February*: Harold B. McCarty becomes program director.

June: The Federal Radio Commission denies the application to merge WHA and WLBL.

October 5: WHA inaugurates the "Wisconsin School of the Air." Ten weekly programs ranging in grade level from kindergarten to high school are presented in the first week by Frank O. Holt, UW registrar; Edgar G. Doudna, secretary of the State Normal School Board of Regents; Walter Agard, R. H. Denniston, and Edgar B. Gordon, UW professors; Carrie Rasmussen and Irene Buck, Madison school teachers; Mrs. Fannie Steve, city director of Health Education; and Governor Philip La Follette.

9. Harold B. McCarty in WHA studios, 1931.

10. Sterling Hall studios of WHA.



"...darkening the room and placing a candle on or near the radio loudspeakers helps greatly in focusing the attention of the youngsters." (Carrie Rasmussen, regarding "Wisconsin School of the Air")

"When the class is being held and 20 students are operating their Bunsen burners and compressed air tubes, Room 132 is converted into a veritable roaring furnace which is frightening to anyone who opens the door to enter the radio studio. Last year I moved my desk, files, telephone, and everything into the studio and tried to do office work, telephoning, and stenographic work at the same time we were running programs." (Harold B. McCarty)

11. UW Radio Committee (left to right): Andrew W. Hopkins, Charles L. Hill, Henry L. Ewbank, Harold B. McCarty, Harold A. Engel, and Edward Bennett.

12. Sterling Hall studio-music library and broadcast corner.





11.



12.

1932 During the primary and general elections, WHA provides free time to all qualified candidates, thus inaugurating political broadcasting on the station.

Later, broadcasts from the state capitol inform Wisconsin citizens of the work of their government and their elected representatives.

July: WHA acquires new radio towers and transmitter.

1933 An application to the FCC by another station includes a proposal to eliminate WHA and WLBL. The application is unsuccessful.

October 4: WHA inaugurates the "Wisconsin College of the Air."

1934 *December:* WHA moves to Radio Hall.

1935 The installation of the station's first disc recorder.



13. Harold A. Engel on the air, 1932.

14. The WHA Players present Shakespeare in "An Hour of Drama," in Studio A, 1937.



1938 An unsuccessful attempt to obtain a clear channel station.

June: The creation of a statewide council for radio.

WHA wins the Variety Showmanship Award as the nation's number one social service station.

1942 The first regular course broadcast direct from UW classrooms.

1943 *October 22:* WHA originates the "Farm and Home Hour" for the 130 stations of the Blue Network.

1944 The FCC allocates 20 FM channels for educational purposes.

May 6: WHA originates the first of a series of broadcasts of the Pro Arte Quartet over the Mutual Network.

1945 An act of the state legislature presents a plan for an educational broadcasting FM network and establishes the State Radio Council.

1947 **March 30:** Inauguration of WHA-FM, the first station of the proposed FM network designed by Glenn Koehler and Jack Stiehl.

1948 *May:* WHAD, Delafield, begins operation.

"College of the Air" is now heard in the evenings as well as daytime.

1949 *January:* WHKW, Chilton, begins operation.

February: Dr. John Schindler lectures on "How to Live a Hundred Years . . . Happily," evoking some of the largest audience response in radio history.



15. Uncrating the WHA-FM antenna, 1946. FM network designer Glenn Koehler (left) and chief engineer John H. Stiehl (right).

“Only about one third of all the rural schools are enrolled and little more than one half of the state graded schools. Schools located some distance from WHA or WLBL transmitters cannot tune in the ‘School of the Air’ broadcasts. That’s unfair to those children in those distant regions. They shouldn’t be deprived of the advantages that radio offers. They are entitled to the best educational opportunities that the state can provide, regardless of where they live in the state. As we in the Department of Public Instruction look at this project, we see it as a means of equalizing educational opportunity.” (John Callahan, State Superintendent of Public Instruction)

1950 WHWC, Colfax, and WHLA, West Salem, begin operation.

1951 A newspaper in the southern part of the state leads an unsuccessful fight to abolish educational broadcasting in Wisconsin.

1952 WHHI, Highland, and WHSA, Brule, go on the air.

1954 May 3: WHA-TV begins broadcasting from improvised studios in the old Chemical Engineering Building at 600 North Park.

1955 A proposal in the state legislature to eliminate funds for educational broadcasting from the state budget is defeated.

1956 October 7: The FM Network and two commercial stations form the experimental Wisconsin Stereophonic Network.

1967 February: Listeners can earn University credit for “College of the Air” courses.

The stations of the FM network become the first educational stations in the country to utilize subcarrier broadcasting.

1968 Public service programming expands with a huge multimedia effort on Milwaukee’s inner core.

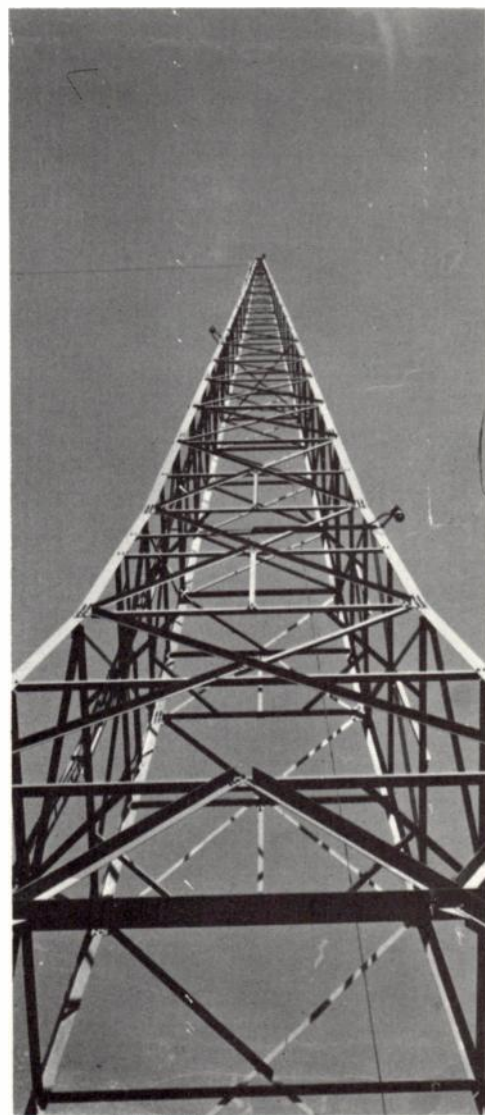
1969 WHA receives the largest single radio grant from the Corporation for Public Broadcasting for establishment of a National Center for Audio Experimentation.

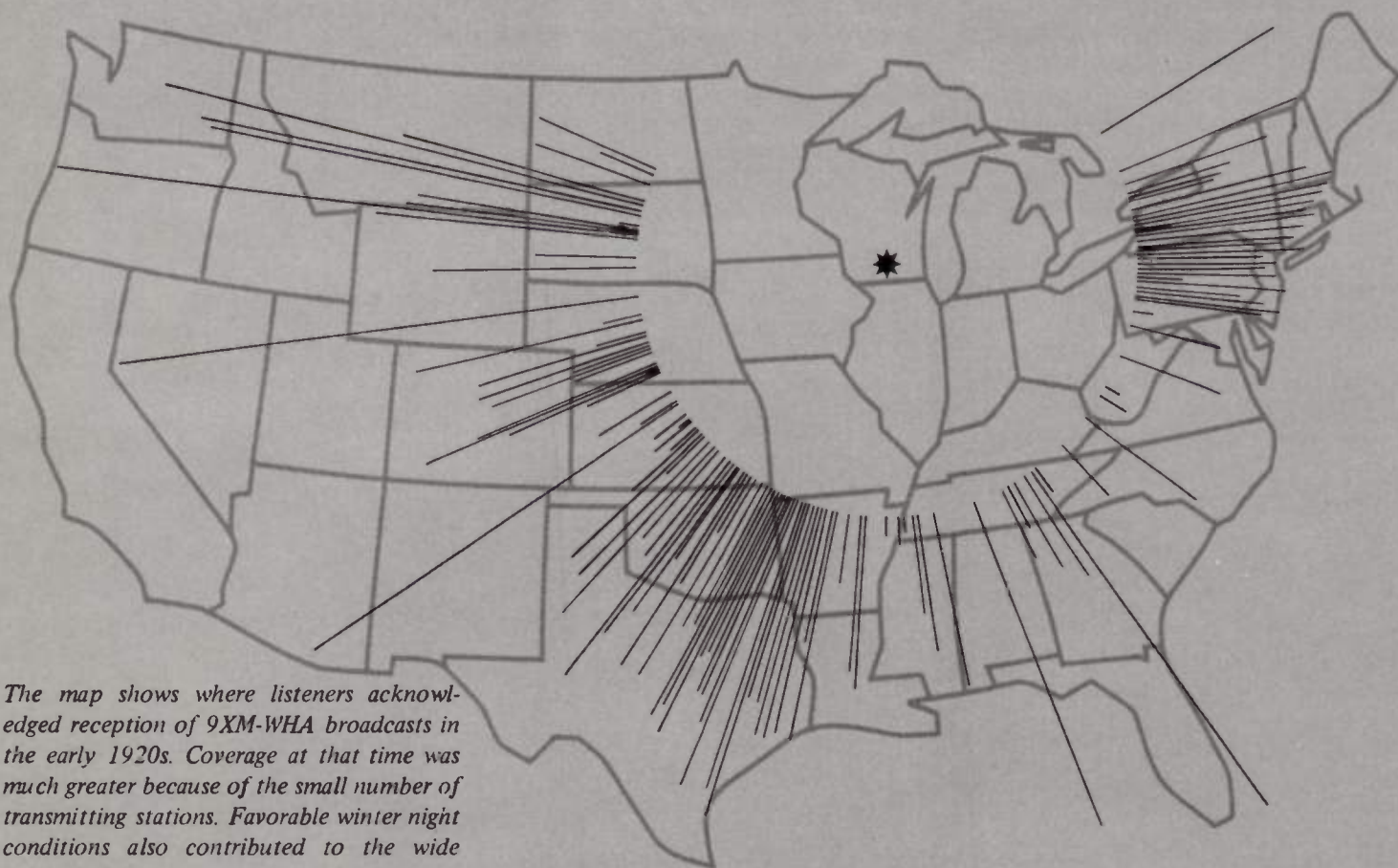
WHA-TV receives the highest award of the National Academy of Television Arts and Sciences, the first

Emmy ever given to a Wisconsin station or to any educational television station in the nation.

A survey of all elementary schools in Wisconsin indicates that 80 per cent of the respondents use radio “Wisconsin School of the Air.”

“College of the Air” expands with credit courses from universities around the state.





The map shows where listeners acknowledged reception of 9XM-WHA broadcasts in the early 1920s. Coverage at that time was much greater because of the small number of transmitting stations. Favorable winter night conditions also contributed to the wide coverage.

Dear Sirs... Letters to WHA

"I thought I would drop you a few lines and tell you that I have heard your concerts twice since I last wrote you. The atmospheric conditions have been very bad here and, as a result, I have not had much success in getting your concerts." (Winfield, Kansas)

"Your musical program last evening would have been most enjoyable but for two things – the static and a heavy thumping at times. The latter I took for some local inductance." (Lancaster, Wisconsin)

"I am going to put on a wireless party Friday night at the Hillside Country Club. I am doing this for the former president of the Wisconsin Manufacturers' Association. He has invited 100 guests. We believe with our outfit we can give them a very good showing." (Beaver Dam, Wisconsin)

"You have no idea how much your radio programs are enjoyed. . . . I am living on a farm but I am unable to work this year as I have had to take the rest cure for tuberculosis. Therefore, I have been able to attend lectures and concerts by radio, which is indeed a great help." (Mount Vernon, Iowa)

"I live on a farm about eight miles out of Madison. I, being ill the Fourth of July, could not go to any of the entertainments. It

made no difference to me as I was given a radio outfit. That evening, I listened to a lecture on Independence Day and also heard some lovely community singing. I could hear it very plainly and certainly enjoyed it very much. I hope you will give us music and singing of that kind real often." (Madison, Wisconsin)

"Pardon the delay on reporting in to you concerning your splendid concert programs. We have been enjoying your concerts and talks since early spring. It is a marvel how you 'dig up' such exceptional talent. We are all WHA fans over here and hope to hear from you over the radio oftener in the future." (From the *Fond du Lac Daily Reporter*)

"... I intend to give the audience in this theatre the pleasure of listening to future concerts sent out by the Physics Department of the University." (Theatre owner, Portage, Wisconsin)

"Your concert was heard in Mars [Pennsylvania] very fine."

"... We had an audience of 40 or 50 people and we get the market and weather reports every noon. The people here in Freeport did not pay much attention to wireless until we

put this set in our fire station but now they are all very much interested." (Captain of the fire station in Freeport, Illinois)

"The radio program was a success today at noon and at the present time, 4:45, some of the people are listening with the usual awestruck manner to the concert 'away off in Madison.'" (Chamber of Commerce, Watertown, Wisconsin)

"... We wish you to know that we are getting a great deal of enjoyment and instruction out of your Friday night musical appreciation programs. We have never been particularly fond of phonograph records, but your explanations make even those seem worthwhile. . . ." (Madison, Wisconsin)

"... My wife and I joined in the singing of 'America' while our cat, Mutt, accompanied us. My wife sang alto, I sang *at* baritone, and Mutt sang second tenor." (Angola, Indiana)

"We are now receiving the weather reports from Madison at 12:45 by wireless, and we regard them as of much value to us in giving us data for the work of the coming night." (Yerkes Observatory, University of Chicago)

"It was my pleasure to 'listen in' on your program Friday evening. The selection 'On

Wisconsin' was especially enjoyed, since I am a varsity man, Class of 1912, and remember very well the first time this piece was played at Camp Randall in 1909. I trust your programs will continue to be of such high type." (West Bend, Wisconsin)

"... We sure appreciate the market report. We ship a lot of chicken and by listening to your poultry prices we keep up with the markets. A great help it is." (Mosinee, Wisconsin)

"We are writing to ask you to try very hard to keep WHA programs on the air. We have learned many things from these educational programs. We learn about some of the good books, and about good music and musical instruments. We learn how to draw better and about many things in science along with experiments we can do. Please do what you can to keep these programs on the air." (Fourth Grade, Denmark Grade School, Denmark, Wisconsin, 1955)

"I have been known to remark that I would sooner part with my automatic washer than with my FM radio. . . . May I join with the chorus of housewives who so sincerely feel the quality of programs you offer enables us to create homes which do not become stagnant for a woman's want of contact and renewal with the larger community of worthwhile things." (Edgerton, Wisconsin, 1962)

"I turn on WHA the first thing in the morning and I listen all day, no matter whether I'm cooking, cleaning, or doing some other household chore. I even have a loudspeaker in the kitchen so that I will not miss any of the very interesting lectures or good musical programs." (South Milwaukee, Wisconsin, 1948)

"I am nearly 92 years of age and still want knowledge, so I am listening to your broadcasts. I enjoy everything including the children's programs, which teach them how to



I.
grow up. I like to listen to great minds who go down to the cause and effect. I want to learn until I die and my graduation gown will be my shroud." (Eau Claire, Wisconsin, 1957)

We work long hours but seldom do we feel them to be drudgery, with the mental stimulation so available. We've been on the farm eight years now and going to the University every day." (Waterloo, Wisconsin, 1957)

"I consider the state radio the best return I get on my tax dollar." (Tomahawk, Wisconsin, 1962)

"You are damned if you do and damned if you don't! The letters reveal the traits of character and there is no pleasing every one of us. Don't try to please all of us. Stay as you are." (Eau Claire, Wisconsin, 1969)

"Eureka! At long last I have discovered how to eat my cake and have it too. I knew that my middle-aged body would profit by the exercise program on TV at 9 A.M. but my mind rebelled at missing the stimulating WHA radio programs at that hour. So now I exercise in front of a soundless TV while listening to the NER 'Special of the Week,' BBC 'Science Magazine' and 'World Report,' 'Our Campus: The World,' and the 'North-eastern University Forum.' To think that I considered my husband to be schizophrenic for listening and watching two football games, one on radio and one on TV!" (Madison, Wisconsin, 1969)

"Since you returned unused my stamped envelope with the requested conversation on smoking, I hope the enclosed dollar bill will not meet a similar fate. It won't make the Radio Hall kitty into a fat cat but might induce a monetary purr." (Hartford, Wisconsin, 1969)

"Help! I cannot find the egg market on the air. Where did you put it? I market my eggs to local people and use your market for my guide." (Abbotsford, Wisconsin, 1969)

"All I can say for all your great programs is a bravo. Keep them coming! Your voice on my transistor is as welcome as the song of a lark from the meadow in springtime." (Deerbrook, Wisconsin, 1969)

"So many of us have not had all the education that we yearned for. The farm husband and wife have an opportunity that is especially advantageous in that they are working either in the barn or home most of the time. If they also hook up a radio on their tractor, as we have, you can see the possibilities. Who but a farmer could be cleaning his barn and listening to a lecture on Thoreau, knowing exactly what he was trying to get at? (I'm not sure that he'd approve of the radio in the barn, however.)



2.

"The only station with decent quality programming (that's you!) *must* remain on the air — otherwise let's just chuck the radios — they're not worth much without WHA and the state network." (Cleveland, Wisconsin, 1969)

"When our kids were home with the Hong Kong flu they went to bed with the portable radio tuned to you. Guess who our first grader told about at 'Show and Tell' when she recovered? Hermes, from 'Old Stories and New Ideas'! . . . Incidentally, our sixth grader hears that program in class and enjoys

it greatly. He's the one who at age three became very fond of Doctor Eight Ten Twenty [Dr. H. Kent Tenny]." (Waukesha, Wisconsin, 1969)

"I have come to think of our state broadcasting service as just a free ride for communists, from Monday 7 A.M. until Friday 10:45 P.M." (Wild Rose, Wisconsin, 1969)

"Never before have we needed the programs of the state stations as we need them now. With the explosion of knowledge this service helps the layman from being hopelessly

behind, unable to adequately cope with the world of 1969." (West Allis, Wisconsin, 1969)

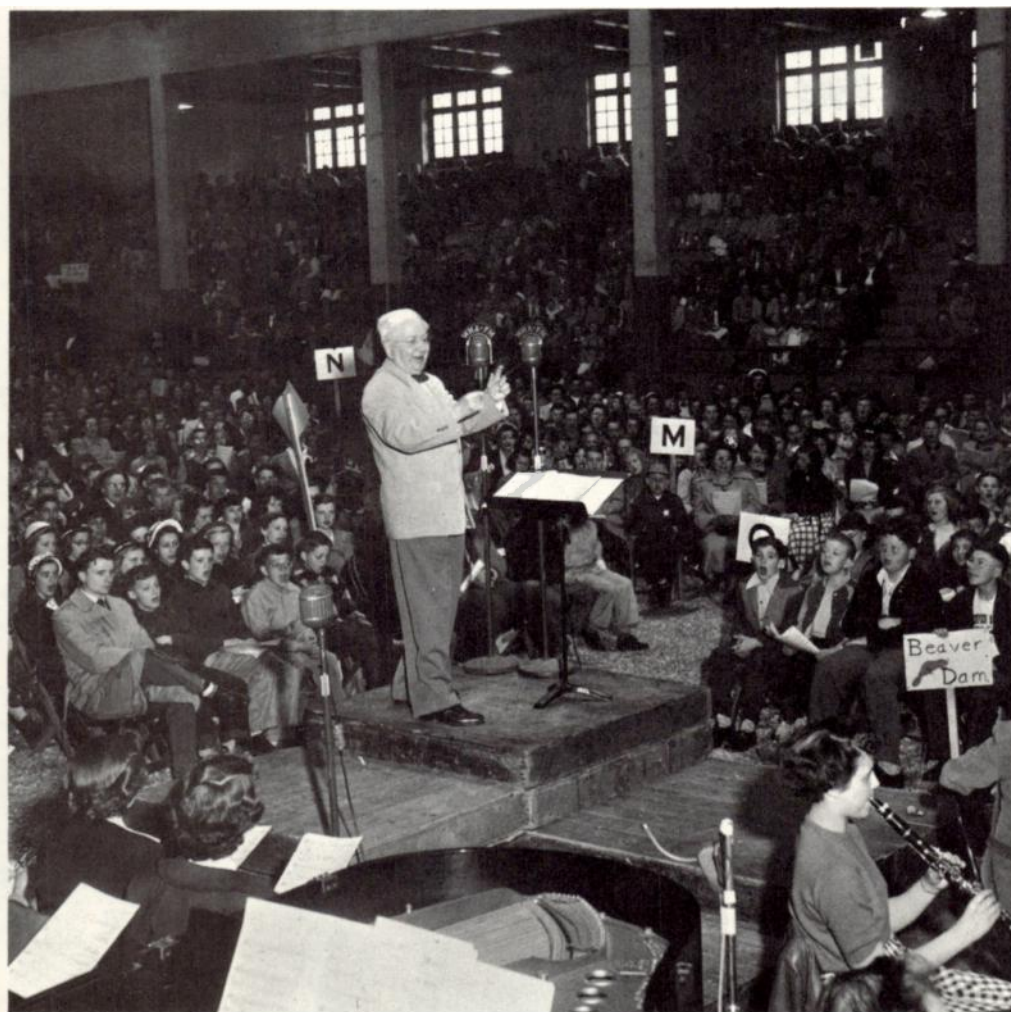
"A great many of the blind people of this state have become very much worried and disturbed over a report that they may lose something that they consider one of the chief consolations and blessings of their lives, namely the statewide FM network. . . . To nearly all blind people, but especially to the elderly and homebound blind, radio is still all-important. The benefit or entertainment they receive from television is extremely limited, or entirely nonexistent. . . . Many of our number who never had the opportunity of going to college or, in some cases, to high school, find enormous satisfaction and solace in listening to the 'College of the Air' courses which are made available through the classroom lectures that the FM network broadcasts." (Wisconsin Council for the Blind, Inc., 1969)

"Every morning Ken Ohst tells us that WHKW operates on a frequency of 89.3 mega-irks. What, if you please, is a mega-irk?" (Black Creek, Wisconsin, 1969)

"I am writing to tell you to take my name off the mailing list as we are moving to Waterloo, Iowa, and I'm quite sure I won't be able to get the Highland station. . . . I don't know how I am going to live without getting your station. The programs have been so helpful and I am so grateful for them. No words could express my appreciation." (Platteville, Wisconsin, 1969)

1. Many are the listeners who have written WHA to say, "I've been with you from the beginning."

2. Harold B. McCarty (left) and William Harley, the original "Dear Sirs," answering letters from listeners on the air. More recent "Dear Sirs" have included Cliff Eblen, Karl Schmidt, Ralph Johnson, and Jim Collins.



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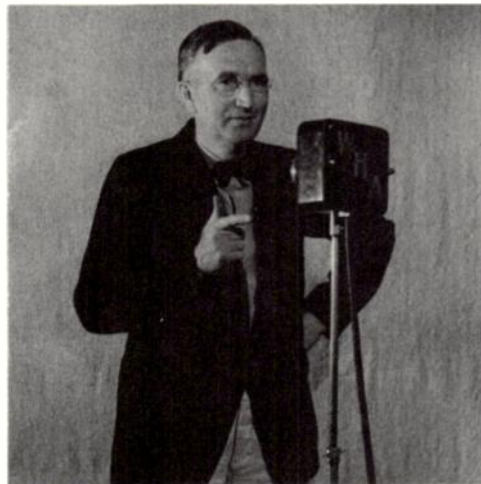


3.

Wisconsin School of the Air

When the "Wisconsin School of the Air" began in October of 1931, its schedule included programs on counseling and guidance, health and safety, government, nature, singing, art, and literature. The present schedule includes programs on black-white relations, mathematics, current events, science, government, nature, singing, art, and literature. Thus, like the standard school curriculum it supplements, radio "School of the Air" changes to reflect modern concerns and priorities.

Techniques as well as subjects change. In the beginning, the pioneers whom Harold B. McCarty gathered together were content specialists, not broadcasters. But they were extraordinary personalities and effective teachers. Their early programs demonstrated that the magic of radio was not that sound waves could be changed into electric waves, amplified, transmitted several miles, and changed back into sound waves. The magic of their broadcasts was that what came out of those imperfect classroom radios at the other end was authentic Pop Gordon, Fannie Steve, and Ranger Mac. The amount of information and enthusiasm which these pioneers brought to the classroom converted even the most reluctant classroom teacher into a user of radio.



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5.

Today, radio "School of the Air" still has great teachers in Jim Schwalbach, Bob Ellarson, and H. Kent Tenney. Through the experiments of writers like J. Helen Stanley, Mel and Elizabeth Carlson, and producers like Gerald Bartell and Karl Schmidt, Wisconsin's "School of the Air" developed radio's special characteristics into a special teaching aid. Under the direction of Arlene McKellar, the teachers, writers, and pro-

1. Professor Edgar "Pop" Gordon, one of the original starters with the "Wisconsin School of the Air" in 1931 and the first lecturer heard over WHA, is shown here at one of the annual "School of the Air" music festivals.

2. Professor Gordon, whose program "Journeys in Music Land" was a regular feature without interruption for 24 years.

3. A 1949 Wisconsin classroom tuned in to a "School of the Air" broadcast.

4. Wakelin McNeel, a name synonymous with school broadcasting, took young listeners "Afield With Ranger Mac" for 21 years, 1933-1954.

5. Mrs. Fannie Steve, whose program "Rhythm and Games" began with the opening week of "Wisconsin School of the Air" in 1931 and continued for 35 years.

ducers posed the central consideration: What can a radio program do better than a film, a book, or a television program? The result is a type of audio aid known to stations and schools across the nation as the Wisconsin style.

A 1969 survey showing the extent to which radio "School of the Air" is used in Wisconsin and bordering states would amaze those who worked in the days before the FM network, before central sound systems, before tape libraries when teachers brought their own radios to school. Experiments in stereo and binaural writing and production would astound those who had to write, narrate, and direct their own programs.

With all of the new things to do, the new ways of doing them, and especially the new people doing the doing, the "Wisconsin School of the Air" will change, yet it will remain what visionaries originally saw: a completely modern, thoroughly delightful adventure in learning.

6. *Professor Arlene McKellar for nearly 20 years guided the "Wisconsin School of the Air" as its associate director.*

7. *Clark Lattimer, newest "School of the Air" personality, portrays Joe in a series on black-white relations, "The Darker Brother."*

8. *Professor Robert Ellarson, veteran broadcaster whose program helps listeners discover the "Wonderful World of Nature."*

9. *For over 30 years, Professor James A. Schwalbach's "Let's Draw" program has inspired enthusiasm for art in its many forms.*



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College of the Air

The “Wisconsin College of the Air” grew out of the needs of the depression era and the desire of adults for “serious” study opportunities. Under the direction of Harold Engel, it began in October, 1933, with five courses for youth and adults. By the forties the format included studio lectures, often with dramatic illustration by the WHA Players. In the fifties, “College of the Air” became more strictly academic, with broadcasts direct from University classrooms. As scores of professors became well-known radio personalities, the schedule offered courses on a range of subjects in history,

music, biology, sociology, philosophy, literature, and agriculture. Further development took place in the sixties, with lectures from colleges and universities across the state and the opportunity in 1967 to take courses for University credit.

The “Wisconsin College of the Air” is a unique example of the theory of University Extension. It brings a college education within the grasp of anyone with a radio, thus truly fulfilling the Wisconsin Idea, “The boundaries of the campus are the boundaries of the state.”

1. “College of the Air” has gone to numerous university classrooms to record some of Wisconsin’s finest lectures.

2. WHA presented one of the earliest radio typewriting courses in 1932.

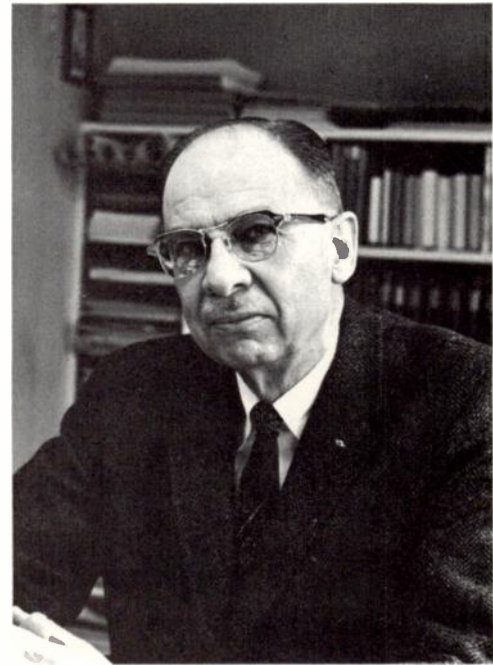
3. Harold A. Engel, longtime assistant director of WHA and founder of “College of the Air” in 1933.



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Farm and Homemaker's Programs

Programs for farmers and housewives were among the first to be broadcast over WHA on a regular basis. The College of Agriculture and its Home Economics Department saw in the wireless a means of effectively serving the people they most wanted to reach.

Market reports were broadcast by the station as early as 1921. By 1924 time was allotted to a farm program three times a week, and in 1927 the College of Agriculture established a radio committee to supervise programming.

Under the leadership of Professor Andrew Hopkins, what had begun as a series of three lectures on "The Vitamin Family" developed into a service to get daily firsthand market information and agricultural research results to farmers throughout the state. It was also under his guidance that the "Homemaker's Program" developed. Started in 1926 to give housewives reliable information on a variety of home subjects, it became, in the hands of its most well-known personality, Aline Hazard, an outlet for presenting economic, social, historical, and cultural information to an audience with almost as many men as women. The "Homemaker's Program," now "Accent on Living," has gone far afield of its original lectures on subjects such as food and children's shoes to its present-day offerings on such topics as

consumer affairs, new books, migrant workers, and sex education, to name a few. While the farm and home programs have changed and broadened over the years, they remain, as they were in the station's pioneer days, staples of WHA.

1-5. Mrs. Aline Hazard for years traveled throughout Wisconsin to bring her listeners broadcasts from many places such as homes and fairs as well as from the WHA studios.





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6-8. Over the years the "Farm Program," under the direction of Professor Andrew W. Hopkins, has visited farms, fairs, granaries, and dairies to bring listeners the most up-to-date agricultural information. Milt Bliss and Professor Maury White (who is shown in picture 8) conducted the program for years.

Other Radio Activities...Past and Present

University faculty Pro Arte quartets have long been a part of WHA's fine music programming.





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1. WHA recording service, 1949.

2. The WHA Players presented countless dramatic productions for "School of the Air," "College of the Air," and just for fun.

3. Dr. H. Kent Tenney (left) and Karl Schmidt converse about everyday aches and pains, children's diseases, and the latest medical discoveries on the weekly "March of Medicine."

4. University Roundtable through the years has offered up-to-the-minute discussions by experts in every field.

5. Chief announcer Ken Ohst, the voice familiar to listeners of jazz, "School of the Air," newscasts, "Etcetera," and other WHA programs.

6. Gunnar Johansen, a professor in the School of Music, for many years gave concerts for radio listeners.

7. While today's sound effects are available on record, in the 1930s and 1940s they had to be produced with the aid of such marvels as sound-effects doors and wind machines.

8. Frederick Fuller, early WHA music director, working on the organ that he constructed from spare parts.

9. Roy Vogelmann (center) and news editors have been preparing newscasts with the aid of teletype service since the 1940s.



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WHA Television...Fifteen Years of Growth and Service

"The opening gimmick on that initial broadcast had me picking up from a silver platter an engraved card inviting the audience to a tour of our magnificent studios and a preview of the marvelous programs which could be expected to flow from this miraculous new enterprise. What cheerful liars we were! Who else but dauntless Badgers would have dared to start televising from studios blocked by three center posts and a floor so wavy the cameramen got seasick?" So William G. Harley, former program director of WHA-TV and now president of the National Association of Educational Broadcasters, described the venture that began May 3, 1954, with the first broadcast of WHA-TV from improvised studios in the old Chemical Engineering Building on the Madison campus.

"Many kilowatts have flown under the grid since those pioneer days and vast progress has been made," Harley has pointed out. Originally established with WHA radio personnel to conduct research and experimentation in educational television, WHA-TV has since moved to better facilities and won

nationwide recognition for its achievements over the years. A pioneer in children's programming, it was the first home of "The Friendly Giant," award-winning creation of WHA-TV's Robert Homme. It has also provided closed-circuit instructional programming for the UW campus, produced several nationally distributed series in cooperation with the Madison public schools and the UW School of Education, and offered instructional and cultural programming for the adult community.

In its fifteenth year of operation (1969) it became the first educational television station in the nation to win an Emmy, the highest award of the National Academy of Television Arts and Sciences. The same project on Milwaukee's inner core which won the Emmy also brought what is considered the highest award in public television, the Community Service Award of National Educational Television.

These honors reflect the public service programming that has become an integral part of WHA-TV's schedule today, with such

features as "The Time of Our Lives," a regular weekly program directed to the interests of the elderly; "Madison Vote-In," a prime time offering during the 1969 campaign devoted to bringing local candidates before the voters; and "Youth on a Four Day Trip," a series on the problems of teenagers.

With the recent establishment of a Community Council for Public Television and the receipt of several grants for public service projects, WHA-TV looks forward to a partnership between the University, the station and its staff, and the community at large, and toward becoming the best public television service in the nation.

1. *Rehearsal in 1956 of a play presented on television.*
2. *Robert Homme in "The Friendly Giant," award-winning program originally produced by WHA-TV.*
3. *Master control room of WHA-TV.*



"Song of Norway," a musical presented by WHA-TV in May, 1968. ▲

▼ "Patterns in Arithmetic," recently produced by WHA-TV.

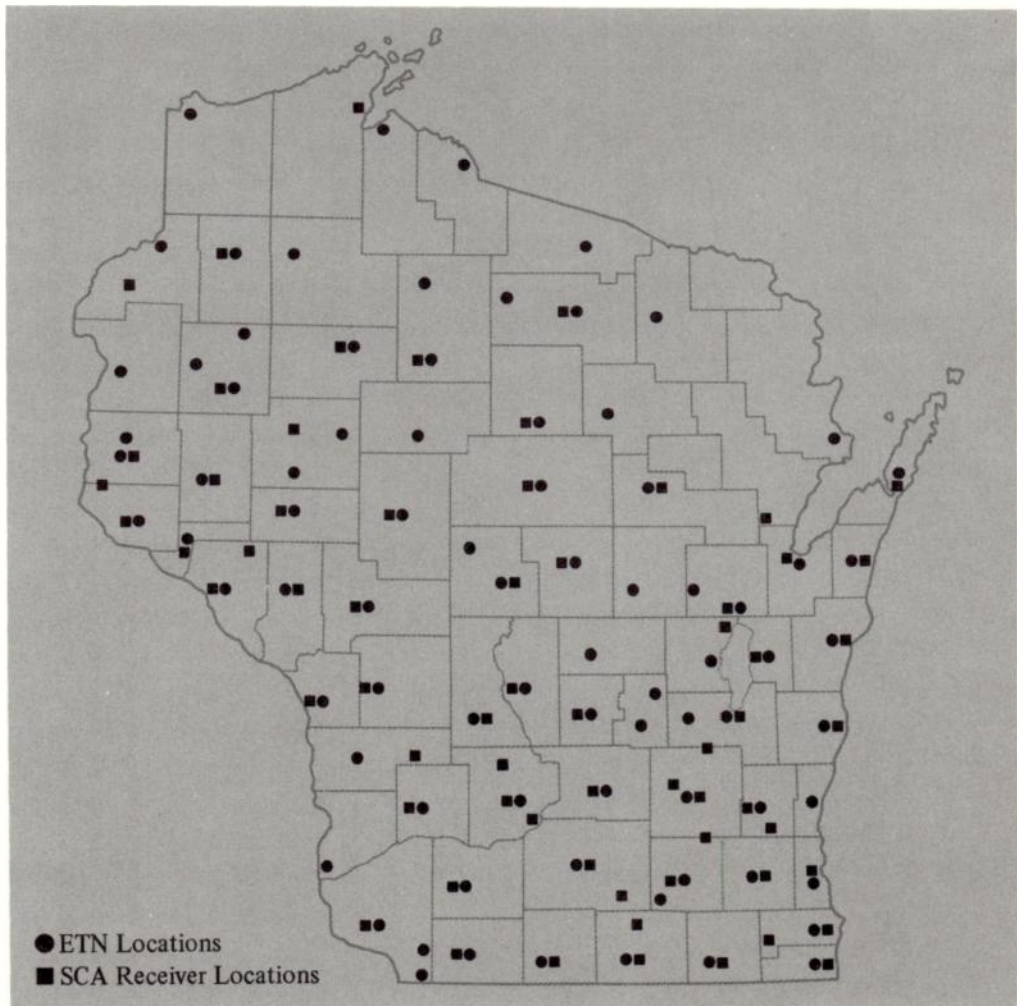


New Developments...ETN and SCA

What's new in broadcasting? Radio has been around for 50 years. FM and TV are highly developed. What else is there to know?

In the past few years University Extension, The University of Wisconsin, has activated two new communications systems: the Educational Telephone Network (ETN) and the Subsidiary Communications Authorization (SCA). ETN is a private telephone system linking some 70 courthouses, 14 University of Wisconsin campuses, and 56 hospitals in the state. SCA is an electronic technique which places two or more separate signals onto the single channel assigned to an FM station, thus permitting simultaneous broadcast of two or more different programs.

Developed originally in 1965 and 1966 to meet the need for continuing education for medical doctors throughout the state, both systems now include programming of conferences and discussions on medicine, law, pharmacy, staff training and development, social work, library science, veterinary science, physics, sociology, and English. Through the joint effort of specialists in many areas at the University and several state agencies, special SCA programming was provided during the summer of 1969 for migrant workers and their families. Countless other special interest groups around the state will benefit from programming now being developed.



THE "MAJOR" AWARD
PRESENTED BY THE
ARMSTRONG MEMORIAL
RESEARCH FOUNDATION
AS A TRIBUTE TO

1890



1954

EDWIN HOWARD ARMSTRONG
WHOSE INDOMITABLE SPIRIT
OF DISCOVERY ADVANCED THE RADIO
AND ELECTRONIC ARTS

WHA

EXCELLENCE IN NEWS PROGRAMMING
1968



National Awards

WHA and WHA-TV programs have, through the years, been cited for excellence in competition with those of other stations across the nation and from Canada.

Ohio State Institute for Education by Radio and Television

1937	Let's Draw: "Mystic King of the North"	1941	Over at Our House: "The Stephens Family Plans Thanksgiving"	1948	Fun Time
	Youth and Problems of Today: "Youth and National Policy"		Storybook Land: "Wilbur, the Sleepy Little Ghost"		News of the Week
1938	French for High Schools: "Carnival at Nice"		Good Reading: "The Mystic Mood"	1949	This Side of Eternity
	Journeys in Music Land	1942	Invitation to Reading: "Under the Lion's Paw"	1950	History and Myth on Stage: "Caesar and Cleopatra"
	Rhythm and Games: "Rhythm Imitations"		Let's Find Out: "Corky"	1951	Radio Almanac: "The People's Choice"
1939	Your Job Outlook: "Meeting the Boss"	1943	Let's Find Out: "Pedro's Peppers"	1952	News of the Week
	Storybook Players: "Sleeping Beauty"		The Strong Black Hand	1953	Radio Almanac: "Tall Young Man Comes to Town"
	Hour of Drama: "Cyrano de Bergerac"	1944	Beginning the Day	1954	People and Places
	American Youth Speaks: "Youth and Employment"		Young Experimenters: "What Is Sound?"	1955	A December Day in Jerusalem
	Legislative Forum: "Assemblyman Biemiller Defends the WDA"	1945	Our Children: "Giving Jimmy an IQ Test"		The Ethnic History of Wisconsin
1940	Living History: "Senator Borah Died Last Friday"		Exploring the News: "England"	1956	Friendly Giant (TV)
	Following Congress: "Guam and Naval Appropriations Bill"	1946	Homemaker's Program: "New Life for the Old Hat"		Quiz the Professor
			Let's Draw: "The Wild Ride of Ichabod Crane"	1957	Friendly Giant (TV)
			Rhythm and Games: "French Flower Round"		America on Stage: "Metamore"
			Introductory Psychology: "Theories of Human Personality"	1958	Friendly Giant (TV)
			Pacific Diary		Scrolls From the Dead Sea
		1947	Homemaker's Program: "Let's Plan and Plant the Home Ground"		Pacific Portraits
			PTA Program: "Baby Training Up-to-Date"	1959	When Men Are Free
					Friendly Giant (TV)
				1962	Footsteps of the Free
					Exploring the News (TV)
				1963	New World, New Lives
					Wonderful World of Nature: "Songs of Spring"
				1965	Let's Draw: "The Lights of Christmas"
				1966	Speech Correction 210: "Impaired Motor Coordination" (TV)

- 1968 This Land, This Heritage, This People
- 1969 Wisconsin on the Move: "How Now, Cow?"
- Pride and Prejudice: An American Heritage

Other National Awards

- 1938 Variety Award for Social Service
- 1942 Peabody Award: "Afield With Ranger Mac," Wakelin McNeel

- 1963 McCall's Golden Mike Award for Service to American Youth: Fannie Steve
- 1964 Alfred E. Sloan: "Profile: Traffic Safety" (TV)
- 1967 "Major" Armstrong Award for Public Service: "Black Christmas in Milwaukee"
- 1968 "Major" Armstrong Award for News Programming: "The Anatomy of a Gyp"

- 1969 National Educational Television Community Service Award
- 1969 National Academy of Television Arts and Sciences Award (Emmy)

Note: These last three awards were for a week-long series on Milwaukee called "The Inner Core: City Within a City."



The Next Fifty Years

... as seen by those who today plan the future of University of Wisconsin broadcasting.

Just as Wisconsin's broadcasting pioneers 50 years ago could not have foreseen the nature of University of Wisconsin broadcasting today, we in 1969 would be foolhardy to predict the precise nature of broadcasting in the year 2019. But just as they caught intimations of what radio might be able to do, we detect trends which are fascinating to contemplate.

There is a bright and active future for both audio and video in the field of educational communications, a field which now includes both broadcasting and the more individualized and specialized uses of recordings and tapes by students in classrooms, citizens in discussion groups, professionals in continuing education, and people in their own homes. The Public Broadcasting Act of 1967 and the founding of the Corporation for Public Broadcasting have energized leadership and support never before available, particularly in educational broadcasting.

Radio is moving into a "second life," having experienced a greatly exaggerated "death" upon the arrival of television. Radio now is recognized as the prime purveyor of abstract

ideas and material requiring a strong imaginative response from the listener. Radio can program quickly and inexpensively. It reaches people everywhere, even in cars and at the beach. There are more radio stations on the air today than ever before.

In addition, one out of every two radios sold today is an FM radio. This points to increasing use of the interference-free, high-fidelity FM signal to transmit not only stereo broadcasts but also similar simultaneous transmissions of educational information on separate channels of a single frequency assignment — a technique The University of Wisconsin has pioneered in recent years and is already utilizing for dissemination of educational audio to schools, hospitals, Extension offices throughout the state, and other specialized audiences. The rapid development of low-cost audio tape recording and playback equipment, including the extremely portable and trouble-free cassette, undoubtedly will enable educators to put materials into the hands of learners for their individual use on their own time at their own convenience. One need only note the increasing use of these compact audio devices by students taping classroom lectures and by businessmen taping conferences to begin to grasp the possibilities.

Of course, television will probably remain the dominant medium, since it furnishes the audience with the simultaneous stimuli of sight and sound. It is supreme in enabling everyone in a classroom or in the nation to see a closeup demonstration, watch the facial expressions of a key speaker, or examine existing conditions at some distant point in the world. With the inevitability of total color capability and increasingly mobile equipment, and with lower-cost videotape machines to record, store, and retrieve such materials, television is making a strong bid to retain its dominance in the home and to become an increasingly valuable tool for the educator — as educators grow more proficient in its appropriate application to their objectives.

What does all this mean to University of Wisconsin broadcasting? It means that the concept of a couple of broadcasting stations on the Madison campus has been replaced by a far broader concept. While the University will undoubtedly make ever greater use of both WHA and WHA-TV in offering the immense resources of the University to the people of the state, the radio and television facilities and staff in the new Communication Arts Building, soon to rise on the Madison campus, will be identified as the "University Radio Center" and the "Univer-

sity Television Center." These centers will produce programs for broadcast over University stations and other educational and commercial stations within the state and, through new nationwide interconnected networks, serve other educational radio and television stations. They will serve as a major central production facility for all types of educational audio and video for on-campus use via closed circuit or tape delay; for intercampus use not only by The University of Wisconsin but also by other educational institutions including schools of the state; and for special professional groups, adult education projects, and families in homes, where much of lifelong education in the future may occur.

As such progress comes about, we continue to be mindful of this University's proud and unique tradition in broadcasting, realizing that these electronic media first were used in educational service to mankind on this very

campus 50 years ago, that more than two generations of Wisconsin educator-broadcasters have labored long and devotedly to strengthen and to improve this service to our state and nation, and that we who serve today hold in our hands opportunities for accomplishment even greater than those of the past.

1. The Communication Arts Building planned for the corner of Park Street and University Avenue will be the new home of University Radio and Television together with the School of Journalism and the Department of Speech.

*2. James Robertson
Coordinator of Radio and Television*

*3. Karl F. Schmidt
Director of Radio*

*4. Ronald C. Bornstein
Director of Television*



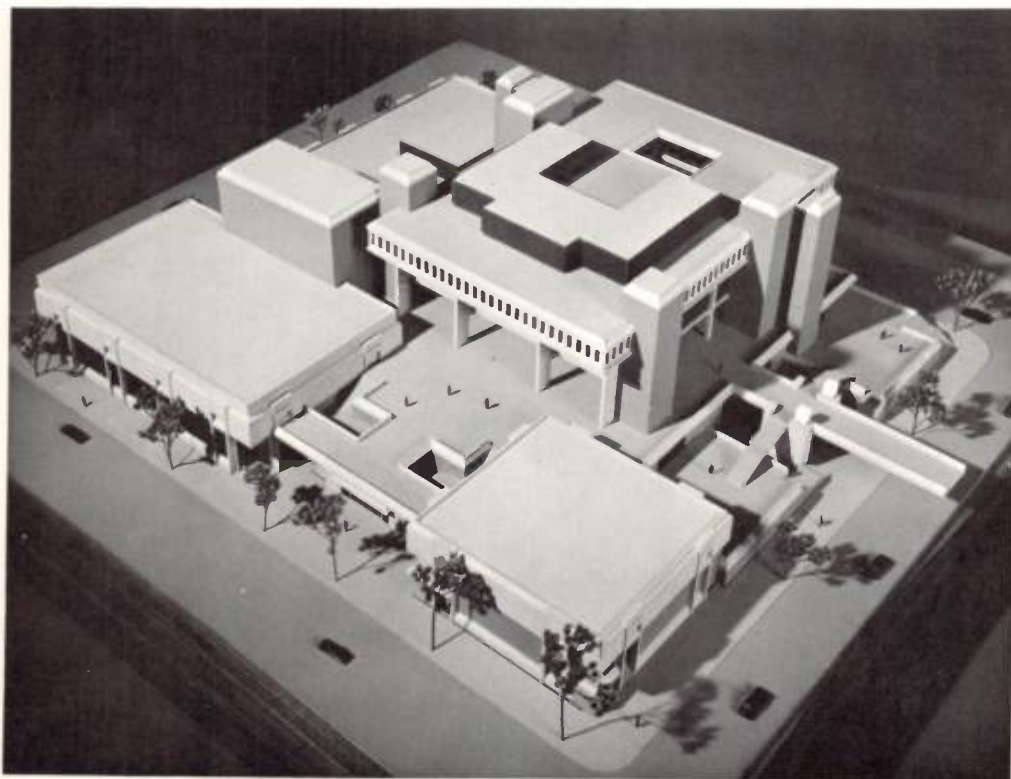
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Acknowledgment is also made to University Extension Editorial Services and to the University News and Publications Service for design.

