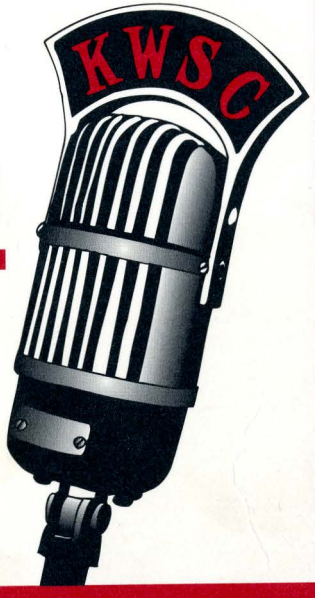
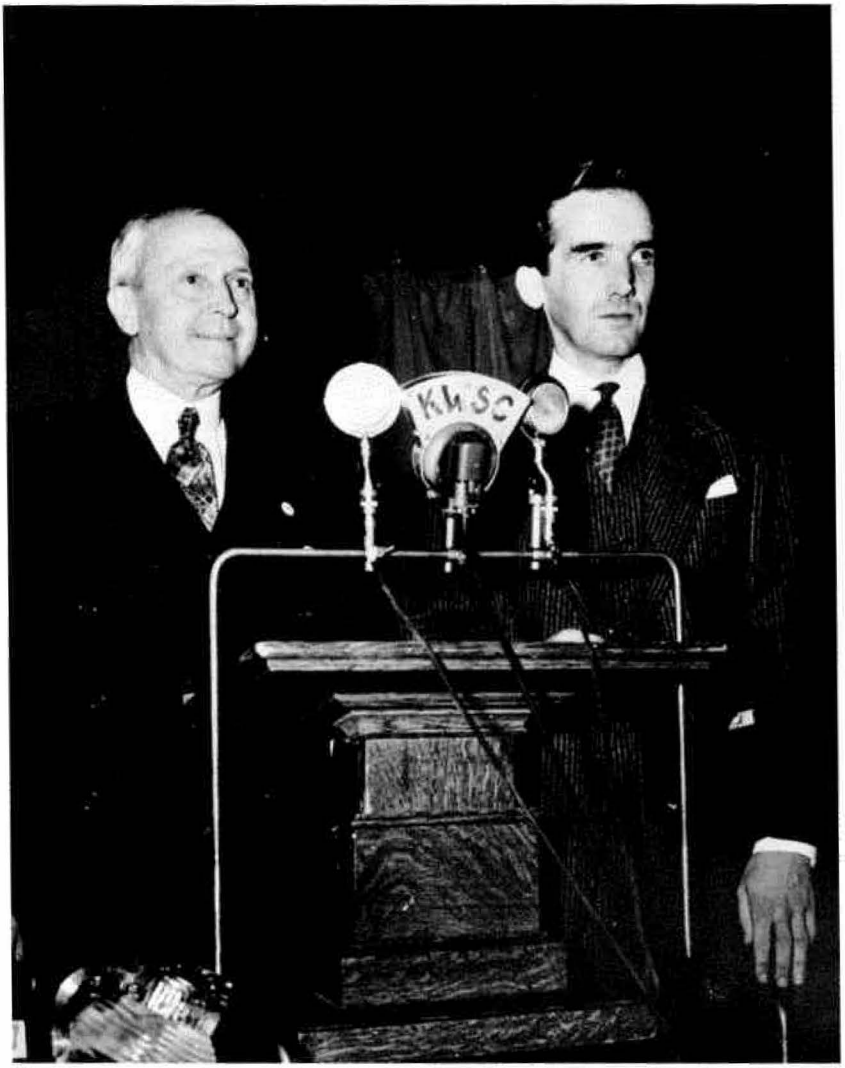
WASHINGTON STATE ON THE AIR



by BURT HARRISON

with a foreword by Dennis Haarsager


WASHINGTON STATE
ON
THE
AIR
KWSC



Legendary newsman Edward R. Murrow (right), class of 1930, with President Ernest O. Holland, during a 1942 visit to campus. *(WSU photo)*

WASHINGTON STATE ON THE AIR

by

BURT HARRISON

with a foreword by Dennis Haarsager

KWSU Radio-TV

First printing 1993

Printed and bound in the United States of America on pH neutral, acid-free paper.

Contents

Foreword

OK, IT'S A CLICHÉ, but sometimes that's the only accurate way to say something: Burt Harrison is a giant. This is a marvelous book, flawed only by the short shrift Burt gives his own accomplishments during his nearly three decades at KWSC/KWSU.

Burt was the first winner of the prestigious Edward R. Murrow Award from the Corporation for Public Broadcasting; and for good reason. His accomplishment? Nothing less than being conspicuous among those who invented public radio. You have to include his name among the few who invented KWSU (H. V. Carpenter, Frank Nalder, Homer Dana, and Allen Miller are the others). He is among an equally small number whose vision transformed educational radio (as it was known for 50 years from the early 1920s) to what we know today.

Broadcasting has changed a lot over the years. When it was one of the few stations on the air, KWSC's signal blanketed most of the Northwest, unhindered by the cacophony of interference that now characterizes the AM band at night. After TV came on the scene 40 years ago, taking away most of radio's nighttime audience, the FCC shoehorned station after station into the band, taking away much of the existing station's coverage.

FM radio came into existence about the same time as TV, but no one seemed to notice until the late 1960s when my generation graduated from Top 40 AM and discovered "underground rock" on a few FM stations. When I came to KWSU in 1978, 70 percent of radio listening was still done on the AM band; but that percentage was dropping like a barometer before a bad storm. Ironically, at a time when audience was actually becoming an important consideration for public radio, ours was about to get blown away. It is FM which now boasts 70 percent of radio listening.

It was 1982—KWSU-AM's 60th anniversary—before WSU built its first FM station. (This happened in the Tri-Cities; there were no vacant FM frequencies in Pullman even then.) Through a wonderful relationship with the University of Idaho School of Communication, the second FM station was added here on the Palouse in 1984. A station at Ellensburg and Wenatchee went on the air early in 1992, and by the time this reaches print, WSU's fourth FM station will be on the air at Yakima. Eleven translators in Washington, Idaho, and Oregon round out the present-day coverage which stretches from Tonasket to Elk City. And, with all that, our original AM station still piles up good listenership every year.

KWSU-TV, the fifth signal in the market when it went on the air in 1962, now competes on cable with 40 other stations. It, too, spread its wings—our Tri-Cities station began broadcasting in 1987. It now offers the full Public Broadcasting Service schedule to the last market in the United States that had three commercial stations, but no public station.

KWSU also serves as the technology springboard for the Washington Higher Education Telecommunication System, which carries classes to students statewide; it still serves, as always, as a "teaching hospital" for hundreds of students; and it tallied 30 million contact hours last year from a coverage area of just under one million people. Nothing Washington State University does serves more people, for more hours each year, than its radio and television stations.

Giants leave big footprints; easy to see, but hard to duplicate. We're walking in Burt Harrison's as best we can.

Dennis L. Haarsager, General Manager
KWSU Radio-Television Services
Pullman, Washington
November 1992

A Few Words of Gratitude

THE WRITER OF this short history would like to express thanks to the many people who made this book possible. First, I would like to pay tribute to Nelson Rupard, Allen Miller, and the late R. Russell Porter, all of whom had a hand in luring me into broadcasting, guiding my faltering footsteps, and forgiving innumerable trespasses, including my total inability to spell words of more than two syllables.

I owe unpayable gratitude to an almost endless list of associates at Washington State University, including the more than 1,500 WSU students who did most of the work at the radio-television services during the 27 years I was around the organization. I regret that this volume contains only a handful of their names.

I offer special thanks to Barbara Hanford, who selected the photographs in this volume and provided a great deal of the information, and who, incidentally, has been a member of the radio-TV staff for more years than any other person.

I pay tribute to Nadine Harrison, who has survived living with the writer through more than half a century in 30 countries, who has been drafted to assist in innumerable odd projects, and who has yet to throw anything—even a harsh word in anger.

Finally, I thank Dennis Haarsager, who encouraged me to write this history, paid me for doing it, and who, over the past 14 years has developed KWSU Radio-TV Services into a state-wide service beyond the wildest imagination of those of us who were involved in it at an earlier time.

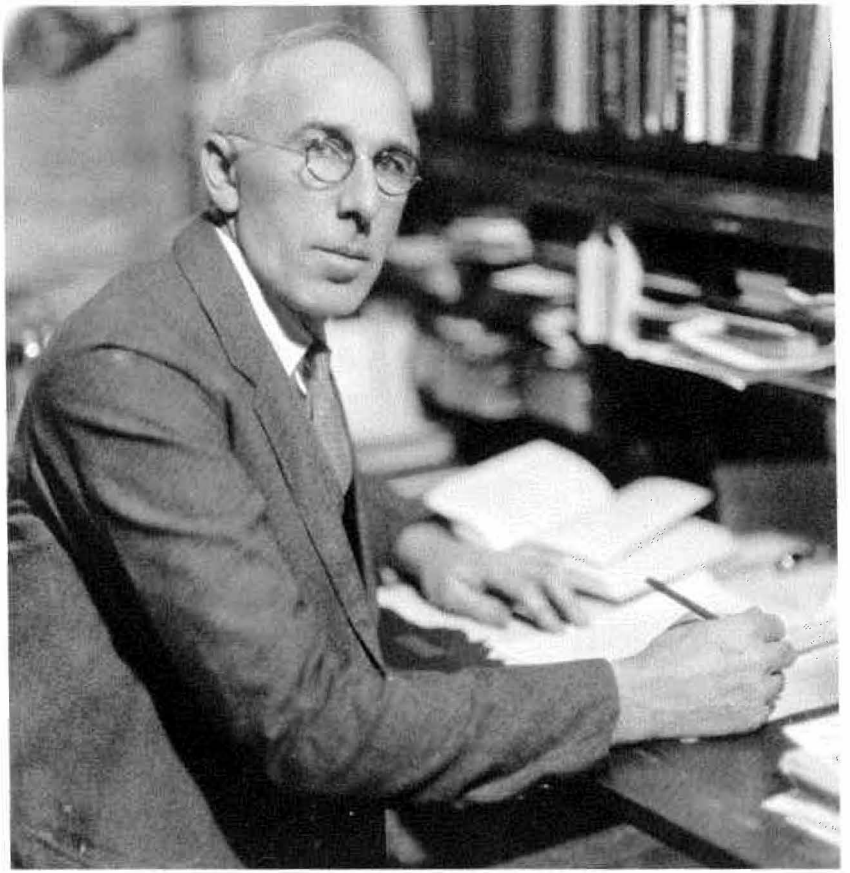
Sources of Information

MOST OF THE material on which this volume is based was drawn from the files KWSU Radio-Television Services houses in its offices and in the archives of the WSU Libraries. This includes the past 70 years of program and operating logs for KWSU and KWSC; monthly program bulletins published under a variety of titles; and licenses and directives from the Department of Commerce, Federal Radio Commission, and Federal Communications Commission. Material was also drawn from the back files of the *Evergreen, Pullman Herald,* and the Spokane *Spokesman-Review.*

The writer also drew on his own files from the 27 years he served on the radio-TV staff, and on two extensive collections of interviews with broadcasters: *The Public Broadcasting Oral History Project,* conducted by the writer and his wife for the Corporation for Public Broadcasting, and the late Hugh Rundell's collection of interviews with Pacific Northwest broadcasters, *They Took to the Air,* which the writer edited for the Washington State Association of Broadcasters.

Material on the national scene was also drawn from Erik Barnouw's three-volume history of American broadcasting, *A Tower in Babel, The Golden Web,* and *The Image Empire,* all published by Oxford University Press; from S. E. Frost, Jr.'s *Education's Own Stations,* published in 1937 by the University of Chicago Press; and from Lichty and Topping's *American Broadcasting,* published by Hastings House in 1975. Information on Herbert Hoover's actions in the broadcasting field came primarily from Glenn A. Johnson's Ph.D. thesis *Secretary of Commerce Herbert C. Hoover: the First Regulator of American Broadcasting,* submitted to the University of Iowa in 1970. The writer also drew on a variety of publications issued by the National Association of Educational Broadcasters prior to that organization's demise in 1982.

Most information, however, came from the writer's own memory and must stand or fall depending on how much trust can be placed in that most fallible of all resources.



College of Engineering Dean H. V. Carpenter was instrumental in bringing about experiments in radio broadcasting at the State College of Washington. *(WSU photo)*

I

Sign On

THINGS WERE NOT exactly balmy in any part of eastern Washington in 1921 and 1922. Farmers were certainly hurting. The price of wheat, stimulated by heavy shipments to war-torn Europe, had peaked in December 1919 at $3.50 a bushel. By April 1921, the price per bushel had dropped to 76 cents on the Pullman market. Later it climbed to about a dollar; but to Palouse country wheat growers who had prospered throughout the European war, it was a discomforting omen of times ahead.

On the hill in Pullman, the State College of Washington was also suffering from the postwar letdown. Enrollment would pass the 2,000 mark in the fall 1922 semester, but otherwise the scene on the campus was anything but rosy. The 1921 football season had been fair—four wins, two losses, and a tie—but in those days the Cougars were used to being contenders for a Rose Bowl appearance. Coach Gus Welch turned in his resignation, announcing he was going to take up the practice of law. The 1921 legislature, trying to be kind to the college, had raised the millage tax supporting the institution from .47 to .67 mills; but property values throughout the state were declining disastrously; tax money failed to come in; and by early 1922, college department heads were directed to cut their operating budgets by a minimum of 15 percent, effective immediately.

College President Ernest O. Holland had other problems. Two of his most supportive regents died during the 1921-23 biennium, and a third retired to move to California. Holland was not getting along well with the state's crusty, tobacco-chewing governor, Louis Hart. One of Hart's first acts in 1921 had been to veto an appropriation for completing the college's dairy science building, a structure intended to house classrooms and one of the nation's most up-to-date plants for processing milk and cream. Moreover, the governor had added insult to injury. In vetoing the appropriation, he told the press, "$250,000 is too much money for a cow barn." Later he apologized to Holland, but that did not restore the money. It also did not provide funds for completing two other college structures. The mechanic arts and agriculture buildings (Carpenter and Wilson halls) had been in use since 1915, but parts of both buildings still lacked dividing walls, plaster, and finished floors.

Holland's other major problem was his onetime best friend but now bitterest enemy, President Henry Suzzallo of the University of Washington. Suzzallo definitely had the inside track at the governor's office. It was generally believed that he was the ghostwriter for most of Hart's public statements, and he certainly seemed to be doing everything he could to cause difficulty for Holland and the state college.

All in all, the 1921-23 biennium seemed an unlikely time for Holland to launch an unprecedented activity at the Pullman institution. But he did. On May 15, 1922, he asked his board of regents to approve for the state college "the installation of a radio broadcasting station, which could serve the people of the entire State and furnish market reports, lectures, and entertainments to the farmers and other citizens of the State of Washington." The regents approved, apparently without a dissenting vote.

Actually, there were ample precedents for the move. The college may not have been involved in broadcasting, but it certainly was heavily into wireless communications, and had been for nearly two decades. The head of the school's Department of Mechanical and Electrical Engineering, H. V. Carpenter, had introduced the campus to wireless telegraphy shortly after he arrived at WSC in 1901. Carpenter hand built the school's first wireless installation in the basement of the administration building (now Thompson Hall). The antenna was strung between the building's two Romanesque towers. Later, the device was moved to a wooden shack where the Compton Union Building now stands, probably because its noisy spark gap disrupted classrooms and offices in the administration building. A 120-foot laminated wood pole now supported the antenna.

Use of this wireless station as an instructional tool for engineering students apparently began as soon as Carpenter started to put it together. Ed Keyes, a member of the class of 1909, remembered that as an undergraduate he helped Carpenter string antennas and assemble equipment. By 1910 the Department of Mechanical and Electrical Engineering was offering a formal course in electric wave signaling. It was described in the college catalog as "a course in radio telegraphy and radio telephony." The catalog noted that "The college wireless station is used to acquaint students in the course with the general procedure of sending and receiving commercial messages." A second course, entitled Practical Wireless Telephony, was added in 1914. Both were taught by Carpenter.

Students in Electric Wave Signaling formed the "Wireless Club" in December of 1911. A month later, the Spokane *Spokesman-Review* reported that Wireless Club members, including Gordon Klemgard, Clair Fulmer, Lloyd Baird, and Wesley Brock, had completed what was apparently the latest rebuilding of the station. The *Spokesman-Review* described it as "one of the largest and best equipped radio outfits in the Northwest."

By April 1917, the wireless station (call letters 7YI) had repeatedly been rebuilt by Carpenter and his students. The noisy spark gap was replaced by

a quieter and more efficient rotary gap. Power input was up to 2000 watts. The receiving set was equipped with De Forest's "Audion" tubes. Then on April 8, 1917, the day after the United States entered the First World War, Station 7YI and every other non- governmental wireless station in the country were abruptly shut down by presidential decree. Wireless owners were directed to dismantle their sets and store the components under lock and key. All wireless communication, with the exception of sets under army control, was to be handled by the United States Navy.

This exception made the shutdown of 7YI of brief duration. Wartime secrecy still clouds the record, but apparently the college station was reopened in 1918 under army auspices. It was used to give practical experience to members of the Student Army Training Corps (SATC) assigned to WSC to study "wireless signaling" and "wireless electricity." At the peak of the SATC program—"Safe At The College" was the way its enlistees read the acronym—Washington State College had 1,100 members of the corps on campus. A substantial number of them were studying wireless with the aid of 7YI.

Following the Armistice, however, 7YI seemed a bit old hat. Two-way communication by wireless telegraph or wireless telephone had pretty well lost its mystique. A useful tool, no doubt, the two-way wireless, but of interest only to ships at sea, certain major communication firms, and a dedicated group of hobbyists. (e.g., "I talked to a guy in Sydney, Australia, last night. He said my signal was coming in strong.") What was interesting the general public was radio broadcasting, which was something else entirely. So, in early 1922, President Holland and the state college decided to turn 7YI into a broadcasting station.

The project was actually the brainchild of two of Holland's chief lieutenants—Carpenter and Dr. Frank Nalder. Carpenter had been appointed dean of the College of Mechanic Arts and Engineering in 1917, when Holland reorganized the institution. Nalder, an early WSC graduate, had rejoined the college in 1919 when Holland brought him from the University of California to head WSC's new General Extension Division.

Hubert Vinton Carpenter was a man of many talents. A native of Illinois—he was born on a farm across the river from Clinton, Iowa—Carpenter earned degrees in mathematics and physics at the University of Illinois and early became a nationally recognized authority on long-distance transmission of electric power. He was on the University of Illinois faculty in 1901 when President E. O. Bryan lured him to the Pullman campus. His career at WSC, however, was by no means confined to academic pursuits. Carpenter had been a noted pitcher on the Illinois baseball squad, and occasionally in his early years in Pullman pitched for the Washington State College varsity. (Athletic eligibility rules were more relaxed back at the turn of the century.) He also served a term as mayor of Pullman from 1908 to 1910, shocking some of his friends by driving

the saloons out of town; became a trustee of the local Methodist church; and, as an ardent football fan, served many years as the college's faculty representative to the Pacific Coast Conference. In addition, he was an enthusiastic radio "ham."

Frank Fielding Nalder was, generally, a different kettle of fish. Nalder was about the nearest you could find to a native Washingtonian back in the early years of the twentieth century. He grew up in the Waitsburg area, just north of Walla Walla, but was born in New Zealand before his family emigrated to the Evergreen State. "Jimmy" Nalder was a go-getter, a "rah-rah" kid. He had passed his twentieth birthday before he enrolled at WSC, but quickly became editor of the *Evergreen,* campus yell king, and an enthusiastic student member of the Athletic Association. He graduated from WSC in 1901, won a scholarship for graduate work at Columbia University, worked briefly for a New York publishing firm, and returned to WSC to teach history and serve as registrar. In 1908 Nalder left Pullman again to earn a doctorate at the University of California, and to join the staff of that institution. He was assistant director of extension at Berkeley when, in 1919, Holland brought him back to WSC. Nalder's official title was "Director of General Extension," but he served primarily as the school's traveling salesman. Holland kept him on the road beating the tub for Washington State College at high schools and at service club luncheons and other civic meetings.

Apparently, Nalder was instrumental in persuading the college president that a broadcasting station was what WSC needed. The extension director's tours of the state had convinced him that most people outside the Pullman area hardly knew Washington State College existed. A radio station, particularly one powerful enough to cover the state, might be just the thing to establish the school as a true state-wide institution. Holland brought the proposal before the board of regents, and they approved. An application was filed with the United States Department of Commerce, which at the time was charged with exercising control over radio and wireless communication. On June 21, 1922, Secretary of Commerce Herbert Hoover signed an authorization for the State College of Washington to construct a broadcasting station on 360 meters with 500 watts power. The station was assigned the call letters KFAE.

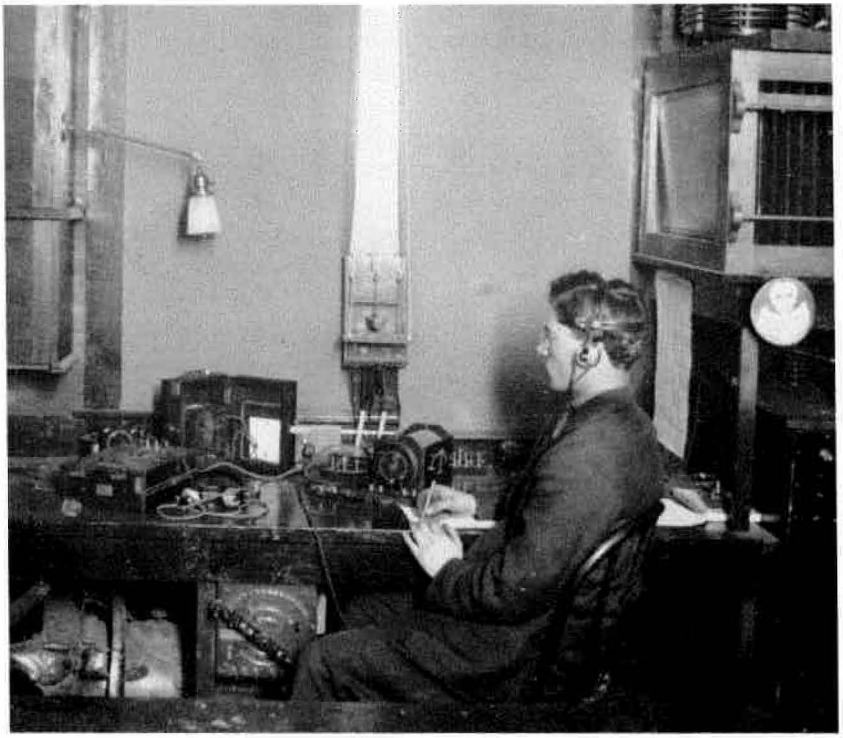
What was needed now was money. Frank Nalder and Carpenter set out to find it. Nalder, naturally, was a charter member of the Pullman Kiwanis Club. He had enlisted that organization's financial help even before Holland proposed the station to the board of regents. Nalder or Carpenter also approached the Pullman Chamber of Commerce, and that group named a three-man committee to solicit funds from local businessmen. The *Pullman Herald* jumped on the bandwagon with repeated front-page publicity. The Associated Students of Washington State College contributed $500. And several college departments, including the Agricultural Extension Service, added limited funds.

All in all, the drive raised $2,000—enough to build the new station, considering that most of the components could be secured by demolishing 7YI.

Actual construction of KFAE was assigned to Homer Dana, the sole employee of WSC's Engineering Experiment Station. A native of Topeka, Kansas, Dana grew up on a farm in central Washington where his family had taken up a homestead. He was 21 years old when he enrolled at Washington State College in 1911. Except for a brief foray in private engineering practice, he remained on the campus for the next 50 years, earning advanced degrees in electrical and mechanical engineering and gaining a reputation as a brilliant, if somewhat eccentric, inventor. Dana's projects over the years ranged from studies of gravel road washboarding to a system of "facsimile broadcasting" that involved a combination of television and photocopy. He produced dozens of inventions; among them were an improved lie detector, an "Automatic Shoe Size Computer," and a still widely used "block and squirter" system for improving radio communications in aircraft by reducing the corona static created when raindrops beat against the wings of a speeding plane.

In 1922, Dana was doubtlessly happy to be given the job of building KFAE. His experiment station work at the moment was largely a not-very- exciting study of ways to improve farm drinking water supplies. Building a broadcasting station was more to his way of thinking, particularly since it had to be done on very little money. Dana and Carpenter, who had drawn up the basic design, scrounged the engineering laboratories for other usable material in addition to the parts taken from 7YI. A rare museum piece donated to the college—the original generator used to bring electric power to Spokane—"unexplainedly" disappeared; Homer Dana needed its soft iron core as part of a modulation transformer.

Assembling the station was a slow and exacting task and took Dana all summer and fall. Other research chores kept interfering. But he persevered; and some time in December, 1922—the exact date is subject to debate—KFAE went on the air. Through the seventy years (at this writing) since that date, the station has made numerous changes in call letters, frequency, and programming philosophy, but it has never ceased to operate.



Electrical and Mechanical Engineering student Homer Dana at the controls of the college wireless station 7YI, ca. 1912. *(WSU photo)*

II

Signals in the Ether

IN 1922, RADIO BROADCASTING was the "in" thing in the United States and in most of the rest of the world. One could hardly pick up a newspaper or magazine or talk to a neighbor without having radio somehow enter the picture. Undoubtedly this international craze was a factor in the State College of Washington's decision to put KFAE on the air. But wireless communication by code had been commonplace for several decades, and the transmission and reception of music and the human voice through the ether was hardly a novelty. What, then, made radio a household word in 1922? The answer is a simple change in the concept of audience.

The development of radio is usually dated from 1865, when James Clerk Maxwell, a Scotch professor of mathematical physics, published his *Dynamical Theory of the Electro-Magnetic Field.* Maxwell postulated that accelerated changes in electric and magnetic forces sent waves spreading through space at the speed of light. Thirteen years later, in 1888, Heinrich Rudolph Hertz, a German university physicist, used a spark gap and a detecting loop of wire to prove that Maxwell's waves actually existed. They became "hertzian" waves from that date. In 1894, Oliver Lodge at the University of Liverpool added the coherer, the first effective device for detecting hertzian waves. The following year, on his family's estate outside Bologna, Italy, Guglielmo Marconi hooked these earlier discoveries together, added a Morse telegraph key and a grounded antenna, and came up with a practical wireless communication system.

At that point wireless communication was largely a subject of interest only in physics laboratories and technical journals. Italian bureaucrats were elaborately uninterested in Marconi's achievement; so much so that a year after his successful demonstrations, the 22-year-old inventor's mother took him to England. As they entered that country British customs officials applied a sledge hammer to Marconi's wireless equipment. No fools, the guardians to Great Britain's ports of entry knew an infernal machine when they saw one.

In England, Marconi attracted considerable attention from the press and from British financiers. He had a flair for publicity. In 1899, he was lured to the United States by an offer of $5,000 from James Gordon Bennett, the

flamboyant publisher of the *New York Herald.* The excitement of Stanley's search for Livingston in darkest Africa had long died down; the fighting in the Spanish-American War had ended; and Bennett needed a new sensation to attract readers. The America's Cup yacht races were scheduled in New York harbor, and wireless telegraph reports on the races, filed by the celebrated Italian inventor, might be just the thing needed to keep circulation booming. It worked. Marconi brought his equipment to the United States and installed it on the steam-powered *Ponce,* the vessel that cruised behind the racing craft. His terse reports on yacht maneuvers were posted on a huge bulletin board on the *Herald* building within seconds of each event—and the crowds that gathered snarled traffic for blocks. The New York Yacht Club's *America* easily defeated Sir Thomas Lipton's *Shamrock,* but in the *Herald*'s columns the real winner was Marconi and his wonderful machine. At least to *New York Herald* readers, the wireless age had arrived.

Meanwhile, researchers all over the world were working on improved techniques for sending messages through the air without wires. Lodge did pioneer work on tuned circuits; Marconi's early signals had tended to be all over the spectrum. Canadian-born Reginald Fessenden developed an electrolytic detector to replace the clumsy coherer. Having discovered that alternating dynamos were splendid producers of continuous radio waves, Fessenden startled General Electric by ordering an alternator that would run at 100,000 cycles per second. Charles Steinmetz, who had charge of this sort of thing at the company, persuaded him to settle for 10,000 cycles for starters. General Electric was geared to producing the 60-cycle generators still standard for household electric current.

There were other researchers: Adolphus Slaby in Germany; Alexander Popov in Russia; John Ambrose Fleming in England; Lee De Forest, Amos Dolbear, Edwin H. Armstrong, Irving Langmuir, and the oddly named John Stone Stone in the United States; and hundreds, perhaps thousands, whose names never made it into the history books. Many of them were not satisfied with merely sending and receiving the International Morse dots and dashes used by Marconi; they wanted to make radio waves transmit the actual sounds of music and the human voice. Little by little, they figured it out. By 1906, Fessenden had broadcast a Christmas Eve concert featuring singing, a recording of Handel's "Largo," and a violin solo by Fessenden himself. Shortly afterwards, De Forest, using his revolutionary Audion tube, broadcast phonograph records and an occasional live performance from his laboratory atop New York City's Parker building.

In 1907, De Forest also impressed the United States Navy by using a high frequency arc transmitter and a vacuum tube receiver to conduct a series of voice transmission demonstrations. The Navy was preparing to send its Great White Fleet around the world in a "show the flag" gesture ordered by President

Theodore Roosevelt, and it purchased 26 of De Forest's wireless telephony sets for the ships of the fleet. In Long Beach, California, after the fleet's long trip around the Horn, radio operators on the U.S.S. *Ohio* acquired a phonograph and a stack of records. Thereafter, they serenaded passing ocean liners and the fleets of Pacific and Mediterranean nations with concerts of recorded music.

Military use of the wireless had begun almost as soon as Marconi produced his first signals. Both the British and the Boers had made limited use of the wireless in the Boer War at the turn of the century. In the Russo-Japanese conflict of 1904, superiority of Japanese wireless over that of Russia was a recognized factor in Japan's overwhelming defeat of the Czar's forces. By the time of the First World War, armed forces of all the nations involved were heavily dependent on wireless equipment—portable trench transmitters; pack transmitters; two-way radios for airplanes; all manner of naval communications equipment, including submarine detectors; and powerful long-distance transmitters. The latter were particularly vital to Germany, since in the first days of the war the British navy had cut German cables leading to the Western hemisphere.

As mentioned earlier, when the United States entered the war, a presidential decree authorized the military to take over all American wireless communication. Some tactical and training equipment, such as the transmitter at Washington State College, fell under the jurisdiction of the Army Signal Corps, but the Navy was given overall control of radio—including the huge international stations of the American Marconi Company. Massive orders were placed for wireless gear of all kinds. General Electric, where vacuum tubes had been produced one at a time by a research laboratory glassblower, suddenly received an order for 80,000 tubes. Patent conflicts, which had plagued the development of radio from the beginning, were ignored; a letter from Assistant Secretary of the Navy Franklin Delano Roosevelt blithely guaranteed contractors "against claims of any and all kinds" in filling government orders.

At the end of the war, the Navy was determined to maintain control over what it termed the "natural monopoly" of radio communications. A bill to that effect, supported by all elements of the federal government except the Army, was introduced in Congress. The bill never got out of committee. Congress was already heeding the "back to normalcy" mood of American voters, and that mood emphatically did not include continued control of any civilian activity by the Navy or by any other military arm of the government. Jurisdiction over radio returned to the Department of Commerce.

Radio in the immediate post-war years was still regarded as a tool for point-to-point communications. The big corporations which took over when the Navy failed to win congressional approval—American Telephone and Telegraph, General Electric, Westinghouse, and the Radio Corporation of America—saw

radio mainly as a cheap substitute for stringing wires and underseas cables. Unfortunately, radio did present a problem. There was no way to restrict reception of a message to the individual or office for which it was intended. Radio waves spread in all directions. A confidential radio conference between business executives in New York and Los Angeles could be overheard by some kid in Duluth who had built a set from directions in the Boy Scout Manual, or it could be picked up in Dallas by a rival businessman who was also an amateur radio operator.

There were, it became apparent, remarkable numbers of these amateurs. Many of them had been active before wartime restrictions forced them to dismantle their sets. Literally thousands of them had enlisted in the armed services to serve as wireless operators for the Navy or for the Army Signal Corps. The wireless training programs sponsored by both services in colleges and universities had added thousands more. Now that they were back in civilian life, these wireless enthusiasts had reassembled and improved their sets. By the end of 1920, more than 6,000 of them held Commerce Department licenses for transmitters, and an untold number of other enthusiasts had also built two-way sets but had not bothered to get a license.

In addition, there was simply no way to count the people who merely owned radio receivers; and, thanks to two unrelated developments, almost anybody could build one of these. First, in 1906, General H. C. C. Dunwoody and G. W. Pickard discovered that a simple Carborundum crystal made an excellent detector of radio signals. By late 1919, crystal detectors, complete with a wire "cat's whisker" for finding the sensitive spot on the crystal, were available for a few dollars. Secondly, the Quaker Oats Company decided to pack its product in round cartons. These cartons became the standard base for wrapping the copper wire coil—a radio receiver's second major component. Virtually the only other thing needed was a headset; and if one was not available, a telephone earpiece liberated from the nearest phone booth served nearly as well. There were also, of course, more expensive tube sets. By early 1922, the Department of Commerce estimated that there were 600,000 to a million receiving sets in American homes.

The four big corporations in the radio field belatedly woke up. In September 1920, Westinghouse Vice President Harry P. Davis saw a department store advertisement in the *Pittsburgh Sun* promoting the sale of amateur wireless receiving sets. The sets could be used, the advertisement suggested, to pick up the regular concerts broadcast from the home of a local wireless enthusiast named Frank Conrad. The Westinghouse vice president did a double take. Frank Conrad was one of his employees, and was presently doing research on electric switches. The next day, Conrad was removed from the switch division and assigned to build a powerful radio transmitter for Westinghouse. "If possible, get it ready before the presidential election," Davis told him. It was. On

November 2, the station was on the air with election reports relayed from the *Pittsburgh Post* (not to mention fill-in programming from a hand-wound phonograph and announcement of a daily schedule of programs to follow.) The station was assigned the commercial shore-station call letters KDKA, and Westinghouse began mass producing receiving sets to supply the market thus created.

A bronze plaque at the site of Dr. Frank Conrad's onetime home in a Pittsburgh suburb identifies it as the "Birthplace of Radio Broadcasting." The sign is of doubtful accuracy. On November 2, 1920, the *Detroit News* station 8MK, later WWJ, also broadcast the election returns; but earlier, on August 31, 8MK had also aired the primary election returns. Out west, in San Jose, California, Charles D. "Doc" Herrold's legion of admirers maintain he operated the nation's first broadcasting station. The proprietor of Herrold's College of Engineering, Doc claimed to have been broadcasting speech and music since late in 1909. This included a daily eight-hour schedule throughout the 1915 San Francisco World's Fair. (Doc's operation, however, was never secure from a financial standpoint. He sometimes appropriated power for his 15 watter by having one of his students stretch a wire supported by a bamboo pole out the window to the street railway's trolley lines. Continued financial difficulties forced him to sell the station, and it eventually became KCBS, San Francisco.)

Another claimant for pioneer honors is the University of Wisconsin station. A bronze plaque on the Madison campus identifies the operation as "9XM-WHA, The Oldest Station in the Nation." C. M. Jansky, Jr., a longtime consulting engineer, maintained that the station began broadcasting daily weather reports on January 3, 1919. That was shortly after Professor Earl Terry and Jansky, a graduate student at the time, succeeded in building three-element vacuum tubes to generate radio frequency power. Other presumed authorities maintain the weather forecasts were sent in Morse code and that regular voice broadcasts began as much as a year later. Unquestionably, however, the University of Wisconsin station was one of the earliest to begin regular broadcasts.

Regardless of who was first, by the time Herbert Hoover took over the Department of Commerce in 1921, so many of these stations were clamoring to get on the air that the department had to create a new license category—radio broadcasting. The first such license was issued on September 15, 1921, to WBZ, a carbon copy of KDKA, installed by Westinghouse in Springfield, Massachusetts. By the end of 1921, 32 stations were licensed in that category. Hoover had a problem fitting these stations into the system. Most frequencies were still tied up by the Navy and other federal agencies, so the only space in the spectrum Hoover could find for the new class of stations was 360 meters (833.3 kHz.) All broadcasting stations were assigned to this channel. It was not a major problem in 1921, but by the end of 1922, there were nearly 600 broadcasting stations on the air—all of them on the same frequency.

One of these stations was KFAE, soon to become KWSC, and later KWSU.

Engineering Dean H. V. Carpenter (right) and a student at a KFAE remote broadcast, ca. 1925. *(WSU photo)*

III

You're on the Air

AT THE STATE COLLEGE OF WASHINGTON, General Extension Director Frank Nalder was an enthusiastic, but by no means naive, man. That being the case, he probably knew the reaction he would stir up when on November 24, 1922, he issued a breezy note to the college faculty.

The document read:

> The College radio outfit is about ready for use. When it is completed this institution will have equipment capable of sending lectures, musical recitals, and information programs on various subjects all over the Northwest. This presents a splendid opportunity for enlarging the use of the College and for improving its service in many ways.
>
> This opportunity will doubtless be grasped eagerly by every department. It can best be utilized by the preparation of lectures, musical recitals, and reports to be dictated, sung, or played into the microphone.

To give this cheery epistle added weight, Nalder did not sign it himself. It bore the signature of President E. O. Holland. Faculty reaction was probably about what Nalder and Holland expected. "I'm teaching 19 hours, plus all that committee work. They're paying me $1,800 a year and no raises in sight. And now they dump this on me."

But the note was a necessary step. The station was about ready to go; it would have to carry programs; and—like it or not—the faculty would have to furnish most of those programs.

Construction of KFAE had moved slowly over a period of nearly six months. The station was officially a project of the Engineering Experiment Station and its sole employee, Homer J. Dana; but Carpenter and other faculty members pitched in when they had time, and a number of advanced engineering students were drafted to help. By mid-September, enough equipment was hooked together that it could be examined and approved by a federal radio inspector who apparently came to Pullman just for that purpose. The college paper, the *Evergreen,* reported that the inspector also gave broadcast radio operator's examinations to Homer Dana, R. C. Flock, Hugh Allen, and L. C. Clok so that the station could be controlled by legally certified personnel.

Then delays set in. A major stumbling block was finding the necessary transmitter tubes. Radio tubes of all kinds had officially been available since

1921, but the members of the so-called Radio Trust–Westinghouse, General Electric, Radio Corporation of America, and American Telephone and Telegraph–were understandably reluctant to allow tubes to get into the hands of people who were using equipment not produced in one of their factories. Under the Trust's pool arrangement, AT&T's manufacturing arm, Western Electric, had control of existing transmitter patents; and of the more than 600 radio stations that went on the air in 1922, only 35 had purchased Western Electric transmitters.

At the University of Wisconsin, which was faced with this same problem, the founders of WHA manufactured their own tubes. The Washington State College transmitter fabricators did not use this approach, apparently lacking the necessary high vacuum equipment. How the tubes were finally acquired is still a mystery. Several decades later, at the dedication of Carpenter Hall, surviving developers of the station indicated they still preferred not to discuss the subject. Possibly, they followed the lead of fellow Washington radio pioneer Ed Craney. In 1922, Craney, who was running a radio supply store in Spokane, also found tubes were impossible to secure through normal channels. However, the Navy radio operators who passed through Spokane seemed to have access to an unlimited supply of Navy tubes which they would exchange for shore-leave money. Their going price was $12 per tube, regardless of type, Craney remembered. "A shady way to do business," he noted.

Most other equipment for KFAE was acquired by demolishing the college "ham" station, 7YI, or was scrounged from the Department of Mechanical and Electrical Engineering's laboratory supplies. The latter included the station's first microphone, a standard carbon button telephone mouthpiece which Homer Dana improved by mounting some amplifier coils behind it. The coils were encased in a Campbell's soup can that had been painted black to give it a professional look. The station was to be located on the ground floor of the mechanic arts building, and towers were needed to support a flattop antenna atop the building. Dean Carpenter reputedly slipped a ten-dollar bill to Neil Klemgard, a student from the Pullman area, and told him to find a couple of unused windmill towers. "He never asked where my brother Gordon and I found them," Klemgard told me many years later.

Tradition at KWSU Radio-Television Services holds that KFAE went on the air for the first time on December 10, 1922. This tradition is supported by material Frank Nalder supplied in 1937 for S.E. Frost's book *Education's Own Stations,* issued that year by the University of Chicago Press. But exactly what happened on that date remains unclear. One tradition holds that Dean Carpenter fired up the transmitter as a demonstration for a group of high school students. But December 10, 1922, fell on a Sunday, an unlikely day for high school groups to tour the campus. The *Pullman Herald* for December 15, 1922, reported that the station's initial tests were made on Tuesday and Wednesday

evenings, the 12th and 13th, and that it was still experiencing trouble (although a "ham" operator in Great Falls, Montana, did report picking up the Wednesday-evening test.)

On Friday, December 22, KFAE signed on the air at 7:40 pm for what was to be its first official program. It was a brief presentation. Two committees—one of students and one of faculty—had been appointed to provide program material, but because of the Christmas holidays neither committee had gotten around to functioning. The United States Department of Agriculture provided a last-minute solution. The secretary of agriculture had just announced a daring experiment by the federal agency—a special radio script service to be released to 15 selected stations nationwide on a three-day-a-week basis. One of the selected stations was brand-new KFAE. The first script arrived while Carpenter and Nalder were racking their brains about what to put on the air. The inaugural program of Washington State College's radio service consisted in its entirety of a radio address by Secretary of Agriculture Henry A. Wallace, as read by H. V. Carpenter, dean of the College of Mechanic Arts and Engineering.

The announced schedule called for three broadcasts a week, on Monday, Wednesday, and Friday evenings; but KFAE skipped its next scheduled program. Nobody felt up to broadcasting on Christmas night. On December 27, Carpenter read another USDA script and then broadcast phonograph music "for testing purposes."

Meanwhile, President E. O. Holland had arranged to transfer a Mason and Hamlin grand piano from his residence to the radio studio. On New Year's night, Carpenter's daughter Florence made her debut as a radio artist by performing a solo on that piano. From then on, live music by local artists was a regular feature of KFAE. Sports broadcasting also entered the picture. On Friday, January 26, the station broadcast its first basketball game, a low-scoring contest in which the Cougars defeated the Idaho Vandals 20 to 12. The versatile Dean H. V. Carpenter handled the play-by-play. All but one of the remaining home games were carried by the station. The following fall, Carpenter also did the broadcasting of Cougar home football games. The fact that the games were carried on radio was virtually the only highlight of an otherwise disastrous season.

There was evidence that the station was drawing an audience. By the end of January 1923, its first full month on the air, KFAE had received letters from Minnesota, Texas, New York, Nevada, and California, as well as from sites in eastern Washington and the Idaho panhandle.

Not all of these listeners needed sets. Joe Knott, of Washington State College's dairy science department, called the station one night to leave a cryptic message: "Tell Carpenter to get out of my kitchen sink." The minute he got off the air, Dean Carpenter called back for enlightenment and then dashed for the nearby Knott residence. Sure enough, the musical program on the station

was being picked up loud and clear by Joe and Rae Knotts' plumbing, and the rolling notes of a bass soloist were pouring out of the kitchen sink drain. Carpenter never did figure out why, Joe Knott told me many years later, although it went on for months. "But," he added, "the kitchen sink was a good place for a lot of those programs."

There were also reports of campus water faucets that leaked KFAE radio signals as well as water. Carpenter finally wrote the problem off as evidence that the station was putting out a powerful signal. And by early 1920s standards, it was powerful. KFAE was licensed for 500 watts. That was the same power utilized by WEAF, AT&T's flagship station in New York City. KDKA in Pittsburgh also ran with 500 watts, as did the Detroit News station, WWJ, and the University of Wisconsin's WHA. The six stations in Seattle ranged from 5 to 100 watts, and Spokane's lone station, KFPY, which Ed Craney put on the air shortly before KFAE started, had 50 watts.

The State College of Washington station thus ranked with the most powerful in the nation. Unfortunately, it did so only on paper. KFAE's output was actually 250 watts, half of its licensed power. It remained at 250 watts until early 1925. The problem again was tubes. They had finally become more available, but the final-stage tubes needed to produce a 500-watt signal cost in the neighborhood of $400 each. The college regents, following President Holland's recommendation, had allocated $700 to support the station for the entire 1923-24 academic year. Carpenter and Nalder's radio committee had requested $2,398—but the Washington State College chief executive was hard pressed to keep any of the college's operations alive. The 1923 legislature had not been generous in its appropriations. The 1924-25 fiscal year was even worse; the radio station received $650 total.

Meanwhile, nationally, radio broadcasting was proving to be a major headache for Secretary of Commerce Herbert Hoover. His department was overwhelmed with applications for broadcasting licenses, and under the outmoded Radio Communications Act of 1912, he had no option for turning any of them down. The act had been hastily drawn in the aftermath of the Titanic disaster. When the Cunard liner had its fatal encounter with an iceberg that year, several nearby ships failed to respond to its distress signals either because they were not equipped with wireless or because the one wireless operator on board had completed his shift and shut down his equipment for the night. Concerned primarily with marine communication and the handling of such future emergency situations, the law was administered by the commerce department's Bureau of Navigation; and, as Hoover observed, it "was a very weak rudder to steer so powerful a development." It stated that radio stations must secure licenses from the Department of Commerce, but it did not give the department power to refuse a license. At least that's how Hoover's legal advisers read the law. Moreover, the only available space in the broadcast spectrum for this

new service was the lone 360 meter band, now crowded with more than 600 stations. Things were bad enough in Seattle, where 5 stations were dividing time on this single frequency; but in New York City 20 stations were attempting the same thing, and in Los Angeles, 23—all on 360 meters. The other frequencies in what became the standard AM broadcasting band were still in the hands of the Navy.

It took Hoover until May 1923 to organize sufficient political pressure to pry this spectrum out of Navy hands. A heady appropriation for modernizing navy equipment—in exchange for radio rights—brought success. Hoover's department then restructured the broadcasting system. Stations with less than 500 watts of power were assigned a block of frequencies at the high end of the spectrum and were designated as class A, or local stations. Larger stations with power between 500 and 1000 watts became class B or regional stations, and were assigned more favorable frequencies. Hoover had expressed a somewhat whimsical hope that at least some station operators might remain low powered rather than be demoted to a "class B" status. A third group of very low-powered class C stations was left in the 360 meter (833 kHz) ghetto. Most educational and religious stations fell into this class C group.

In this reorganization, the State College of Washington hit it lucky. KFAE, at least on paper, had 500 watts, the minimum power for the new regional category. It was certainly regional in intent; with Pullman's small population in 1923 it could hardly be anything else, and it was the only high-powered broadcasting station existing in the vast area of eastern Washington, the central Idaho panhandle, and northeastern Oregon. The commerce department's regional radio supervisor, O. R. Redfern, was too busy with problems in the coastal and Puget Sound area to worry much about KFAE. It was not until November 19, 1923, after the station had been broadcasting for nearly a year, that he finally managed to monitor it; and he did so from Seattle. Redfern apparently liked what he heard. The following day he dispatched a letter to the station's director, H. V. Carpenter, complimenting the dean on the station's signal and tone quality, and especially applauding the dean's performance as announcer. More or less as an afterthought, he also notified Carpenter that, pending an on-site inspection of the station and approval from Washington, D. C., KFAE was confirmed as a Class B regional station and should prepare to move to the 860 kHz regional channel.

KWSC student staff, ca. 1930. Left to right: J. Willard Newby ('32), Boyd C. Buchanan ('32), Paul Globensky ('30), Emmett Kuntze ('30), John Groenig ('31), unidentified, Barbara Arvilla Weisel ('31), Albert Snow ('33), and Lester Hatfield ('33). *(Hutchison Studio, Pullman, photo)*

IV

Stay Tuned for Additional Information

IT IS A TOSS-UP as to which invention had the greatest impact on American life in the 1920s and 1930s—the radio or the automobile. Both of them enlarged horizons, destroyed isolation, virtually eliminated the hick town, and forever changed the ways Americans thought about themselves, their country, and the world.

What was happening with the automobile was brought home crushingly to Washington State lawmakers in 1921. That was the year the basement floor in the statehouse collapsed under the weight of 40 tons of license plates held for distribution to county offices. Only a few years before, the gas buggy had been a rich man's plaything; now, except for those who lived in the very largest cities, it was obviously a family necessity.

The radio receiver even more quickly followed the trend of the automobile. One day it was a toy enjoyed by scattered hobbyists and tinkerers; the next it was a requirement in every household. Interestingly enough, in the early years there was an odd tie-up between radio and motorcar ownership. Astute vendors of radio sets always asked what make of car the family drove. If it were a Chevrolet or Maxwell, or any of 50 or more other makes, the family was sold a battery for the radio that matched the battery in their car. That way they could change off batteries and recharge the radio battery while driving. If the family drove a Model T, however, they were out of luck; Ford owners did not have a storage battery unless the Model T was one of the few equipped with a self starter. Radios that could be plugged into household AC current did not become common until the late 1920s and, in rural areas, the '30s and '40s.

These early radio owners were somewhat interested in information—weather forecasts, grain and livestock marketing reports, and news of important events (although newscasts were not a standard feature of most early broadcasting stations.) They were, however, far more eager for music. Music was a sometime thing for most Americans until the development of radio. There was the church choir on Sundays; the organ, piano, or five-piece orchestra at the local silent movie theater; and, in summers, the regular Wednesday-evening concert in the park by the town band. The average household might own a phonograph, complete with a dozen or so tinny sounding records, or a player piano

with an equal number of piano rolls. But in general, music for Americans was homemade, and usually sounded like it. When suddenly there arrived a device that provided more music in a day than most Americans had heard in a year, or a decade, listeners were ready and waiting.

The State College of Washington's radio service was unusually lucky in this respect. The college had an excellent music department, and after the first hectic week the broadcasts nearly always included a substantial amount of live music—vocal and instrumental solos, ensembles, and banjo duets, for example. The White Owls, a college dance orchestra, gave its first radio performance on January 31, 1923. As dance bands discovered that being radio artists increased their prestige and bookings, additional pop groups from the campus followed. Other college musicians—students and faculty—were also eager to perform.

KFAE did have two major problems with musical presentations. Room 2 in the mechanic arts building, which served both as studio and transmitter site, had a horrendous echo. Drapes were hurriedly acquired to cover the tile walls and hard ceiling, and a rug obtained to deaden reverberation from the cement floor. The other problem was the microphone, a converted telephone transmitter. It had the limited frequency response of all telephones of the period. Homer Dana hurriedly built a substitute—an arc mike where the sound modulated a continuous electric arc jumping between two carbon electrodes. "It had good frequency response," Dana remembered. "The problem was, performers would crowd the mike and blow out the arc. We'd say 'Back off. That's 2,000 volts, DC, you know.' Then they'd back off so far the arc wouldn't pick them up." The station finally invested $75 in a Western Electric carbon mike, the standard microphone in all radio stations during the 1920s. Still later, Dana built a condenser microphone which approached full frequency response for musical performances. (All four of these microphones are still on display in the KWSU radio studios.)

In general, the musical programs were much easier to secure and handle than were the faculty-member talks the station regarded as the backbone of its service. While musicians could perform material rehearsed for other purposes, a faculty talk had to be researched, written, and practiced before it was delivered on the air. In addition, only a handful of faculty members really took to the microphone; the rest were drafted for service through monthly memoranda issued over President Holland's signature. (e. g., "Next month your department will be held responsible for this number of talks on the College Radio Station on following dates. Please respond immediately with list of topics and assigned speakers.") When I joined the radio staff a good quarter of a century later, there were still aging members of the faculty who resented the station because of the days "when the president made us do those radio talks."

Actually, the pressure could not have been that heavy. By mid-1925, KFAE had increased its schedule from three hours a week to four-and-a-half hours.

That meant the station was on the air Monday, Wednesday, and Friday from 7:30 to 9:00 pm, and during its coverage of sports events. As a class B station, KFAE was prohibited from putting "mechanically reproduced" music, such as phonograph records, on the air, so all programs were done live. More than a third of the schedule was devoted to music provided largely by student and faculty music groups. Fraternities and sororities were included in this number as they vied for an evening on the air to showcase their best musical talent. About half of the remaining time was filled with Agricultural Extension Service talks on subjects such as "Transferring Bees," "Cod Liver Oil for Chicks," and "The Value of Cow Testing Tours." Alice Lindsey Webb of the English department began a regular Friday-evening program of book reviews, and apparently enjoyed it. That left less than 90 minutes a week to be filled by compulsory faculty contributions. These ranged from "Designing the Interior of Your New Home" by Fred Rounds of the architecture department to "What is Worth Seeing in Florence" by Professor Carl Brewster.

The mid-1920s did see two significant developments at the fledgling radio station. In 1925, the Department of Commerce approved a change in the station's call letters from KFAE to KWSC. And in 1926, a new factor was added to the programming. Maynard Lee Daggy, the head of the college's newly established Department of Speech, started what is believed to be the nation's first college course in radio performance. The description in the college catalog was specific: "Students in the course will prepare talks, skits, plays, and similar material for presentation on Radio KWSC." The course title for this academic innovation was less straightforward. The registrar and several deans objected to anything as newfangled as "Broadcast Performance" being listed as such in the catalogue. Daggy finally agreed to call the course "Community Drama." It was still listed under that name when Edward R. Murrow became a member of the class in 1930, his last semester in school.

This development was not unforeseen. Shortly before the station went on the air, Frank Nalder, at the urging of the college radio committee, had drawn up a statement of purpose for the new broadcasting facility. It read:

> 1. To give informing, interesting, educative and timely broadcasts to the people in our vast coverage area. 2. To facilitate research, invention, and technical progress in the vital modern activity of aerial communication, and to strengthen and enrich courses in electrical engineering. 3. To convey to the Northwest, which we cover, the knowledge and intellectual services of a faculty whose literary, scientific, technical and philosophical interests comprehend the entire field of learning. 4. To train young people in the use, operation, and human service of the radio.

From its opening day, the station had attempted to follow the first three statements of this credo. Professor Daggy's course, regardless of its title, was the initial step in making the fourth statement a reality. In the decades to follow,

KWSC trained literally hundreds of performers in the "human service" of broadcasting. Many of them besides Edward R. Murrow achieved national distinction. Art Gilmore, for example, was Hollywood's highest paid network announcer for more than 40 years. Mahlon Merrick was musical director for numerous top-rated radio and TV variety shows including the Jack Benny Program. J. Elroy McCaw headed a radio-TV empire that stretched from New York City to Honolulu. Charlotte Friel and Kay Wight became CBS vice presidents. Keith Jackson repeatedly won every major award offered for radio and television play- by-play. Barry Serafin became a featured news reporter on CBS and later on ABC.

The credo also applied to engineering majors. Through the continual rebuilding of the station, electrical engineering students often received more practical radio experience than they really wanted. One of the station's first licensed operators, Hugh Allen, was hired as a radio research engineer by General Electric almost the day he received his engineering degree. In addition to helping construct the college station, Allen had built and operated his own "ham" rig while attending college and in his spare time had run one of Pullman's first radio stores. Numerous other electrical engineering graduates who had worked on the station found careers in broadcast engineering. A number of them, including James Hatfield and George Frese, became nationally known radio and television consulting engineers.

Meanwhile, a federal court case in Illinois and an opinion by President Coolidge's attorney general threw federal broadcasting regulations—what few there were—into complete disarray. In early 1926, a district judge in Illinois ruled that under existing law the secretary of commerce had no power to prevent WJAZ, a Chicago station owned by Eugene F. McDonald, Jr.'s, Zenith Radio Corporation, from preempting a Canadian frequency and greatly increasing its power and broadcasting hours. The judge's sweeping ruling held that Secretary Hoover had no power to assign hours of operation, limit the power of a radio station, or refuse to issue a license.

Hoover appealed to the attorney general's office. On July 8, 1926, an opinion was issued by William J. "Wild Bill" Donovan, the acting attorney general. In brief, it confirmed the judge's ruling in the WJAZ case. The secretary of commerce had no authority to assign wave lengths, restrict station power, or assign operating hours. The secretary could require broadcasting stations to obtain a license, but as Hoover was already painfully aware, could not refuse to grant one. In the months that followed, more than 200 additional stations went on the air. Almost 200 others increased power, and more than 100 shifted to a more desirable frequency.

It has been suggested that Hoover requested the attorney general's opinion in an attempt to force Congress to pass new legislation superseding the outmoded 1912 Radio Communication Act. If so, the plan succeeded; but not

in quite the way the secretary of commerce had hoped. Hoover's close friend, Representative Wallace H. White, Jr., of Maine, repeatedly introduced bills which essentially left control of broadcasting in the hands of the secretary of commerce. But a proposal by Senator Clarence C. Dill of Spokane, Washington, establishing an independent Federal Radio Commission, finally won out after months of haggling between house and senate conferees. The Dill-White bill became the Federal Radio Act of 1927. For the next seven years control of radio was vested in the five-man Federal Radio Commission (FRC).

As broadcasting historian Erik Barnouw aptly phrased it, "In almost every respect the career of the Federal Radio Commission was weird, to the point of straining belief." President Coolidge named five men to the commission. The senate confirmed three of them just before the 69th Congress adjourned and went home. Two of these three died within a matter of months. That left one confirmed commissioner, Eugene O. Sykes, and two unconfirmed appointees, Orestes Caldwell and John Francis Dillon, to put together an organization which would control 732 broadcasting stations and thousands of other radio licensees. Caldwell and Dillon had been given recess appointments by the president, which meant they could serve but could not receive pay. If they had been allowed pay it would not have changed the situation; in its rush to adjourn, Congress had neglected to appropriate funds for the commission.

Money or no money, something had to be done to stop the national hue and cry about overlapping signals and general interference. A pioneer Denver broadcaster once gave me a vivid picture of radio operation during the mid-1920s: "Somebody would call up and say, 'Hey, you've got three other stations right on top of you.' I'd say, 'See if you can find a clear space on the dial.' He'd call back and say, 'It looks good on 730.' So I'd make an announcement and move to 730." Faced with hundreds of similar situations nationwide, the new commission borrowed housing and personnel from the Departments of Commerce and Agriculture and went to work. By early summer, operating on the basis of questionnaires sent to every station in the country, the FRC had reassigned frequencies to all 732 licensees. The State College of Washington received its new license on June 1, 1927. It was directed to move to 760 on the dial and to share that frequency with KTW, the Presbyterian Church station in Seattle, and with KOB, the station of the New Mexico State College of Agriculture.

Staff member Eldon "Pete" Barr at the console in radio master control assisted by Patricia Wright and Ameer. *(WSU photo)*

V

Next Week at This Same Time

SIXTY-FIVE OF the 570 broadcasting stations on the air in December, 1922, when KFAE (KWSC) began regular service, were operated by educational institutions. The term "educational institution" was a loose one. It included colleges and universities, high schools, the Moody Bible Institute, and a variety of commercial trade schools including the Sweeney Automotive and Electrical School of Kansas City, the Coyne Electrical School of Chicago, and the Wallace Radio Institute of Oklahoma City. In the early 1920s, educational stations increased steadily, reaching a peak of 96 at the close of 1926. Actually, 192 schools secured licenses during the period, but more than half of these stations had been surrendered or turned over to commercial operators, often within a few months after their initial broadcasts.

Reasons for the early death of educational stations were numerous. Most of the college and school stations were built by electrical engineering students and faculty. Constructing the station and getting the first DX (distant transmission) reports from listeners was fun. Keeping the station on the air with a regular schedule, however, quickly became an annoying chore, and a costly one in terms of man hours if not money. Also, there was the matter of competition for listeners. By the end of the decade the Federal Radio Commission had achieved effective control, but more than 700 stations crowded the spectrum. The networks—NBC Red and Blue, and CBS—were entering the picture, as was syndicated programming distributed on big phonograph records called "electrical transcriptions." The college lecturer, with his reluctantly prepared radio talk on "Certain Aspects of Current Economic Trends," was competing for listeners with "Amos 'n Andy," "The Maxwell House Showboat," "The A & P Gypsies," and show biz gossip relayed by the staccato-voiced Walter Winchell.

A third factor contributing to the demise of educational stations was the Federal Radio Commission. The FRC's initial reshuffle of frequencies in early 1927, made with a borrowed staff and a short roster of unpaid commissioners, had done little to relieve congestion on the airways. The commission and members of Congress were being flooded with complaints from radio listeners. After the commission was brought up to full strength and had finally received

an appropriation for housing and staff, it settled back for a hard look at the business of radio. In the thinking of the commissioners, it was a business. As appointees of an administration which in the words of President Coolidge knew "the business of government is business," they could hardly believe otherwise. Radio produced a product: entertainment. It had a source of income: the sale of advertising. By early 1928, that pattern was well established. The main problem was that 723 stations competed for the available spectrum, and at least 100 of them needed to be eliminated.

The commission went to work to shake out the marginal operators. It bombarded stations with questionnaires; required them for the first time to keep detailed records of broadcasting activities; and issued stringent rules regarding technical equipment. Station program content received scant attention. The commission would not attempt to weigh, as its first chairman had phrased it, "the conflicting claims of grand opera and religious services, of market reports and direct advertising, of jazz orchestras and lectures on the diseases of hogs."

By mid-1928 the FRC had a new broadcasting structure in place. Twenty-eight stations—mostly network affiliates—were given clear channels with power of up to 50,000 watts. The remaining stations were crowded onto channels designated as either regional or local. They were assigned lesser power, and in many cases were restricted to daytime operation or were forced to share time with other stations. Some 83 stations had their licenses cancelled and were removed from the air.

In this restructuring, the FRC was faced with doing something about the 96 educational stations. They did not fit the pattern the commissioners had accepted. Only a few sold advertising; the rest had uncertain and usually meager sources of income. Most had home-built equipment, maintained erratic and limited hours of operation, and had—at least in the opinion of the commission—odd concepts of programming. But they belonged to educational institutions, and educators had surprising political clout. Since college and school stations could not simply be eliminated, the FRC dropped them into the cracks of the new system. Most of them were reduced to daytime operation; nearly all were told to share time with commercial stations; and, as might be expected, most of that allotted time went to the commercial operations.

KUOA at the University of Arkansas, for example, was ordered to share time with KLRA, Little Rock. KLRA was given three-quarters of the time; the university was restricted to the remaining quarter. Nebraska Wesleyan University's WCAJ, which had been conducting an elaborate system of night courses on the air, was coupled with WOW, Omaha. WOW was granted seven-eighths of the time, including all evening hours. After costly legal battles, both university stations sold out to the commercial station with which they had been coupled. By the end of 1928, 23 educational stations had disappeared, either selling out to commercial operators or simply dropping their licenses.

The State College of Washington was relatively fortunate in the restructuring. Starting on November 11, 1928, KWSC was ordered to share time with KFPY, one of four Spokane commercial stations. Both stations were assigned to the 1390 kilohertz regional channel and directed to arrange a time division. Two-thirds of the hours were to go to the Spokane commercial station, and the remainder to Washington State College. The commissioners found it easy to justify this time allotment. In 1928, KWSC still maintained a three-night-a-week schedule. There were also sports play-by-play broadcasts and special programs, but the basic operation consisted of 90-minute segments on Monday, Wednesday, and Friday evenings. Now that schedule would have to change. In striking a time-sharing agreement, KFPY was loath to cede evening time. Evening hours were where the profit was for commercial radio in those pre-television days. Dean Carpenter, as KWSC manager, complained bitterly to the radio commission that the most night time he was able to wheedle out of KFPY was brief periods on two, rather than three evenings a week.

Evidently, Carpenter, Frank Nalder, and President Holland felt KWSC was worth fighting for. So did the Faculty Radio Committee, which consisted of all the state college deans. The station increased its regular schedule from four-and-a-half to 39 hours a week, virtually all the time available under the mandated time sharing. The new schedule included a daily noontime broadcast from 11:00 am to 1:00 pm; a 90-minute segment on Sunday afternoons; and an eight-and-a-half hour evening schedule—3:30 pm to 12:00 pm—on Monday, Wednesday, and Friday. Carpenter had somehow won back the third evening from KFPY.

Carpenter also started some programming innovations. One of them was the KWSC Old Fiddlers Contest. On Wednesday evening, February 29, 1928, masters of country-style violin gathered in the KWSC studios to show off their skills and compete for modest prizes donated by Pullman merchants. Winners were selected by listeners who phoned or mailed in their votes. The contest was maintained as an annual event for more than a decade. Through the years other contests were added, including a reed organ competition. Carpenter, who was a classical music devotee, must have occasionally winced; but the events drew listeners and attention from the press. Otherwise, the expanded schedule was filled by requiring additional talks from faculty members; by adding performances from student and faculty musical groups; and by occasional use of phonograph records. (The old prohibition against the use of recordings by regional stations had been dropped by the commission.)

There were also radio dramas, produced by Maynard Lee Daggy of the speech department, and occasional student variety shows. (At least one of these provoked an irate listener to complain to the FRC that the state college station had broadcast obscene material. Carpenter met the resulting inquiry from the commission with a straight-faced reply that he had listened to the program

while it was on the air and had heard nothing that could be deemed offensive. He did admit in his letter that he was only mildly amused by the student skit involved.)

Actually, there is evidence that the station was drawing a considerable audience in the late 1920s. Its entertainment programs might have been amateurish, but so were those of most other radio stations. Even its most esoteric talks drew fan mail. This might have spoken well for the intellectual tastes of area radio listeners, but it also indicated a lack of competition. The four other Eastern Washington stations—KHQ, KGA, KFIO, and KFPY—were all in Spokane. KHQ went on the air first in Seattle. Owner Louis Wasmer, however, sensing greener pastures to the east, stowed the station in his motorcycle sidecar and moved it to the Lilac City. KGA was owned by Adolph Linden's American Broadcasting Company, a Seattle-based network that competed briefly with NBC and CBS. It was not related to the present ABC. KFIO, a low-powered station, barely reached the Spokane city limits. Finally, there was KFPY which was sharing time with KWSC as reluctantly as KWSC was with it. Until the end of the 1920s, there were no other stations east of the Cascades in Washington, and nothing in the Idaho panhandle.

Broadcasting enthusiasts at the State College of Washington continued to worry about the Federal Radio Commission's apparent bias in favor of commercial stations. Their concern was shared by other educational, noncommercial licensees. ACUBS—The Association of College and University Broadcasting Stations—had been formed in 1925 in an attempt to present a common front to Congress and to the federal regulatory agencies. The organization was later renamed NAEB—the National Association of Educational Broadcasters. Most members were in the Midwest where stations were closer together and their managers could meet with relatively small outlays of time and travel expenses. But KWSC was also an active member. Both Carpenter and Frank Nalder served repeatedly on the ACUBS/NAEB Board of Directors and Carpenter was one of its early vice presidents. The organization attracted some attention, but had no luck in obtaining its chief objective, a reservation of channels for non-commercial use.

Meanwhile, in Spokane, KFPY had secured a CBS affiliation and was pressuring for full use of the frequency. At WSC, President Holland and the radio committee began a series of counter moves. One of them involved cooperation with the University of Idaho, seven short miles away in Moscow. In late 1929, WSC and the U of I filed simultaneous applications for use of 1390 kilohertz, or "a better, lower frequency." There would be two stations—Idaho requested the call letters KUI—but both stations would operate from the same transmitter on the Washington State College campus. KUI would operate on Friday and Saturday evenings and other unspecified periods. KWSC would utilize the rest of the time. The two institutions would share the cost of operating the transmitter.

Idaho apparently received a construction permit from the commission, but the depression following the 1929 stock market crash intervened and the joint operation plan was abandoned. A separate station really would have been unnecessary, University of Idaho President M. G. Neale later suggested, because "the University has been permitted to use the facilities of the College station, KWSC, whenever it has cared to do so."

In the long run, the University of Idaho episode worked to the advantage of KWSC. As part of the proposed deal, Carpenter, Homer Dana, and several advanced engineering students had completed a more powerful transmitter for the station. The new transmitter would hardly fit in the limited space assigned in the mechanic arts building, so it was assembled in a three-room structure built specifically for the purpose. The transmitter house was located on the site of the present Science Hall on College Avenue. A flat-top antenna supported by two 150-foot steel towers was located on a hill behind the veterinary science complex; this replaced the antenna on top of the mechanic arts building.

In 1930, the radio commission approved the new installation and authorized the station to increase power to 2,000 watts during the day and to 1,000 watts at night. The commissioners also changed KWSC's frequency to 1220 kilohertz, a place on the dial it would occupy until 1941 when a general reshuffle of frequencies moved it to its present position at 1250 kilohertz. Also in 1930, to the relief of both stations, the commission ended the share-time arrangement with KFPY.

However, KWSC still did not receive unlimited time on the air. With the demise of the University of Idaho plan, the station was ordered to divide hours with KTW, the First Presbyterian Church station in Seattle. This directive was not particularly unwelcome at the state college. The flamboyant minister of the First Presbyterian, the Reverend Mark Allison Matthews, used his station to broadcast fiery sermons on Sundays, Thursday nights, and religious holidays. Otherwise, he was too busy reforming Seattle's city government and personally leading crusades against speakeasy owners and ladies of easy virtue to bother with using KTW. The state college could have the time and welcome. Since nobody at KWSC was particularly interested in broadcasting on Sundays or holidays, and a couple of hours on Thursday evenings was nothing to get worked up about, the share-time agreement between KWSC and KTW lasted for the next three decades.

At Washington State College, the Faculty Radio Committee reported that during the 1930-31 academic year, students and faculty members had made "upwards of 6,000 talks and contributions to popular information and entertainment" on KWSC, including dramatic and musical presentations. President Holland's office began issuing monthly reports to the faculty on fan mail received by the station. These letters ranged from a note from a Tacoma-area resident applauding a talk on mathematics by C. A. Isaacs, the head of the

mathematics department, to one from a bird lover in Altadena, California, who reported that his canaries always sang along with the Huff Brothers Whistling Duet, a regular KWSC feature.

The station's license renewal applications for the period indicated it was spending $400 a month for operations, and nothing for "talent." Since this averaged out at 32 cents an hour for keeping a 2,000-watt regional station on the air, it may have raised eyebrows at the Federal Radio Commission. But at the college, as the 1930s depression deepened, faculty members muttered about even this modest amount. With the state practically bankrupt, faculty salaries were being repeatedly slashed.

Actually, on at least one occasion President Holland used KWSC to save a faculty member from financial ruin. Dr. Frank F. Potter, an internationally known classical language scholar, had already had his salary pared to $1,900 a year. Since pay was based largely on class size, Holland was faced with giving the distinguished educator an additional pay cut; few job-hungry students in 1934 were enrolling in Latin. Rather than make the additional cut, however, Holland assigned Potter to prepare a series of talks on Greek and Roman culture for broadcast on KWSC. WSU historian George Frykman, author of *Creating the People's University: Washington State University, 1890-1990,* calls the assignment an "indignity," but there is no evidence that Professor Potter regarded it as such.

Meanwhile, the Federal Communications Commission, which had replaced the Federal Radio Commission in 1934, issued more stringent rules on radio operation. One of these involved radiating devices. Vertical antennae were to replace "flattop" radiators. Carpenter and a fellow radio ham, B. C. Steele of the physics department, devised one. They used one of the 150-foot steel towers from the old antenna as a base, and extended it with 74 feet of steel gas pipe rescued from a scrap heap. The resulting 224-foot guyed tower was no thing of beauty. It was also frightening, at least to campus maintenance men who periodically had to climb it to replace aircraft warning lights. A number of them through the years told KWSC managers that nobody in their right mind ever climbed the thing more than once. But the makeshift tower served until the mid 1970s, when the radio transmitter was moved to its present site south of Pullman.

With the new tower in place, Carpenter immediately filed for additional station power. By late 1934, KWSC was broadcasting with 5,000 watts daytime and 1,000 watts at night. Press stories at the time called the operation the most powerful educational station in the United States. In 1939, night power was also raised to 5,000 watts. Meanwhile, in 1936, the studios had been moved from the crowded Room 5 in the mechanic arts building to the ground floor of old Science Hall (now Murrow East). The college had just completed a new science building, and the old red brick structure with its curious half-rounded

wings was renamed Arts Hall and became housing for a hodgepodge of activities the administration didn't quite know what to do with. It has housed the radio studios ever since.

The Roosevelt administration's New Deal brought a new factor into operating the station. With money supplied by the National Youth Administration, a limited number of student engineers and announcers began to receive pay for their air work. NYA pay was meager, to be sure, and the hours a student could work were strictly limited, but the program enabled a fair number of student broadcasters to earn their way through college and to regard themselves as professionals. In 1937, Frank Nalder reported that seven student announcers and seven student technicians were receiving NYA pay. An additional 136 unpaid students were involved in programming the station, including "twenty-five music students especially selected for talent and proficiency by the dean of the School of Music." The remainder were from speech, English, journalism, home economics, and other divisions of the college. Many of them, Nalder said, received class credit for their broadcasting efforts.

In the same year, the station reluctantly began year-around operation. In common with most college stations, KWSC had traditionally remained silent during the long summer vacation period; but now pressure from the FCC made it expedient to extend its schedule to 52 weeks a year. 1937 also saw other significant changes for the station. Holland's Director of Extension Frank Nalder, who had helped found KWSC and who had given it enthusiastic and continuous support, died unexpectedly. And at the end of the year, Herbert V. Carpenter reluctantly gave up management of the station he had guided since its opening days. His interest had by no means declined, but at age 62 and troubled with arthritis, Carpenter no longer felt up to supervising virtually a full-time radio station in addition to maintaining his duties as dean of engineering, director of the Engineering Experiment Station, teacher of engineering classes, and consultant to various agencies developing the power resources of the Columbia Basin. He continued to fill these posts until his death in 1941.

Carpenter's replacement at KWSC was Kenneth Yeend, a Washington State College graduate from Walla Walla and a veteran member of the student staff of the station. Yeend, who would later have a long career in Seattle radio and television, was responsible for a number of changes at KWSC. In cooperation with the WSC School of Education, he developed several "in-school" programs designed for classroom listening in the public schools. These included a two-a-week music appreciation program conducted by Russell Danburg, an instructor in musical theory and piano. Yeend also increased KWSC's popular music programming. As soap operas dominated daytime schedules of the Spokane network stations, pop music was a welcome alternative to substantial numbers of listeners.

Lastly, the new manager moved the station heavily into news broadcasting. News had been a sometime thing on most stations throughout the 1920s and early '30s. Now, with the growing crisis in Europe, regular newscasts were a key part of any broadcasting schedule. KWSC acquired a United Press franchise complete with Teletype, and by the end of World War II would have an Associated Press wire (partially as a political gesture to keep both major wire services happy with the State College.) The wire services were augmented by utilizing journalism classes to cover local and college news. In addition, Eldon C. "Pete" Barr, the blind graduate student and station production director, added a local angle to the international news. Having become adept both at taking notes in braille and reading braille scripts on the air, he did a regular commentary based on shortwave reports he gathered from European capitals.

Following Pearl Harbor and the entry of the United States in World War II, KWSC made other significant changes in its programming. Throughout the war, the station carried virtually endless programs and announcements for war bond campaigns, the USO, OWI, and other federal agencies of the period. However, the record shows only one direct involvement with military activities. On February 5, 1943, a bomber on a test flight got lost over North Idaho during a severe storm. The Walla Walla air base asked KWSC to enlist its audience in the effort to track down the plane. Dozens of listeners responded with reports on hearing the aircraft, and the bomber was guided to a safe landing. The air base credited KWSC with saving the lives of the crew.

As was true of all radio stations in the war years, military enlistments, the draft, and the lure of defense-plant jobs made for a steady turnover of staff at KWSC. Hugo L. Libby, who had become chief engineer in 1939, was succeeded in rapid order by Kenneth Pendleton, Sigurd Turnquist, George Frese, Herman Gelbach, and Robert E. Baird. Student announcers and engineers remained on staff barely long enough to learn how to operate the equipment. When manager Kenneth Yeend left in early 1943, Glen Jones, who had replaced the late Frank Nalder as the college's director of extension, became the titular head of KWSC, and Pete Barr handled day-to-day operations.

To help counter this rapid turnover of personnel, KWSC management broke an iron-clad radio tradition: they permitted women in announcing, previously a male-only occupation. Before the war, women got on the air only as singers or as featured personalities on homemaker shows. By 1944, however, there were seven sopranos and contraltos on the student announcing staff and, to the amazement of both Glen Jones and Pete Barr, they did a first-class job.

As 1944 came to an end, the nation, sensing that the war was about to be brought to a successful conclusion, was deep in plans for building the new society which would follow victory. The post-war era would call for different leaders with different ideas. One man who deeply sensed the coming changes was the State College of Washington's president, E. O. Holland. His health

broken by 29 years of running the institution virtually single handedly, Holland resigned at the end of the year. His successor was Wilson Martin Dale Compton, a longtime lobbyist for the lumber industry. Compton was not without connections in the world of education, however. His father had been a professor and administrator at a small but prestigious Ohio college, and two of his brothers were presidents of major educational institutions. Under Compton's leadership, the college and its broadcasting service could look ahead to unparalleled growth.

Allen Miller, head of Radio-TV, with Professor Homer Dana in front of historic microphone display in basement of Arts Hall (now Murrow East), February 1958. *(WSU photo)*

VI

It's Miller Time

THE YEARS IMMEDIATELY following World War II saw a fantastic eruption of new radio stations and, thanks to the GI bill, an almost equal eruption of college and university broadcasting students. At the close of the war there were 989 operating radio stations in the United States; in the next two years, that number more than doubled, and the FCC granted construction permits for an additional 1000 transmitters. Furthermore, numerous existing stations applied for and received power increases. At KWSC, the deluge had two immediate effects. The hoard of would-be broadcasters who had enrolled at Washington State were clamoring for a chance to receive actual on-the-air experience; and with new transmitters going up at every crossroads, the station for the first time in its twenty-five years on the air faced substantial competition for audience.

To handle the dual problem, Washington State College hired a full-time radio manager and gave him an operating budget which would have amazed H. V. Carpenter or even Kenneth Yeend. The new manager, Frederic Hayward, was fresh from military service. An officer in the Allied Forces Mediterranean Headquarters, he had supervised seven free-wheeling broadcasting stations maintained to entertain American GIs serving in Italy. Upon arriving in Pullman, Hayward generally applied the programming formula that had been successful with Armed Forces Radio. He coined a slogan for KWSC–"Entertainment for an Empire." To back up the slogan, Hayward acquired three syndicated popular music services (most stations were happy to have one) and added ten weekly production series issued by NBC on electrical transcriptions. These programs ranged from drama–"Weird Circle" and "Playhouse of Favorites"–to "Allan Prescott, Wife Saver" and "Through the Sports Glass."

Hayward also launched a vigorous press campaign promoting the station. The campaign boasted, among other things, that with 42 students working regularly in the studios, KWSC had the largest station staff in the Pacific Northwest. A bemused associate once told me, "Freddie had an absolute genius for publicity. He could turn out a release on the fact that the station was carrying a weekly program from the Veteran's Administration and make you feel that this was the most important development in radio since Marconi. The fact that 2,000 other stations were also carrying the program was ignored."

The Hayward regime at KWSC lasted roughly a year. In mid-1948, Hayward left Pullman to become publicity director for a major commercial radio operation on the east coast. WSC President Wilson Compton and his administrative assistant, Robert Sandberg, began searching for a replacement, hopefully one with a national reputation in the field of educational broadcasting. They found one in Denver, Colorado, and he accepted the job. His name was Allen Miller.

Between Hayward's departure and Miller's arrival, Pete Barr served as interim manager of the station. The interim was generally uneventful, except for one startling happening. On October 29, 1948, KWSC became one of the few—perhaps the only—station in American broadcasting history to be taken over by a hostile force. Actually, the takeover was of brief duration. October 29 was the day before the annual football game between the WSU Cougars and the University of Idaho Vandals. Early that morning, eight ardent Vandal boosters entered the station, seized and bound the control-room operator and the news editor, placed a home recording on the air containing the Idaho fight song and gleeful predictions of a Vandal football victory, and went on their way rejoicing. The KWSC staffers quickly escaped from their bonds and resumed normal programming.

Pete Barr filed an outraged report on the event with the FCC. It was promptly acknowledged, but there is no record of any further action. The commissioners were probably more amused than upset. But the incident markedly reduced Barr's enthusiasm for management responsibilities. When Allen Miller arrived in Pullman in the opening days of 1949, Barr was more than happy to surrender control of the station to him.

Any way you looked at him, Allen Miller was an enigma. During the nearly 20 years he headed what became the Radio-Television Services of Washington State University, nobody ever quite figured him out; and certainly, nobody ever quite bested him at whatever he set out to do.

An uncompromising moralist with a strong strain of Dutch Calvinism in his make-up, Miller was also a devoted poker player and an avid follower of race horses. A man who professed to despise ritual and ceremony, Miller was a lifelong member of the Masonic orders, and held high offices in that ritualistic organization. He was in every sense of the word an intellectual, yet he also practiced palm-reading and at least half believed in the messages he found in the hands of acquaintances. He was nationally recognized as one of the great broadcasters of his era, yet Allen Miller had few of the skills normally connected with broadcasting. He could not splice a tape, cue a record, punch up a camera, or light a set. He was a terrible public speaker, and his infrequent appearances before a microphone or TV camera were sheer disasters.

But lack of these artisan skills was hardly a handicap. Allen Miller understood what radio and television were capable of doing, and—the moralist

again—what they ought to be doing for people. Also, he had a talent for forcing people who did possess the skills to produce results far beyond their own expectations and certainly beyond their inclinations.

Miller grew up on a farm near Bloomington, Indiana. He was 23 years old when in 1926 he received a degree in analytical chemistry from the University of Chicago; he had had to work his way through, and it was slow going. Miller planned to continue with advanced work, but a shooting scrape intervened. It involved the University of Chicago's director of radio, a man who had an eye for the ladies, including the betrothed of a divinity student. The student acquired a revolver, stormed the radio office, and let the broadcasting director have it. Luckily, the wound was superficial; but the university did not enjoy the resulting publicity. The radio man was dismissed. His replacement was Allen Miller.

Why the University of Chicago chose a chemist to handle its broadcasting activities remains something of a mystery. But Miller had been active in university fund-raising during his senior year. He knew the people who handled development work for the school, and radio was considered a development activity. Also, the university was fairly sure that Miller would not get its name in Chicago's racier tabloids.

Miller remained the dominant figure in Chicago educational radio for fourteen years, first as the University of Chicago's radio director, then as head of the University Broadcasting Council, a cooperative group sponsored by stations, networks, and Chicago's four major universities. Miller developed the "University of Chicago Round Table," a weekly panel discussion program hailed as a network landmark throughout pre-television days. At its peak, the council had weekly programs on all four major networks, and more than 1,200 educational shows a year on local Chicago stations.

The council was dismantled in 1940 when the University of Chicago withdrew its membership. The University's youthful president, Robert Hutchins, and its most vocal trustee, advertising tycoon William Benton, decided they no longer needed a middleman to deal with the networks. Miller, at age 37, was suddenly without a job. He took the first thing that opened up—the post of production director at KWSC in far-off Washington State. He remained in Pullman for a year and a half, and then moved to Corvallis to manage KOAC, the Oregon State station. Miller later went to Denver to head the Rocky Mountain Radio Council, a cooperative venture similar to the one he had founded in Chicago. In 1949 he returned to WSU as manager of KWSU and associate professor of journalism and speech.

During his career, Allen Miller was a two-time recipient of the George Foster Peabody Award, radio's most prestigious symbol of programming merit. His first Peabody, awarded while he was at KOAC, Corvallis, was the result of a snap decision. A Kentucky medical school had developed a series of

broadcasts on venereal diseases—a hot topic in the World War II years when most American young men were in uniform and were far from home. The recorded programs were offered to any interested station. Miller scanned through the audition disc, decided that the subject was handled in good taste and was of vital interest, and placed the series on KOAC's schedule. Several months later, he was amazed to read on the KOAC news wire that the station, its manager, and the medical school had received the Peabody award. Miller was the only radio manager in the United States with the courage to broadcast the series. Sex was a subject radio simply didn't talk about in the 1940s.

When Miller returned to Washington State in 1949, he made little immediate change in KWSC's existing programming other than to bar the use of the slogan "Entertainment for an Empire." That slogan had become a rallying point for those serious-minded faculty members who regarded catering to popular tastes as inappropriate for a radio station licensed to an institution of higher education. Otherwise, the new station manager concentrated on developing a limited number of quality talks programs that had in common a serious educational purpose. He instituted a discussion program, patterned of course on the "University of Chicago Round Table"; a weekly science commentary; a series of short informational farm programs; a book review program; and several other series. As for KWSC's popular music format, he was content to quote the old show business adage: You have to get them into the tent before you can save their souls.

Miller intended that these new programs serve a wider audience than the KWSC coverage area, and offered them for use by commercial stations. As KWSC's two RCA disc recorders were capable of handling the oversized electrical transcriptions, he distributed the programs first on disc recordings. As soon as possible, however, he switched the service to audiotape, a development that was revolutionizing broadcasting. At its peak, KWSC's tape service supplied weekly programs to more than 120 stations. At least one weekly series, "Science in the News," was also broadcast around the world on the transmitters of the United States Information Service's Voice of America.

In addition to implementing programming changes, Miller early persuaded the college administration that the radio studios had to be rebuilt and reequipped, and that the homemade station transmitter would have to go. The transmitter had undergone almost continual rebuilding since Carpenter and Homer Dana first assembled it, but it no longer met FCC technical specifications. It had also been subject to frequent long outages as the engineering staff tracked through 27 years of modifications to find the trouble. President Compton apparently agreed with Miller; it was not long before KWSC possessed a new General Electric transmitter, an elaborately equipped master control room, and three new radio studios, including an auditorium studio capable of seating more than 100 people.

With the new GE transmitter, outages of more than a few minutes became a thing of the past—except for one unfortunate day. That was when an embryo track star, practicing in front of the veterinary medicine complex, heaved his javelin high in the air and severed both coaxial cables connecting the transmitter with the antenna. The javelin toss was of Olympian quality—the cables were a good 50 feet over his head—but the feat was not applauded by KWSC engineers.

Progress during the Miller era was not limited to technical advances. In 1949, the State College of Washington, like most other colleges and universities, was still experiencing the post World War II enrollment boom. There were more students on campus than could be comfortably housed, fed, or taught—most of them attending under the GI bill. A substantial number of them had entered WSC to study broadcasting. Radio was still a glamor industry in the late '40s and early '50s, and it was also a growing one. By 1953, the number of radio stations in the United States had increased to more than 3,000. This created a market for skilled broadcasters, and Washington State was one of the few colleges that offered work on an actual radio station as part of the training program. Broadcasting students were also drawn by the fame of WSC graduate Edward R. Murrow; nightly broadcasts from London throughout the war had made his name a household word.

As cited earlier, one of the roles of KWSC had always been, in the words of Frank Nalder, "to train young people in the use, operation, and human service of the radio." In the decade immediately following World War II, this role became the primary function of the station, at least in the mind of college administrators. Virtually all members of the KWSC staff held academic rank and divided their time between broadcasting duties and conducting classes in either speech or journalism.

That staff in mid-1949 consisted of four people. Allen Miller had a threefold appointment: he was manager of KWSC; he was also an associate professor of both speech and journalism. Hugh Rundell divided his time between teaching speech and supervising the station's announcing staff. He held a master's from the University of Wisconsin and had worked on that institution's station, WHA. Robert C. Baird, the station's chief engineer, did not have an academic appointment, but was expected to coach electrical engineering students so that they could secure the FCC First Phone License and be able to operate the transmitter without supervision. Eldon C. "Pete" Barr, the talented blind man who had acted as manager of the station pending Miller's appointment, also taught speech classes. (Along with Pete there was Pete Barr's seeing-eye dog, a faithful and protective German shepherd with a habit of nipping the ankles of Pete's office mates if they were getting out of line. I still have several small scars from the association.)

With the growing student enrollment, Miller was able to expand the staff. Almost as soon as he arrived in Pullman, Miller hired me. We had known

each other in Denver when Miller was running the Rocky Mountain Radio Council and I was producing radio programs and teaching at the University of Denver, one of the Council's member organizations. I was managing two bankrupt radio stations in Southern Colorado when Miller called me. The KWSC manager offered a smaller salary than I was supposedly drawing as a commercial station manager, but I knew that at a state educational institution the checks would arrive regularly and for the full amount. Allen later hired Calvin Watson and Robert A. Mott, both of them also with degrees from the University of Denver and experience on Colorado commercial stations. The three of us and Miller became known in some faculty quarters as the Denver Mafia.

Although the broadcasting courses at WSC were formally offered by the speech and journalism departments, Miller, with a fair amount of unconscious arrogance, ran the broadcasting academic program as if it were a separate department with its own curriculum and set of values, and—God knows—its own faculty meetings. The latter often went on for hours. Miller believed firmly that intelligent people, once they grasped the facts, would arrive at the right decision through free discussion. The problem for us lesser humans was finding what Miller's concept of the right decision was, so we could vote for it and finally get home for dinner. He ran the Pullman city government and the chamber of commerce in the same uncompromising manner during his terms as mayor and chamber president. For some reason both the city council and the chamber board of directors also rolled with it.

Admittedly, some exceptionally able staff members never cared to adjust their tuning to the Miller frequency. Pete Barr resigned to enter the audience measurement field. While working at KWSC, Barr had developed a way of measuring tune-ins to individual stations. It involved using sensitive equipment of his own design to detect signals which all receiving sets emit a standard number of cycles above the frequency to which the radio is tuned. Barr's "Barrometer" became a standard audience measurement service in the Pacific Northwest.

William Ladd stayed around long enough to win several awards for the station, including one for news interpretation from the prestigious Ohio State Institute, but then moved on to less hectic pastures. R. C. Norris, a Texan with a whimsical sense of humor, charmed both students and faculty; but Pullman was a long way from the Lone Star State. R. C. shortly returned to Texas to, ultimately, head broadcasting activities at Texas Christian University.

Actual air work at KWSC continued to be done mostly by students as it had since the early 1930s. Under Allen Miller, the student staff was organized in an elaborate system of "chiefs." There was a student chief announcer, a sports chief, a news chief, a music library chief, a continuity chief, and at least two announcer coaches, all appointed by the faculty. Both students and faculty

staff dreaded the competitive announcer auditions held at the opening of each semester—the faculty because auditions involved listening to seventy or more tapes of the identical material, arguing about the respective merits of each performer, and finally issuing ratings.

Student pay was minimal: $25 a month for a class A announcer, plus an additional $25 if the announcer was also a department chief. Class B announcers got $15, and those rated class C—usually beginners—worked without pay. The staff was so large that student staff members felt lucky if they spent as much as four hours a week actually on the air.

Miller was concerned about the limited air time trainees were able to log, and also by frequent complaints voiced in the *Evergreen* that the college-owned station was ignoring student musical preferences. KWSC openly catered to 30-to-50 year olds; those in this age group offered the most likely market for the station's educational offerings and, from the standpoint of college public relations, were the people most apt to have influence with the state legislature. The obvious solution was to add a separate service which would appeal to, and be heard, only by students.

Wired-wireless had been developed in 1936 primarily by students in the ivy league universities. Wired-wireless used the college power or heating system as an antenna, and flea-powered AM transmitters to generate signals that could be heard only on campus. Legally, the system fit a loophole in Federal Communications Commission regulations meant to permit operation of radiating devices which had no connection with broadcasting.

Miller and KWSC's chief engineer Bob Baird designed a wired wireless system for the WSC campus. It was promptly dubbed KUGR. The plan called for 20 mini-transmitters, each designed to serve a single dormitory or other housing unit. They were connected to the studios by more than two miles of telephone wire strung through steam tunnels and on utility poles. Although the system was a maintenance headache, it worked well enough that area FCC inspectors used it as a model for other schools interested in wired-wireless. And certainly it was campus- and student-oriented. Its inaugural programs in 1952 included live coverage of a panty raid on Greek Row and the formal dedication of the Compton Union Building. KUGR still operates—often 24 hours a day during the regular school year—but it now utilizes an FM frequency and is carried on one of the channels of the Pullman Cable Service.

Throughout the 1950s, KWSC continued to program "programs." The schedule was divided into 15-minute and 30-minute segments of popular music, each complete with opening and closing theme and written continuity. The idea was to imitate network programs of the period as closely as possible. Shortly after arriving at the station, I noted that seventeen programs in the daily schedule had the word "time" in their titles—among them "Vocal Star Time," "Bing Crosby Time," "Variety Time," and "Big Band Time." I suggested

to Pete Barr, the program director, that we could add a quarter-hour of uninterrupted time signals and call it "Time Time." Pete was not amused, and his seeing-eye dog bit me on the ankle again.

The classical music segment of the KWSC record library in 1949 consisted, at most, of seven symphonies. One of them was Beethoven's Fifth; the other six were not. In those days before LP (long-playing) recordings, long musical selections posed a problem both to record producers and broadcasters. A complete symphony required eight to ten sides of easily breakable records. Bored student control-room operators consistently played them out of order, or would "accidently" break the disc containing sides two and seven. To everyone's relief, LP records became common in 1950. Coincidentally, this was approximately the same time that Elmer Erickson joined the KWSC staff.

Erickson was an oddity. A virtuoso on that most difficult of all double reed instruments, the bassoon, he was also a victim of ulcers; constant anxiety about performing that second-movement cadenza under the critical baton of Fritz Reiner, Bruno Walter, and Pierre Monteux (among others) had taken its toll. In 1950, more than half convinced that he was about to die, Erickson abandoned symphony work and decided to get a college education. Simultaneously, he met and married Anna Jim Holman, and, since Anna Jim was a member of the WSC extension staff, he enrolled in WSC. Allen Miller immediately employed him as music chief at KWSC at standard student wages. Erickson remained at KWSC for the next 27 years, although not at the same salary. Almost singlehandedly, he changed the station from a modified top-40 operation to a haven for lovers of serious music. In the process, removed from the strain of performing with major orchestras, he also lost his ulcers.

Erickson was aided in building the classical record library by Allen Miller's eccentric handling of the station budget. Miller was nothing if not a tight man with the dollar. Operating money for the station and the other college entities under his control was doled out, almost literally, a penny at a time. Suddenly, the end of the fiscal biennium would loom and Miller would realize the unthinkable. He was in danger of having to revert money to the general fund. On Monday, KWSU staffers would be begging Miller's secretary for a three-cent stamp; on Tuesday, the word from the front office would be: "Spend money. Buy at least $3,000 worth of recordings. And do it now!" Since record manufacturers generally supplied pop records to radio stations without charge, the directive would be turned over to Elmer Erickson. Within a few biennia, KWSC owned one of the largest and most varied classical record libraries in the nation.

For a substantial portion of KWSC's audience, however, the Cougar fight song eclipsed even Beethoven's Fifth. Sports broadcasting had always played a vital role at the station, and KWSC regularly aired play-by-play accounts of Cougar football, basketball, and baseball games as well as the games of the Pullman High Greyhounds. Occasionally, station sports broadcasters encountered

unexpected difficulties. In 1949, student sports chief Bill Denton, speaking on his nightly sportscast, blithely predicted that the University of Idaho would defeat the Cougars in the coming Saturday football contest. Irate members of the Cougar squad captured Denton and shaved his head except for an impressive block letter I, for Idaho. Denton threatened to sue somebody—he wasn't quite sure who—but was persuaded that, since he was a graduating senior, the photograph of his unusual haircut printed in *Broadcasting* magazine would be helpful in finding a job. It was. Denton was hired immediately after graduation, and within a few years became sports director of KREM-TV.

In the 1950s, KWSC covered a number of baseball games, including the Cougar's appearance at the College World Series in Omaha, by telegraphic re-creation. Direct broadcast lines for the away-from-home games, as well as travel expenses for the broadcast crew, could run into hundreds of dollars per contest. Western Union would provide detailed Teletype reports for a fraction of that figure, and a good sportscaster, particularly if he knew the home-team players, could fill in details as his fancy dictated.

Re-creating football was infinitely more difficult; but KWSC did it in 1959. The collapse of the Pacific Coast Conference had disrupted long-standing arrangements for covering away-from-home games on a commercial network, and avid area fans were eager to hear the games any way they could get them. Referees' whistles, general crowd background, and the occasionally audible clash of bodies were easy to simulate in a re-creation. But organized cheers are a part of any football crowd and the station had no recordings of the chants led by cheerleaders at, say, Stanford or the University of Houston. Cal Watson, who produced the re-creations, solved the problem by playing tapes of Cougar cheers backwards. The resulting sound was definitely a cheer, but could not be identified as coming from a Cougar-oriented crowd.

In the early 1950s, KWSC also performed one function that certainly was not spelled out in its license. Pilots of the DC3s and F27s flown by the commuter airlines serving Pullman and Moscow used the KWSC signal to guide them to the local airport. I discovered this one snowy Thursday evening when the station signed off at 7:30 p.m., in compliance with its share-time agreement with KTW. The manager of the airport immediately called.

"Get that station back on the air," he roared. "I've got a plane up there, and he's lost."

"Is this an emergency?" I asked, mentally checking the FCC regulations.

"What do you mean, emergency? He's lost up there," the airport manager said.

"Tell me its an emergency," I said, "and I can legally put the station back on the air."

"Hang on," the airport man said. "I'll tell you in a minute whether it's an emergency. Here he comes!"

The plane landed safely with a full load of passengers on board. Pullman-Moscow airport shortly afterwards installed its own radio guidance equipment.

Meanwhile, the broadcasting industry of the entire world was undergoing a revolution. For nearly three decades people had been content merely to hear what was coming through the ether; now they wanted to see as well as hear. The television age had arrived.

Popular on and off the air, "The Chucklers" performed weekly on KWSC. Left to right: Jim Calvert, Dick Neil, Glen Horn, Chuck Snyder, Burt Harrison, Carol Bloyd. *(Hutchison Studio, Pullman, photo)*

VII

Changes in the Air

BROADCASTING HAD BECOME a stable big business in the 1930s and 1940s. It was dominated by the major radio networks—NBC, CBS, ABC, and to a lesser extent Mutual—but there were numerous independent stations, some of which were doing very well indeed. Suddenly, in the 1950s everything was in turmoil thanks to two upstart inventions—television and frequency modulation (FM) radio.

Actually, both TV and FM had been around for some time. Work on television started in laboratories almost at the dawn of the radio age; but for some years use of the revolving Nipkow scanning disc limited the best TV pictures to a flickering image smaller than a postcard. The breakthrough came when electronic scanning methods eliminated the mechanical whirling disc. One of the chief developers of all-electronic television was an Idaho farm boy named Philo T. Farnsworth. Farnsworth drew up the basis of his TV system while he was attending high school in Rigby, a small Mormon community north of Idaho Falls. By the late 1930s, numerous experimental TV stations, including four at midwestern educational institutions, were operating in the United States.

Most other institutions with engineering research facilities were doing at least some laboratory work with television. At WSU, H. V. Carpenter, Homer Dana, and several other researchers had been active in TV experimentation for a number of years. The only television activity at WSC which attracted campus-wide attention, however, was a demonstration of projection television staged in Bryan Hall Auditorium in the fall of 1939. David F. Taylor, one of three students who volunteered to be televised, recalls that the picture from an on-stage camera was projected on a 4 x 6 foot screen.

FM radio, the second development to revolutionize broadcasting, was the brainchild of Edwin H. Armstrong, who earlier had produced the superheterodyne circuit. Armstrong had assumed he had the backing of NBC's David Sarnoff, who had suggested that it would be nice if he would "come up with a black box that would eliminate static." But when the inventor was ready to demonstrate that his FM system both eliminated static and provided superior sound reproduction, Sarnoff had lost interest. Radio as it existed was paying

off handsomely for NBC, and with television almost ready to go commercial, who needed a new radio system? Undaunted, Armstrong persuaded the Federal Communications Commission to open up spectrum space for the new system and opened an FM station on his own to serve New York City. Other independent operators also showed interest in FM, and by early 1941, broadcasters were braced for a nationwide boom in both FM radio and television.

It didn't happen, and would not happen for nearly a decade. America's entry into World War II put all such civilian activities on hold for the duration. Most FM stations remained unbuilt. All but six television stations shut down, and these cut back to token schedules. Manufacture of TV and radio receivers was banned. The electronics firms were swamped with orders for war equipment, including an outgrowth of television research, radar, and FM sets for battlefront communications.

The boom for television did get underway within days after the end of hostilities. With war orders being cancelled in wholesale lots, the electronics manufacturers plunged into making television receivers and equipment for TV stations. By late 1948 more than a hundred television stations were on the air. Hundreds of other TV applications were on file when the Federal Communications Commission imposed a hiatus in TV development—the so-called TV freeze. The commission indicated that its system for assigning channels was faulty, offering too many chances for interference between stations. The freeze lasted for nearly three-and-a-half years, until mid-1952, while the commission revised its table of allocations and fended off pressure groups. For residents of most rural areas and of a number of major cities, including Portland, Oregon, television during that period remained something one read about in the newspapers.

There was no freeze, however, on radio expansion. In the five years immediately following the war, the number of radio stations in the country nearly tripled—from 930 in 1945 to 2,867 in 1950. Four out of every ten of the new stations were in the FM band, and 48 of these were non-commercial FM stations licensed to colleges, universities, or an occasional public school district. It was the first time since the early 1930s that the number of educational stations had actually increased; and the expansion of both commercial and non-commercial radio was only beginning.

At the State College of Washington, the TV freeze provided Allen Miller with some not unwelcome planning time. A TV station at the college hardly seemed practical—there simply were not enough potential viewers in the Pullman area to justify it. On the other hand, if the institution were to continue as a leader in training broadcasting students, it would have to move into some kind of television activity. Miller dispatched his staff on short visits to KING in Seattle and KSL in Salt Lake—the only TV stations within driving distance—so that they at least could say they had been inside an operating television studio. Meanwhile, he was examining alternatives.

The TV freeze ended in mid-1952. By the end of the following year, television stations were in operation or were nearing completion in Spokane, Tacoma, Bellingham, Yakima, and Pasco, and there were two additional stations in Seattle. During the same period WSC acquired a TV studio, complete with cameras, switching equipment, film chain, closed-circuit connections to several classrooms, and a kinescope recorder. The latter consisted, basically, of a sound-on-film movie camera pointed at a TV picture tube. The resulting films, universally called "kines," left much to be desired in both picture and sound quality, but they offered the only practical way of recording TV programs until videotape recorders entered the scene near the end of the decade.

Miller also imported a husband-and-wife team of self-styled television experts from Hollywood to conduct a summer-long training session in the new studios. The entire KWSC staff—quickly redubbed the "Radio-Television Staff"—was drilled in the basics of pushing cameras, racking over lenses, loading the film chain, building and lighting sets, directing, and handling control-room equipment. By the end of the summer everybody involved felt that they could at least speak the language, and probably knew as much about TV production as 90 percent of the employees in the new television stations. Cal Watson, who showed the most aptitude for the new medium, was appointed manager of television activities. The following year, aided by enthusiastic students, Watson produced sixteen half-hour documentary programs under the catch-all title "Mosaic." The kines were "bicycled" to every TV operation in the state, all of which were desperate for any program material.

The equipment was also used for a number of closed-circuit teaching experiments on campus. For several years it played a role in the state veterinarian conferences held annually on campus, primarily by bringing close-up views of surgical techniques to the visiting animal doctors. On at least one occasion a student cameraman fainted dead away while focusing in for a tight shot of a bloody operation on a sheep. Most of the student crews' objections, however, centered around cleaning up the studio after the animals were taken away.

Meanwhile, the area radio situation had changed. For nearly three decades KWSC had been the only station in the Palouse country and had shared a vast area of the Idaho panhandle only with KRLC in Lewiston. There had always been the Spokane network stations, of course, but now there were also local radio operations in Pullman, Colfax, Moscow, Grangeville, McCall, and Orofino. Additional radio stations had also opened in Spokane, the Tri-Cities, Walla Walla, and other localities, all of which placed signals in substantial parts of the KWSC coverage area. And, of course, television stations were making heavy inroads. In the face of this new competition for audience, KWSC tried to hold on to its popular music audience while at the same time increasing its number of "serious" offerings.

Allen Miller observed that most "good" music on the radio networks had been relegated to Monday evenings—"The American Album of Familiar Music,"

"The Firestone Hour," etc. In an effort at counter programming, Miller decreed that Monday evenings on KWSC would be devoted to country and western music. A member of the student staff, Bob Ferguson, was an ardent country music fan, and an enthusiastic, if erratic, performer on the Hawaiian steel guitar. Miller assigned him to develop a three-hour country DJ program for Monday evenings under the title "Cougar Corral." Ferguson, who later became one of Nashville's leading record producers and the author-composer of such country and western hits as "On the Wings of a Snow White Dove," also assembled a live country band, the KWSC Chucklers, to perform on Monday-evening broadcasts.

As program manager of the station, I was of two minds about the Monday-evening innovation. I applauded the audience response to Monday evenings, but could never find an educational or serious-purpose program that seemed to fit with country music. I knew that in theory, KWSC's music programs were scheduled to build an audience for its "purposeful" offerings. However, as piano player for the Chucklers, I was making more money on weekend dance engagements than I was working for the station and teaching classes. The Chucklers continued to perform on KWSC until the other members of the band graduated. ("Fiddlin" Glen Horn went to Hanford as a nuclear engineer; Chuck Snyder became head of a major Seattle advertising agency; Jim Calvert entered public education; Dick Heil, with his accordion, stayed in the entertainment business; and Carol Bloyd Huckfelt, who could perform a spectacular Swiss yodel, became KWSC's traffic manager until her husband graduated in veterinary medicine.)

The Chucklers and "Cougar Corral" represented KWSC's last attempt to be all things to all people in the search for audience. The growth of television and the unprecedented increase in the number of radio stations forced all broadcasters to rethink their philosophy of programming. The trade press and the talk at gatherings of radio managers began to center around "narrowcasting" rather than "broadcasting." To continue to thrive, a radio station had to develop its own special audience rather than attempt to appeal to all listeners. KWSC therefore gradually dropped "Cougar Corral" and most of its popular music programs, including even the "Bing Crosby Show." (Crosby's twin sons had briefly attended Washington State College, and the station had employed one of them to play his father's recordings on the air and make breezy comments about pop's activities and idiosyncrasies.) As the station phased out this lighter fare, Elmer Erickson was given virtually a free hand in developing classical music programs from the growing record library.

One program still in the schedule, however, was the late afternoon half-hour for children, "Mr. Recordman and the Story Lady." Station management considered it a proven success, but as television competition developed, they began to have second thoughts. What kid in the 1950s would listen to someone

reading stories and playing children's records when television was offering all those cartoon shows during the same period? They got the answer. One evening, as its two performers at the time, Dale Kassel and Jeraldine Heft, were signing off the show, Kassel casually remarked, "Hey, Hollowe'en's coming up. Why don't some of you boys and girls come around to the studio tomorrow night, and maybe we can do something special." Kassel, not expecting any response, neglected to tell anybody about his offhand remark; and to the bewilderment of the station, more than 150 moppets, many accompanied by parents, trooped into Arts Hall the following night. The program was hurriedly moved into the auditorium studio, staff members rushed out to buy treats for the visitors—and "Mr. Recordman and the Story Lady" was retained in KWSC's schedule for many years to come.

In the search for material to replace pop music programs, the station discovered the British Broadcasting Corporation Transcription Service. The BBC was recording vast segments of its erudite "Third Programme" and offering them to stations in the colonies, including the United States, at a price which barely covered mailing costs. KWSC was soon broadcasting so much BBC material that student announcers, off the air, began calling the place "Your Limey Station in Pullman."

There was a limit, however, to how much British accent the station could feed the Palouse country and still retain a respected place in the local landscape. Other college and university stations were facing a similar problem. All of them—like KWSC—were also aware of a growing potential audience for cultural and informational material. The potential was there because the major radio networks were increasingly abandoning that audience. NBC, ABC, and CBS were ploughing radio profits into television, which in the early 1950s was still a money-losing venture. To maximize the needed radio profits, the networks began dropping prestigious but unprofitable features such as the "University of Chicago Round Table," the "New York Philharmonic," the "Metropolitan Opera," and even Arturo Toscanini's vaunted "NBC Symphony." The avid fans of these now-abandoned features could be turned into fans of the college stations if these stations could find a means of developing and distributing similar material. At least a partial answer was found in the NAEB Tape Network.

The National Association of Educational Broadcasters had had its struggles since its beginnings in 1925. With the decline of college stations in the 1930s and '40s, NAEB once dropped to a total of 22 members. In the post-World War II period, however, educational institutions began to show a new interest in radio broadcasting. The resurgence was sparked in part by Charles Seipmann's provocative book *Radio's Second Chance*, and in part by the fact that the Federal Communications Commission had reserved channels in the FM spectrum for educational use. Substantial numbers of colleges, school

districts, and other educational entities put FM stations on the air and, through the NAEB, began to examine ways to exchange programs. There were experiments with air-to-air linkage, but this was only practical in areas like the Northeast, where stations were close together. For most stations, an exchange of recorded programs by mail, with the NAEB acting as a distribution center, seemed to be the only logical solution. Implementing that solution, however, depended upon the development of magnetic recording.

The recording of radio programs for repeat broadcasts or transmission to other stations had long been a major bugaboo in the broadcasting industry. The only practical known method was the disc recorder, which still used the basic technique devised by Thomas Edison in the 1870s. Commercial phonograph record manufacturers had greatly improved the process so that the resulting "pressings," the records turned out in quantity for use in homes and radio stations, were generally reliable. But cutting the master record for producing these pressings was a laborious, time-taking process, hardly suited to radio where everything, by necessity, is done in a hurry. Most radio stations did have disc recorders and used them, but the results were always uncertain—enough so that the major networks banned them, except for archival purposes. Throughout the 1930s and '40s all the major network shows were therefore done twice. The cast and orchestra did a live performance for the eastern and central time zones. They then took a break and, two hours later, reassembled for an equally live performance for the mountain and Pacific time zone stations.

The major problem with disc recordings was the repeat groove where the playback needle encountered a flaw in the record and repeated the same series of sounds endlessly. Every radio station had its favorite repeat-groove story. The one at KWSC concerned a broadcast recorded on disc by a United States senator from the state of Washington. What the senator had said was, "My record is clear on Grand Coulee Dam. The voters know this." What came out on the air was, "damn the voters! damn the voters! damn the voters!" repeated for five minutes or more before the student operator, who had left the control room, returned and nudged the needle back into the next groove.

The problem of repeat grooves and most other problems involved in audio recording were solved with the development of the magnetic tape recorder. Magnetic recording, in which information is encoded in variations of a magnetic field, was another old idea. The Danish telephone developer Valdemar Poulsen had demonstrated its possibilities as early as 1898. Wire and steel tape recordings were used to a limited extent by the Allied forces in the Second World War. The use of iron oxide coated plastic tape was a German development. Allied forces invading Germany at the close of World War II found radio stations which operated entirely without personnel. The program material was recorded on long reels of plastic tape using a device the Germans called a "Magnetophon." Sound reproduction was fantastic, and the tape could easily be edited.

"Liberated" Magnetophon equipment quickly made its way to the United States. As it did, radio broadcasting was revolutionized. American manufacturers copied and occasionally improved upon this equipment, and live remote broadcasts, with the exception of sports events and newscasts, virtually disappeared at KWSC and all other radio stations. So did the embarrassing and occasionally exhilarating blunders which accompany all live shows. A pair of scissors and strip of splicing tape were all that was needed to fix the mispronounced word, remove the unintentional double entendre, and repair the off-key high note in the soprano solo. Not only that, these tape recordings were easy to send through the mail—a fact that aided initiation of the NAEB Tape Network.

The NAEB Tape Network was actually started by a municipal employee of the City of New York. His name was Seymour Siegel, and he was manager of New York City's municipally owned radio station WNYC. Sy Siegel started the network as a result of a clash with the city's bureaucracy. WNYC had run a promotional campaign in which listeners were asked to send ten cents in postage stamps to the station; coins were difficult to send through the mail. In return, WNYC would send them something. Nobody could later recall what that something was, but the station was swamped with stamps. The difficulty came when Siegel tried to convert the stamps into money. The city comptroller refused to accept them. Stamps were not legal tender. Furthermore, the comptroller told Siegel, the station could not sell the stamps, nor use them to mail letters or packages. WNYC's postal meter was easy to audit. Counting stamps was beneath the comptroller's dignity.

File drawers full of unusable stamps nagged at Sy Siegel's essentially frugal soul. WNYC had just broadcast nearly fifty hours of the "New York Herald Tribune Forum," one of Manhattan's major intellectual showcases in 1949. It had audio tapes of the whole event—speeches by everybody who counted in political and intellectual circles. Siegel had five copies of the tapes dubbed and mailed them to five acquaintances who were fellow members of the NAEB board. One of them was Allen Miller of KWSC. Siegel had to use the postal meter, of course, to do his own mailing, but in each tape shipment he included an envelope of those stamps so that, after broadcasting the series, each station could mail it to another NAEB station without spending a cent. By early 1950, 22 NAEB stations had broadcast the "Herald Tribune Forum."

The operation was so successful that Siegel scanned the WNYC schedule for other programs that might similarly be "bicycled" from station to station. The network soon involved 34 stations. It was maintained almost entirely by WNYC, but to sidetrack the comptroller's office, Siegel called it the NAEB Network. He had just been elected president of NAEB. Unfortunately, by the end of the year WNYC's engineering staff began to complain. More important, Siegel had run out of stamps. The NAEB board called an emergency

meeting. Board members secured a substantial grant from the W. K. Kellogg Foundation to establish a tape duplication center on the University of Illinois campus and to hire a staff to run it. NAEB member stations were invited to contribute programs from their schedules that were suitable for national distribution. The NAEB network was soon mailing ten hours of programs a week to a growing number of affiliates. For most of its nearly two decades of existence, the entire operation was conducted by Robert Underwood, who worked from a wheelchair, and by two Hungarian refugees who never learned to speak more than a smattering of English but were whizzes at operating tape-duplication equipment.

KWSC contributed numerous programs to the network through the years, including a series of addresses on population control recorded at the state college's annual World Affairs Institutes. Most of the visiting authorities at the institute spoke glowingly of the birth control pill, which had just made its appearance on the pharmaceutical scene. I was amazed at the number of major university stations that rejected the series on the grounds that its subject was too delicate for their audience. I was even more amazed at the number of letters from managers of these stations, the gist of which was, "Say, old buddy, do you know where I can buy those pills?"

Another source of national programming which served the station for many years was the Metropolitan Opera Network. Live broadcasts of the opera's Saturday matinees had been a regular feature of the commercial networks almost from the beginning of broadcasting. When ABC dropped the broadcasts, the opera company and Texaco employed a New York program broker to build an independent "Met Net." KWSC became an affiliate as the result of a single phone call. As class A broadcast lines to remote locations were an expensive item to rent, the broker was dubious about adding Pullman, Washington, to the lash-up—until he made an off-chance mental connection.

"Washington State College," he explained. "You guys just fired a football coach, didn't you?"

I allowed that we had.

"Well, how's the new guy doing?"

"Too early to tell," I said, "but recruiting is going good."

"Great," the broker said. "Sure, I'll put the WSC Cougars on the Met Net. What did you say your call letters are?"

It developed that this manager and developer of the special network detested grand opera, but was an avid follower of collegiate football and had a perverse fondness for the Cougars. I could only surmise that the broker had once won a sizeable football pool in which the Cougars were a decisive factor. KWSC carried the Metropolitan broadcasts through many years, more for prestige than to build an audience. On the other hand, the broadcasts occasionally drew unexpected audience response. I once played a dance job in Headquarters,

a remote Potlatch Lumber outpost about as deep in the Idaho timber country as it is possible to get. At intermission, a husky logger who had been dancing in calk boots approached me, bottle in hand, as I stepped off the bandstand.

"I hear you're from KWSC," the logger said. I acknowledged the connection with curiosity. Headquarters was, at best, on the extreme outer fringe of KWSC's coverage area.

"Love that opera," the logger said. "Listen to it in the bunkhouse every Saturday. Have to use earphones—the other guys can't stand it—but I love that *$fff⅝&$***! opera."

"I'll take that drink," I said, and reached for the bottle.

Audience surveys indicated that KWSC drew increasing numbers of listeners throughout the 1950s, despite the steadily growing competition. Working for the station, however, no longer held the same attraction for students in communications. Learning to pronounce "Janacek" and "Demitri Dimitrievich Shostakovich" had limited charm for the would-be broadcaster who pictured himself as a top rock 'n roll DJ in a metropolitan market. The station also no longer attracted students of electrical engineering. The FCC had relaxed its rules so that constant attendance of the transmitter by a first phone license holder was no longer required; and, since the old home-built transmitter had been relegated to the scrap heap, there was no longer an opportunity to tear it apart and rebuild it. (One electrical engineering student had received honor points in an advanced class by wiring a half-dozen ordinary 60-watt light bulbs into one of the circuits and demonstrating that they improved the signal.)

The excitement now was in television. Students signed up in droves for television production courses, and had little trouble finding jobs once they completed their studies. Seattle stations occasionally borrowed TV production gear, along with student crews to operate it, from the college. For several years Washington State College owned the only field zoom lens in the state—a huge telescope-like device that projected nearly three feet from the front of the TV camera. As a result, camera, lens, and crew were transported to Seattle annually to assist KING-TV in broadcasting the SeaFair hydroplane races.

By the late 1950s more than 100 graduates of the program were employed in Seattle TV stations and dozens of others were on TV staffs in Spokane, Portland, Tacoma, Yakima, Bellingham, and various California cities. In addition to Serafin, Jackson, Friel, and Wight, several more recent graduates—Jay Ward Geisa, Art McDonald, Ted Bryant, Bob Anderson, and Dick Ross, to name only a few—became key figures in West Coast television.

Meanwhile, television was also having an increased impact on the nation's educational system, from kindergarten through graduate schools. A series of events connected with this impact convinced Allen Miller and the state college's top administrators that it was time for the school to put a TV station on the air.

Allen Miller and Radio Manager Burt Harrison in early KWSC-TV control room. *(WSU photo)*

VIII

Get the Picture

FRIEDA HENNOCK, THE first woman in history to serve on the Federal Communications Commission, was appointed by Harry Truman. At least one historian suggests that the appointment was a gesture of defiance directed at a solidly Republican congress. Commission appointments were subject to senate approval, and a failure of the senators to vote in favor of Ms. Hennock would be interpreted, at least by the press, as both anti-Semitic and anti-feminist.

Ms. Hennock's achievements at the FCC were not striking except for one action. When the commission in 1952 ended the TV freeze by releasing its new table of assignments, at Ms. Hennock's absolute insistence it included reservation of 242 channels for non-commercial educational stations. Most of the educational reservations were in the largely undeveloped UHF band, but 80 were VHF channels. These included channel 7, assigned to Spokane; channel 12 to Moscow; and channel 10 to Pullman.

Educators did not rush to take advantage of the assignments. Television was expensive, and although everybody seemed to agree that it had tremendous potential as an educational and cultural tool, nobody was quite sure how to put it into operation. In a number of major cities, all VHF channels had gone to commercial operations. UHF was an uncertain thing at best. Few home TV sets could even receive UHF stations unless the owner invested in a UHF converter and a special antenna. KTHE, the UHF station at the University of Southern California, got on the air with the aid of a generous grant from Captain Allan Hancock; but Hancock lost interest and the station died after a few months. KQED in San Francisco did better—it was on VHF channel 9, but it almost dissolved before manager Jim Day devised a celebrity-staffed auction which stirred up community support. By 1956, only 24 non-commercial stations were in operation. One of them—KCTS-TV in Seattle—was in the state of Washington. Its operating money came primarily from Seattle area public schools, but the license was held by the University of Washington.

The propaganda machine promoting education by television in the mid-1950s at times strained belief. A bewildering collection of "alphabet" organizations—ranging from ACE (the American Council of Education) to IERT (the Institute for Education by Radio-Television), and from JCET (the

Joint Council on Educational Television) to WAEB (the World Assembly on Educational Broadcasting)—was beating the tubs for teaching through the use of the image orthicon camera and the picture tube. At times there seemed to be a general belief that any educational activity was automatically improved if it were run through a television system. There was a nationwide feeling among educators that any institution not operating a television station simply was not in tune with the times.

That feeling certainly developed at the State College of Washington; and, institutional rivalries being what they are, was enhanced by the fact that the University of Washington did have an operating TV station. There was also awareness that the FCC had assigned channel 12 to Moscow, Idaho, and channel 7 to Spokane. The University of Idaho and one of the Spokane institutions might actually put stations on the air while WSC was still operating a mere TV production center.

Another factor involved technological change in the television industry. Until almost the end of the 1950s, the only practical method of copying live television productions was, as mentioned earlier, kinescoping—basically pointing a movie camera at a TV picture tube. The resulting films, "kines" to broadcasters, were frequently murky and of generally uncertain quality; but they were all the industry had. Then the Ampex Corporation produced the first successful magnetic tape recorder for television. It utilized the same basic principles as the audiotape recorder, but was enormously more complex and produced high quality reproduction of both video and audio signals. It was also easy to operate as long as everything was functioning properly. Ampex unveiled the quadruplex videotape recorder at the 1956 convention of the National Association of Broadcasters. It took several years before the company was able to fill the enormous number of orders picked up at the convention and to make the gadget generally available to those who could afford the price.

Meanwhile, with the generous assistance of the Ford Foundation, the existing non-commercial television stations had developed a program exchange center at Ann Arbor, Michigan. The center, roughly patterned on the original NAEB radio network, duplicated films and kinescopes produced by member stations and bicycled them from station to station by mail. It was supported by the Ford Foundation to the tune of up to six million dollars a year, and became known as NET—National Educational Television. NET became irresistibly attractive to Allen Miller and other educational television (ETV) supporters at WSC when it announced that, thanks to another Ford Foundation grant, it would shortly convert its distribution system from film and kinescope to videotape. Since few of the existing ETV stations had or could afford the big Ampex recorders, NET announced that it had contracted for 50 of the machines and would supply them *gratis* to its members. There were, at the time of the announcement, fewer than 50 ETV stations in the country, and

the announcement was, at least in part, bait to lure recalcitrant educational groups into finally applying for TV construction permits.

The bait worked at the State College of Washington. Allen Miller was not overly enthused about NET's weekly program output—roughly five hours a week of fairly pedestrian offerings—but he felt deeply about acquiring the videotape recorder. Most commercial TV stations in the state had acquired VTRs and, as a result, were less inclined to give air time to the kinescoped programs produced by the college.

Miller began to work on President Clement French and other key members of the college hierarchy. His pitch was tailored to appeal to the mind-set of all academic administrators. An Ampex videotape recorder and a year's free supply of raw videotape thrown into the package by Minnesota Mining, the "Scotch" tape people, would total out at roughly $80,000. Washington State College already had fully equipped TV studios. Adding a low-powered transmitter and an antenna would cost just barely more than $80,000. Operating expenses would be nil. The TV station could be kept on the air by the existing radio-TV program and technical staff. Spend a dollar, get a dollar in high-tech merchandise free. Who can pass up a deal like that?

Although Miller felt he was making progress with the administration, I could not resist testing the water on my own. At the time, in addition to teaching broadcasting courses and acting as effective manager of KWSC, I had also been drafted as ghostwriter for most of Clement French's speeches. As the president of a major state college, French made numerous speeches. Among these were the periodic radio reports KWSC management had persuaded him to deliver to the citizens of Washington. These reports were broadcast on KWSC and relayed by tape to a number of commercial stations. I began to insert comments about the importance of educational television into these speeches—"You can rest assured that your state college will become increasingly active in this vital new educational activity," and similar presidential-type platitudes. Clem French frequently amended many of these presidential pronunciamentos, but he always read the television passages as written. I felt the omens were good.

The acid test came when KWSC was asked to bring a formal proposal before a college budget committee. Actually, I knew less about TV than did any other member of Miller's staff, but for some reason Miller delegated me to put together the proposal and present it. I called on Gordon Law, who had recently joined the staff from a commercial TV station in Denver, to help draw up plans. We assembled facts and figures: the cost of a transmitter and antenna; of coaxial cable to lead to the antenna; of legal fees for filing the application. Miller had said there would be no additional technical staff needed. That meant the transmitter would have to be installed in Arts Hall, adjacent to the existing radio and TV studios, so that studio technicians could also serve as transmitter operators. We added the cost of remodeling space for a transmitter

room. Word from owners of Ampex VTRs indicated that the gadget included more than 200 radio tubes, each of which generated heat, but the recorder would only function properly if operated in an ambient range of a few degrees of temperature. We increased the money for air conditioning. The total minimum figure did not equate with Miller's "barely more than $80,000"; it was in fact somewhere between $110,000 and $120,000. (The exact document long ago disappeared.)

I approached the budget committee meeting with some trepidation. The only member of whom I felt reasonably sure was its chairman, the college's able business manager Carl Pettibone. Pettibone and I had been in almost daily consultation throughout the weeks it took to assemble the proposal. The remaining committee members, mostly deans, were an unknown quantity. I passed around the paperwork and braced myself to make the pitch. The chairman gravely glanced down the cost sheet and reached the total. Suddenly, he uttered a sharp profanity, threw both hands in the air, and slid from his seat to under the conference table. End of meeting; and end of television for that round.

Back to the office. By the next budget meeting I had hacked out essential items on the "we'll get it later" theory. I had cut estimates to unrealistic figures and otherwise cheated on uncheatable facts. The total came to slightly more than $79,000—almost exactly the "spend a dollar, get a dollar free" figure. Pettibone again glanced down the budget sheet to the total.

"This looks very reasonable," he said. "The chair will entertain a motion to approve the television station proposal."

Somebody made the motion. Somebody else seconded. The project passed without a dissenting vote.

I returned to my office more depressed than elated. We had approval, but we couldn't do the job with the money allocated. Within five minutes the phone rang. Pettibone was on the other end of the line.

"Burt," he said, "how much more is this going to cost us than that figure you gave the committee?"

I had an answer. "Thirty-two thousand dollars," I said. "Hell, that's no sweat," said Carl Pettibone, and hung up. Within weeks the application forms were signed, notarized, and delivered to the college's communications attorneys in Washington, D.C., for delivery to the FCC. The commission considered the application in less than its usual leisurely fashion, and in a few weeks issued its response. The State College of Washington was authorized to construct a television station in Pullman on channel 10, with the assigned call letters KWSC-TV. Bids were let for a TV transmitter and antenna; building modifications began in Arts Hall; and a letter was dispatched to National Educational Television notifying NET that the institution was eligible for membership and was prepared to accept delivery of the promised videotape recorder and tape supply.

The response from NET's New York headquarters was not entirely unexpected. The grapevine in public broadcasting circles, then as now, operated with a speed equal to the most sophisticated electronic networks, and the grapevine had passed the word. NET had strong doubts that it could deliver the promised VTR to Pullman, Washington. Numerous schools and organizations had responded to the bait, had put TV stations on the air, and had claimed their reward. NET's supply of VTRs was virtually exhausted. Only two or three machines were left, and at least half a dozen additional stations were approaching completion. One was KWSC-TV; but the others were in major cities, including Los Angeles and New York. None of this was mentioned directly in the message from NET. It merely informed the college that a NET spokesman would be arriving in Pullman, and that he would inspect the embryo station and confer with the college people involved.

The representative from NET arrived early in June, between the end of the spring semester and the opening of summer school. He was, it developed, a long-time acquaintance of mine, which may be why I was appointed to receive him and show him around. We knew each other well enough that the NET representative could be candid, and what he said was pretty much what KWSC had heard through the grapevine.

"We've got nothing against you people, but you've got to look at the big picture. You're only going to cover a couple of counties, clear out here in the boondocks. We've got big cities that are ready to go on the air. Los Angeles—well, they've run into another delay; but there's Montgomery, Alabama, and San Antonio, and WNYE in New York, and Hartford, Connecticut, and right in your own state, Yakima. They're all expecting VTRs, and we just don't have them."

We walked through the TV studio as we talked. I offered an apology for the studio's appearance: "We haven't had time to clear all these chairs out of here," I said. "They're left over from the seminar Ed Murrow held here last week."

"Edward R. Murrow was out here?" the NET spokesman asked. "Why, sure," I said. "Ed graduated from this college. He did his first broadcasting on our radio station."

We retreated to my cubbyhole office, and the representative continued his apology. "All of us at NET are sorry about this, but it really is true that we only have two VTRs left, and it wouldn't be politic to ask the Ford Foundation to put more funds into this particular project. You do know that our support comes almost entirely from the Ford Foundation." He paused as his eye drifted to an 8 by 10 glossy picture piled carelessly atop the papers on my desk. "Hey, that looks like Henry Heald," he observed. Henry Heald was president of the Ford Foundation.

I was casual about it. "Oh, yeah. Henry was out here last month when they dedicated Heald Hall in memory of his father. Henry grew up on this campus."

The ambassador from NET conceded gracefully. "You s.o.b.," he said, "you'll get the tape recorder."

KWSC-TV went on the air a few months later, on September 24, 1962. The man from NET had been right. The TV station was basically a token operation. The power was only 3.41 kilowatts, the antenna—mounted atop the Bryan Hall tower—was a mere 107 feet above average terrain. But the station carried the full schedule of NET programs as well as a substantial number of local studio productions. And mounted in the transmitter room was a beautiful Ampex videotape recorder, courtesy of National Educational Television and the Ford Foundation.

Once the station was actually in operation, Allen Miller stepped down from at least some of his multiple duties and titles. Robert A. Mott, who had been KWSC's news director, became chairman of the Department of Communications and general manager of radio-television services. Calvin Watson was appointed manager of KWSC-TV; and I continued to manage the radio operation. Miller, as director of Information Services, eventually moved his office to the new French Administration Building and became a relatively distant figure in the day-to-day operations of the stations. The radio station heard from him primarily when he would call to complain that the temperature reports on KWSC station breaks did not agree with those on his home thermometer. Those people at the station who still knew who he was spent considerable time attempting to explain that, Pullman terrain being what it is, it was possible for the thermometer to vary as much as 15 degrees from one hill to another. Miller remained unconvinced. Somebody at the station was deliberately tampering with the weather reports.

The State College of Washington had officially become Washington State University in September, 1959. The call letters of its broadcasting stations, however, remained KWSC for an additional decade. The letters "KWSU," which would reflect the institution's gain in status, were not available. They were reportedly tied up by one of the myriad point-to-point communications services which operate under FCC jurisdiction. Late in 1968, Cal Watson learned that the KWSU letters finally had been released. The institution immediately applied for a change in call letters. Effective March 1, 1969, the stations became KWSU and KWSU-TV. The application for the change had a certain under-the-wire quality. The FM station at Wichita State University had also applied for the KWSU designation, but Washington State's application got in the Federal Communication Commission's hands three whole days ahead of the Kansas school's request.

As the new head of radio-TV services, Bob Mott definitely ran a tight ship. Things had been fairly casual under Allen Miller, even in the interminable staff meetings; Mott, however, was a creature of order. The student staff members of both the radio and television stations usually referred to their supervisors

and teachers as "Cal" or "Burt" or "Elmer." Mott was always "Mr. Mott," or, more commonly, "The Colonel." The title derived from Mott's rank in the Army Reserve. He had served as a paratrooper throughout World War II, and had risen through the ranks to progressively higher positions of command. Even longtime associates such as Cal Watson and I often had to resist an impulse to salute when we entered Mott's office.

But Bob Mott definitely moved things ahead. The area and state television scenes were changing. The University of Idaho put channel 12 on the air. The Spokane School Board was completing plans to install KSPS-TV on channel 7. Yakima's public schools had KYVE-TV on UHF channel 47; and two school districts in the Tacoma area, the Tacoma School District with KTPS and Clover Park with KCPQ-TV had going television operations. There were also new commercial TV stations in Richland, Kennewick, Pasco, and Yakima, Washington, and in Lewiston, Idaho. All of these stations, both educational and commercial, operated with substantially more power than KWSU-TV. The vastly increased number of radio stations, both AM and FM, also provided more competition for KWSU-Radio.

Mott began an active campaign with the university administration and with WSU alumni urging wholesale changes. The television station needed both increased power and a transfer of its tower from the precarious perch atop Bryan Hall to a more advantageous site. If possible, he said, the university should also apply for TV translator stations—low powered, unattended transmitters which would pick up the signal from Pullman and rebroadcast it in Spokane, Walla Walla, and various sites in the Columbia Basin. The radio transmitter should be moved to where it could use a taller antenna with a resulting increase in coverage. And an annex should be built next to Arts Hall to house larger television studios and to relieve the crowded conditions in that building.

Somewhat to everyone's astonishment, the WSU administration and board of regents agreed. People began to draw up detailed plans for the multiple projects, and in a short time construction actually got under way.

Meanwhile, developments in Washington and elsewhere were making dramatic changes in the whole make-up of non-commercial broadcasting. Late in 1965, a blue-ribbon commission under the sponsorship of the Carnegie Corporation launched a year-long study of American educational television. At the end of 1966 the commission released its recommendations in a book-length report entitled *Public Television, A Program for Action.*

These recommendations, in brief, called for massive infusions of federal funds into the development and operation of "an educational television system substantially larger and far more pervasive and effectual than that which now exists in the United States." More specifically, the commission recommended that Congress extend and improve public TV programming by creating

a federally chartered, non-profit institution to be called the Corporation for Public Television. Support for the corporation would come from both public and private funds, but the scope of the plan suggested that most financing would have to come from the federal government. The corporation would, for example, provide live interconnection of stations by conventional land lines and, as soon as possible, by communications satellite. An additional recommendation called for money for station facilities to be provided through the Department of Health, Education, and Welfare. The Lyndon Johnson administration applauded the Carnegie Commission report, and a bill incorporating most of its recommendations was introduced in Congress. The senate version was sponsored by Warren G. Magnuson, senator from the state of Washington.

1961 KWSC-TV studio production with President C. Clement French and Dr. Hite, faculty member. *(WSU photo)*

IX

Turning to the National Scene

CALVIN A. WATSON was an operator in the best sense of the word. In Trinidad, Colorado, where he worked for me as a radio time salesman before we both migrated to Washington State, he had done football play-by-play and had assisted in coaching both public and parochial high school football teams. He developed close friends in Trinidad's tight-knit Lebanese community, was highly regarded by the local Protestant Ministerial Alliance, and was on a first-name basis with the Mafia leaders who determined the winning horses each week at the race track in neighboring Raton, New Mexico.

In Pullman, in addition to running KWSU-TV, Cal was president, director, and frequently star of the local community theater. Allen Miller regularly ordered him to drop his association with the theatrical group. In Miller's opinion, Watson was wasting time that properly belonged to radio-TV services on a group of stagestruck hams. After each directive and accompanying lecture, Cal would solemnly agree to give up the theater, effective immediately. Usually at the time he had already cast the next play and was conducting rehearsals. When the play hit the boards, Miller was always in the front row, applauding vigorously. Then he would issue another directive.

As manager of KWSU-TV, Watson delighted in playing the country bumpkin in phone dealings with New York film bookers and officials of National Educational Television. "What's that town again, Pullman, Washington? You mean you've got a TV station in Pullman, Washington?" As a result, KWSU-TV frequently bought film series at prices well below the minimum rate. One booker, who had the handle on a package of 26 highly regarded British feature films, flatly refused to bill the station for its use of the package. "Look," he finally told the WSU purchasing office, "if the word ever got out that I let you people have those films for less than it costs to mail them, I'd be ruined!" The booker eventually came out well on the "ruined!" deal. NET asked Watson where he had found the package, and purchased it for national distribution at a premium rate.

Despite the growing involvement with NET, Watson and KWSU-TV remained primarily interested in local production. WSU faculty members who

had long become blasé about radio appearances were easily persuaded to take part in TV panel shows and one-shot programs connected with their academic specialities. Watson showed endless ingenuity in spicing up these basically static productions with film inserts and other gimmicks.

The station also acquired a second-hand remote bus from a Salt Lake City station and did a considerable amount of out-of-the-studio broadcasting, particularly live pick-ups of Cougar basketball and baseball games. It almost lost that capability in the spring of 1970 when a fire destroyed the south grandstands at the WSU football stadium. KWSU-TV's remote cameras were set up in the stands in preparation for covering a high school track tournament scheduled for the following day. The cameras and several hundred feet of expensive coaxial cable were lost, but the bus and its equipment were saved by a passing WSU student who worked part-time as an engineer on the KWSU staff. Gordon Ryan, who later became a professional consultant on financial management, grabbed a fire axe, smashed the front window of the bus, and crawled through to the steering wheel. Some 30 other students hand-pushed the smoldering vehicle with its tank full of gasoline away from the fire. The bus required a new paint job afterwards—most of its paint was blistered by heat—but it was otherwise undamaged.

Nationally, educational television continued to be the subject of public and institutional attention. The Carnegie Commission's report, in addition to calling for massive federal support, gave the entire educational broadcasting movement a new name. The title of the report was *Public Television, a Program for Action.* Educational television immediately became public television. Educational radio, quick to climb on the bandwagon, became public radio.

In the minds of the staffs and licensees of the nation's nearly 350 newly designated public radio stations, there was a major flaw in both the Carnegie Commission report and the Magnuson bill: neither of them mentioned public radio. The most determined of these dissenters was Jerrold Sandler, the newly appointed director of National Educational Radio. NER, a subdivision of the National Association of Educational Broadcasters, had been created in one of that group's periodic reorganizations. Sandler, with the aid of his office manager Lucinda Landreth, set out to get radio included in the forthcoming legislation. He secured a $38,000 grant from the Ford Foundation and used it to commission a study of radio that would, in effect, amend the Carnegie Commission report. The study was conducted by Herman W. Land Associates, a New York firm specializing in communications investigations.

The Land report, entitled *The Hidden Medium,* concluded that public radio was "underfinanced, understaffed, underequipped, underpromoted, and underresearched," but cited numerous examples of stations that were doing outstanding jobs despite these handicaps. A substantial amount of this material was drawn from Washington State University. *The Hidden Medium* included

a three-page profile of KWSU entitled "The Popular Regional Station." Land had been impressed by a recent audience survey which indicated that KWSU actually drew more listeners during many hours of the day and evening than did any of its competing commercial stations. It was the only non-commercial station out of the more than 300 studied which could make and substantiate that claim.

The Hidden Medium also listed a variety of KWSU local programs as indications of what public radio stations could do. These included "Guarding Your Health," a series on Whitman County medical facilities; "Paging People with Peg," a weekly interview show; "History of the Northwest Territory," produced in cooperation with the WSU history department; "The Legendary Pianists," featuring the university's music department chairman Kemble Stout and his huge collection of Duo Art player piano rolls; and "Farm Facts" and "The Farm Reporter," KWSU's daily agricultural programs. Land's study also listed the 95 commercial stations which carried weekly programs produced by KWSU.

The day *The Hidden Medium* came off the press, Sandler personally carried copies to every senator and representative on Capitol Hill. He followed up by calling National Educational Radio's board of directors to a week-long special meeting held in the house and senate office buildings. The directors, including myself, learned the fine art of lobbying individual members of Congress. Sandler, with brass exceeding that of any bald monkey, spent the same period in the White House office building buttonholing presidential aides. As a result, Lyndon Johnson's presidential messages on the subject mentioned both television and radio, and the Public Television Act became the Public Broadcasting Act, with mention of both TV and radio in every pertinent paragraph. The act passed Congress with only minor opposition and was signed into law by President Johnson on November 6, 1967.

The fight to include radio in the Public Broadcasting Act did not endear Jerry Sandler to his superiors at the National Association of Educational Broadcasters, which was heavily dominated by its television subdivision. Sandler soon found it advisable to seek other employment. His successor at National Educational Radio was Washington State University's radio-TV director, Robert A. Mott. Cal Watson was appointed to succeed Mott as head of KWSU Radio-TV Services, and Tom Rogstad became manager of KWSU-TV.

The radio-TV operation underwent other substantial changes in the 1960s. A lengthy hearing before a Federal Communications Commission examiner finally, for all practical purposes, terminated the share-time agreement between KWSU-Radio and KTW, the First Presbyterian Church station in Seattle. KWSU no longer was required to remain silent on Sundays, Thursday evenings, and national holidays. In addition, in 1968 the long-standing joint operation of the broadcasting stations and the communications department's academic program in radio-TV came to an end. Bob Mott was the last individual

to serve both as head of radio-TV services and chairman of the Department of Communications. Thereafter, communications teachers were no longer part-time broadcasters and broadcasting staff members no longer conducted formal communications classes, although both operations continued to use the same studio facilities. Print media members of the communications faculty particularly welcomed the divorce, feeling with some justification that the combined operation had not worked to their advantage.

Most other changes were those approved by the university before Mott's departure, although they were made possible largely by the increased federal funds for public broadcasting. KWSU-Radio acquired a new transmitter—the third in the station's history—and a 486-foot-tall transmission tower. The new equipment was installed four-and-a-half miles south of the campus at the university's J. C. Knott Dairy Center and was linked to the studios by microwave relay. The higher tower produced a substantial increase in KWSU-Radio's coverage area. The station's older transmitter, which had been in operation since the early 1950s, was also installed in the new building as stand-by equipment.

Moves at the same time to enhance the television signal met with less success. KWSU-TV had installed a translator station on Steptoe Butte, north of Pullman, which was intended to relay the signal to similar translators installed at Spokane, the Tri-Cities, Ephrata, and Walla Walla. Transmission via the translator network was, however, intermittent at best, largely because it had been installed with a minimal outlay of money. The translators had been offered at bargain prices because they had vacuum tube circuitry. Solid-state devices had replaced vacuum tubes in virtually all electronic gear, and the translators, which were obsolete even when they were installed, required more maintenance than the few members of the radio-TV engineering staff could provide.

Eventually, since the FCC had approved operating all TV transmitters by remote control, it was decided to move the basic TV transmitter from the campus to Kamiak Butte, and to apply for an increase in power from 3.41 kilowatts to 117 kilowatts. There was roughly a two-year delay to this project, occasioned by protests from campus environmentalists. They charged, among other things, that the TV tower would interfere with elk migration on Kamiak Butte. The station was unable to locate anyone who had ever seen an elk on Kamiak Butte, or could explain why the proposed TV tower would deter *Cervus canadensis* when a large phone company tower already on the butte apparently was not hindering their migratory habits. The protests were vigorous enough, however, that the project was postponed. Eventually, the wapiti worshipers found other targets for protest and the tower and transmitter building were quietly erected.

Expansion of television also led to the construction of the Edward R. Murrow Communications Center, a $3,000,000 structure designed primarily to house the television studios and offices of radio-TV services. The studios and

offices of KWSU-AM and KUGR were moved from the ground floor to the third floor of old Arts Hall, which was redubbed Murrow East, and the two buildings were connected by a three-story ramp. The combined structure also became the home of the Department of Communications and of Student Publications, including the *Evergreen* and the *Chinook*. Murrow Center was dedicated on April 26, 1973, in an elaborate ceremony attended by Mrs. Murrow, Eric Sevareid of CBS, Henry Loomis, president of the Corporation for Public Broadcasting, and, of course, Calvin Arthur Watson.

As manager of radio-TV services, Cal Watson had supervised most of the detailed planning for the new structure; but before construction actually got under way, Watson, too, received a call to Washington, D. C. He joined the newly formed Corporation for Public Broadcasting, and after a short period became its director of television activities. For the next eleven years Watson played a key role in shaping the national system of public television. He remained with the corporation until shortly before his death in 1982, at the age of 56. Watson's replacement at Washington State University was Gordon Tuell, a long time broadcaster for major stations in the Seattle area.

Gordy Tuell arrived at radio-TV services at an interesting time. The newly formed public broadcasting networks – Public Broadcasting Service (PBS) for television and National Public Radio (NPR) for radio – were preparing to set up live interconnection systems, and both KWSU-TV and KWSU-Radio became parts of the new networks. The changeover in TV was relatively uneventful. Most programs initially carried by PBS – "Sesame Street," "What's New," "Washington Week in Review," and a variety of dramas from the British Broadcasting Corporation – were already well established parts of the KWSU-TV schedule. They had previously been distributed by mail through NET; now they arrived live through a web of coaxial cable and microwave circuits that connected all 233 of the nation's public television stations.

Radio presented a more complex problem to the Corporation for Public Broadcasting and the proposed National Public Radio network. By the end of 1969, the FCC had licensed 420 non-commercial radio stations, most of them to various groups at high schools, colleges, and universities. More than half of these had an operating power of ten watts – barely enough to reach the limits of the average campus. Many of them tended to be student playthings – sand-box stations, the operators of old line educational stations called them – operated on erratic schedules with even more erratic programming, most of it rock and roll music. Obviously, the limited funds allocated to radio by the Corporation for Public Broadcasting would have little impact if they had to be spread over all 420 stations.

The solution reached by the Corporation for Public Broadcasting's radio director, Al Hulsen, was to establish criteria for stations receiving CPB support. The initial criteria required such stations to have a minimum of three

full-time staff members, and to operate with no less than 250 watts power at least 12 hours a day on a year-round basis. In late 1969, when CPB was preparing to establish National Public Radio, only 73 stations—less than 20 percent of the non-commercial licensees—were able to meet these standards. KWSU was one of the 73. By the time the NPR network finally got on the air on May 3, 1971, 84 stations met CPB requirements. Since that date, the number of NPR affiliates has increased steadily.

National Public Radio started out modestly with a 90-minute daily news program, "All Things Considered," plus almost endless—at least it seemed to to the KWSU staff—special pick-ups from the National Press Club, congressional hearings, and other newsmaking events, mostly in Washington, D.C. Most of this material was too good, or, at least, too relevant, to pass up—but it certainly changed the general tone of the radio station.

NPR did bring one bit of excitement to the station while the network was still in its infancy. In the early summer of 1974, the Richard Nixon regime was going through the Watergate crisis. Congress and the courts had forced the president to release transcripts of taped Watergate discussions with his aides, and several paperback publishers were preparing to issue the transcripts in book form. NPR immediately scheduled a marathon reading of the transcripts on the network. The broadcast was made on the day President Nixon arrived in Spokane to deliver a speech at Expo 74, the Spokane World's Fair.

For some reason, KWSU's redheaded and always unpredictable traffic manager Ruth Hazen was at the airport when Nixon arrived in Spokane. She grasped the president's hand as he descended from Air Force One, and gushed, "Mr. President, I just want you to know that the radio station I work for is broadcasting every word of your tapes today." She added, guilelessly, "We felt that was what you would want us to do."

Reporting the event back to the station, Ruth noted, "He sort of muttered something back to me—I didn't understand it—and then he turned to one of the people with him and said, 'Get the call letters of that radio station.' "

That evening KWSU carried a live broadcast of Nixon's speech in Spokane. (The station maintained a full-time staff at Expo 74 and a studio in the WSU exhibit.) Both the station and National Public Radio, which was informed of the incident, were more than a little apprehensive. Throughout his period in office, President Nixon had been an outspoken critic of public broadcasting. However, nothing developed from the incident, and Nixon's resignation a few weeks later erased the worries. Ruth Hazen never explained what odd impulse had prompted her to confront the president.

Hazen was one of a sizeable group of able women who from the 1950s through the early 1970s actually ran all of WSU's radio and television services. They included Norma DeMent, Beatrice Fry, Gladys Bullis, Jody Morrison, Joyce Medina, Alice Martin, Deb Follett, Helen Naumchik, and Barbara

Hanford, among others. (Hanford is still a key member of the radio-TV staff.) These women handled all the detail work, mother-henned the student staff members, prepared program bulletins for publication, took care of innumerable phone calls and studio visits, and calmly dealt with the crisis situations which in any broadcasting operation occur at not less than hourly intervals. They were without exception underpaid and overworked. Equal rights for women hardly received even lip service in the '50s and '60s. Furthermore, despite its experience during World War II, station management retained the industry-wide belief that listeners did not accept women radio announcers except on household hint and children's shows, and felt that even on these programs it was desirable to also have an authoritative male voice.

To help atone for their low pay, the radio station "permitted" these women to go on the air in offerings such as "Barter Bureau," the daily swap shop program, and "Luncheon Date," the community bulletin board—both of which required the broadcaster to do a good deal of advance preparation. "Mr. Recordman and the Story Lady" was also one of the few regular offerings on which female students of communications were allowed to do air work; but even there, the "Story Lady" took second billing to the male member of the team.

Despite these restrictions, an exceptional number of brilliant female students were attracted to work on the broadcasting staff through the years. Among them, to name only a few in addition to those already mentioned, were Anita Busek, Marcia Gusman, Jeanne Serr, Marian Spann, Helen Yaw, Jeraldine Heft, Lois Schreiner, Sylvia Jo Ormsby, Richi Ormsby, Carol Bloyd, and Susan Franco. Carol Lee Gregerson went to KING-TV on a summer internship, quickly became a featured performer on that station's daytime interview show, and never found time to return to WSU to complete her degree.

As the 1970s progressed, live network affiliation continued to make substantial changes in the operation of both KWSU-Radio and KWSU-TV. On radio, in particular, some longstanding local programs—"Mr. Recordman and the Story Lady," "Fourth Row Center," "Coffee Pot Parade" (the station's early morning disc jockey show), and numerous others—gave way to generally better-produced network offerings. If audience surveys could be believed, the network material brought an increase in listening to the station. For some staff members, however, a lot of the fun had gone out of the business.

Former Radio Manager Burt Harrison and Radio-TV Services General Manager Dennis Haarsager at KWSU-AM 60th Anniversary celebration, December 1982. *(KWSU photo)*

X

New Services and a New Era

BETWEEN SEPTEMBER 1976 and mid-1977, three key members of the KWSU radio-TV staff reached retirement age and withdrew from the station. They were Elmer Erickson, Gordon Tuell, and myself. I had been at the WSU stations for 27 years, including 17 years as manager of radio operations. Erickson, who joined KWSU a few months after I did, had served for 27 years as radio music director. Following a long career in Seattle and Honolulu broadcasting, Gordon Tuell had been at KWSU for eight years as general manager of radio-TV services. All three of us had at least a vague feeling that the rapid changes in broadcasting were somehow getting beyond us, and it was time for a new generation to take over.

The first of that new generation of public broadcasters was Robert N. Eastman, who became manager of KWSU-Radio in November 1976. Eastman had spent four years on the staff of the St. Louis, Missouri, public radio station, and was acting manager of that operation before he moved to Pullman. He held degrees from Ohio and St. Louis universities, and had been a reporter and news executive with WBBM, the CBS-owned station in Chicago, before entering public radio.

Erickson's successor as music director, Don Gay, was about as complete a contrast as could be imagined. In the 27 years Erickson was at KWSU, nobody was ever able to persuade him to speak into an open microphone. His more than 50,000 erudite scripts for classical music programs were voiced by other people, primarily student staff members, sometimes with disastrous results. By contrast, Gay loved talking on the air, and had the voice for it. His music commentaries were delivered ad lib from scribbled notes or from the material printed on a record jacket. "A walking college of musical knowledge," a columnist at the *Lewiston Gazette* called him. Gay certainly did not look like a classical music addict. His usual flamboyant attire included cowboy boots and a ten gallon Stetson, and he was addicted to smoking large and uncommonly odorous cigars. (The campus ban on smoking in offices was not yet in effect.) But Don Gay knew music and the history of music, and was adept at putting both on the air.

Lyle Mettler, manager of KWSU-TV from 1973 to 1978, served as acting head of radio-TV services for a year after Gordon Tuell's retirement, but left

to become manager of the Arizona State TV station in Tempe. Tuell's permanent replacement, 31-year-old Dennis L. Haarsager, took over the operation on November 6, 1978.

Dennis Haarsager brought a new period of expansion to the state university's radio and television operation. A native of Minnesota, Haarsager held degrees in political science and public administration from the University of South Dakota, an institution with a history in broadcasting roughly paralleling that of Washington State University. Opened in 1922, South Dakota's radio station KUSD was the outgrowth of a transmitter built by Ernest O. Lawrence, a young physics student who later earned the Nobel prize for his achievements in nuclear physics. Haarsager worked for KUSD and KUSD-TV while attending school, and ultimately became director of administration for the state-wide South Dakota public television network. After six years with the South Dakota network, he moved to Boise to become state coordinator of Idaho Public Television. He held that post for three years before accepting the offer from WSU.

Haarsager's appointment as manager of radio-TV services coincided with a nationwide shift in the financial structure of public broadcasting stations. Most of the old-line public stations, KWSU-Radio and KWSU-TV among them, had been supported primarily by academic budgets. Station department chiefs frequently held academic rank and drew a substantial portion of their salaries as classroom teachers. Other expenses were modest and were often tucked away in various campus budgets where they would not attract the attention of the legislature. State lawmakers might take a dim view of voting funds for something as frivolous as broadcasting.

Now, this deviousness was no longer possible or politic. The costs of operating a public television or radio station had skyrocketed. Public stations now operated with full-time professional staffs, and, of necessity, competed with commercial stations for personnel as well as audience. Limited numbers of students were still employed, but under federal wage regulations they could no longer be paid mere token salaries. The major cost of operating the PBS and NPR networks was no longer paid by direct federal appropriations, but had been shifted to the member stations. Most public stations, including KWSU-AM and TV, were receiving modest federal grants through the Corporation for Public Broadcasting, but the bulk of expenses had to be borne locally.

Not surprisingly, the universities and public school systems which held most public broadcasting licenses were unable or unwilling to pick up more than a portion of the added load. The only remaining source of money was the general public. As a result, soliciting donations from business firms and members of the audience became a major activity at all public stations, and the on-the-air fund-raiser became a familiar part of their broadcasting schedules.

Sparked by a grant from the National Endowment for the Humanities, KWSU-Radio and TV opened its first fund-raising drive in December 1977.

The grant, offered on a one-to-three matching basis, would put $100,000 in WSU's radio-TV coffers if the two stations raised $300,000 from donations over a period of three years. Fund-raising was a new activity for KWSU broadcasters, but they plunged into it and eventually raised the first year's quota of $75,000. Most of the money came from business enterprises, but the two stations were pleasantly surprised when audience members pledged nearly $11,000 in the opening days of the campaign. Apparently, listeners and viewers appreciated what they were receiving from the WSU stations and were willing to express that appreciation with cash.

It must have been sobering to Haarsager, however, to realize that in addition to his other duties, he and his staff were charged with raising $225,000 dollars from the public during his first two years on the job. A major problem facing the new KWSU radio-TV manager in raising funds was the plethora of public television signals serving the Palouse country. KWSU-TV and the University of Idaho's KUID-TV offered essentially the same PBS programs to the same viewers. Cable subscribers and people with outside antennas could also receive Spokane's public station, KSPS-TV. All three stations were appealing to Palouse residents for financial support.

Haarsager and the University of Idaho's television manager Arthur R. Hook felt it would be advantageous to both institutions to reduce the duplication of services. Together they drafted a proposal to combine the Pullman and Moscow TV operations into a single station that would be operated jointly by the two universities. The existing Idaho transmitter would be moved to Coeur d'Alene where it would serve as a satellite for the combined Washington State-Idaho station. The plan also called for joint operation of WSU's AM radio station and Idaho's FM station, KUID.

Although the television proposal had considerable logic behind it, it drew little support. Idaho's board of education preferred to merge the Moscow, Pocatello, and Boise public TV stations into a single Idaho operating unit with production centered on the Boise State campus. WSU's regents also were unenthusiastic and the proposal was quickly dropped. Oddly enough, combining the radio stations did not meet the same opposition. The University of Idaho had two essentially student-staffed FM stations—KUID, operated in conjunction with KUID-TV, and KUOI, licensed to the Associated Students of the University of Idaho. In 1984, the license of KUID-FM was transferred to WSU. The station, under the new call letters KRFA, became part of WSU's growing Northwest Public Radio network. That network was designed to provide public radio to virtually all of eastern Washington, as well as a substantial part of the Idaho panhandle and northeastern Oregon.

At the time KRFA was added, Northwest Public Radio already included KFAE-FM, which had begun broadcasting in the Tri-Cities in July 1982. KFAE, a true grass roots development, was planned by a group of Tri-Cities

residents who were unhappy about the lack of a classical music service in the Atomic Cities. The volunteer group organized as "Fine Arts Radio" and began raising money from individuals, business, and industrial establishments, and at least six labor unions. The group was in close contact with KWSU Radio-TV Services from the beginning. Dennis Haarsager and Larry Rader, a Richland resident who had been a member of the KWSU staff throughout his college career, were named to its first board of trustees. The station's call letters, KFAE, were identical to those used by KWSU when it first came on the air in 1922. KFAE celebrated its tenth anniversary in 1992 with an elaborate ceremony, including the first public showing of its new studios on the WSU Tri-Cities campus.

An additional FM station, KNWR, was opened in Ellensburg in 1992 to serve the Ellensburg/Wenatchee/Moses Lake area; and at that time approval had been received to construct KNWY-FM in Yakima. In addition, Northwest Public Radio currently maintains a growing number of low-powered FM translator stations to fill in spots where the signals from the full power stations are not up to standard.

The university's television service was also expanded to the Tri-Cities area in 1987 with the opening of KTNW-TV on the branch campus in Richland. The addition of KTNW-TV more than doubled WSU's potential television audience. Including signals from TV translators in the Lewiston-Clarkston and Beverly-Vantage areas, KWSU-TV and KTNW-TV make public television available to a minimum of 220,000 households. The two stations are programmed separately, with KTNW-TV carrying the entire schedule of PBS programs, and KWSU-TV, since it competes with two other PBS stations, drawing most of its broadcast material from a variety of other sources.

KWSU Radio-TV Services have also produced a number of program series for national distribution by public broadcasting networks. The continuing aerobics series, "Body Pulse," is at this writing a Pacific Mountain Network feature which appears on public television stations throughout the country. KWSU-Radio's "Bob & Bill Show" was broadcast by 79 NPR network stations throughout the 1991-1992 season. The two-hour daily program, with its highly unconventional approach to classical music, was developed by Bob Christiansen and Bill Morelock, two members of the KWSU staff. The program has received, among other honors, the Corporation for Public Broadcasting's Gold Award for excellence in music programs.

One radio operation that KWSU had maintained for a third of a century was discontinued in 1982. The tape transcription service at its peak was utilized by more than 100 commercial radio operations as well as a number of public stations. The service distributed a variety of weekly programs—"Science in the News," "Lets Talk About That," "The Legendary Pianists," "Literary Scrapbook," a three-a-week program of agricultural information, and several

other series. These programs were written and produced by the radio staff and distributed on tape to participating stations. The service was welcomed by commercial stations as long as they were under pressure from the FCC to devote part of their air time to educational programs. However, deregulation of radio early in the Reagan regime removed most of this pressure. Commercial stations almost universally adopted disc jockey formats that largely precluded the use of formal talks programs, and the KWSU tape transcription service no longer performed a useful function.

Under Haarsager's administration, KWSU Radio-Television Services became involved in a number of activities not directly connected with broadcasting. On-campus instructional TV had its beginnings at WSU in 1967 under the auspices of the WSU Libraries. In 1980, operation of instructional TV facilities was transferred to the radio-TV services and a two-way television link was installed to the University of Idaho a year later.

A more far-reaching development in connecting classrooms electronically began in 1985 with the inauguration of the Washington Higher Education Telecommunication System. WHETS, as the system is commonly known, enables an instructor in Pullman to conduct classes simultaneously on the main campus and on the WSU branch campuses in Spokane, Richland, and Vancouver. Classrooms in all four locations are linked together by two-way television. Instructors, using an array of TV monitors, can maintain eye-to-eye contact with all their students regardless of where they are located, since each classroom is continually scanned by television cameras. In effect, WHETS welds groups of students in widely separated communities into a single classroom. Interconnection is maintained through a highly sophisticated microwave network that also provides connections to the University of Washington, the University of Idaho, and Gonzaga University. At this writing, there are plans to extend WHETS to Wenatchee and other population centers.

Adding it all up, Haarsager calculated that in the 1991-92 fiscal year alone, KWSU Radio-Television Services had 51 million contact hours with listeners, viewers, and students in campus and branch campus classrooms—a figure equivalent to filling Martin Stadium to capacity for 460 football games. The entire operation is conducted with a full-time staff of 56 professionals as well as roughly an equal number of part-time employees, most of them students in the School of Communication radio-TV sequence.

The entire radio-tv complex had an operating budget in the 1991-92 fiscal year of $3.85 million dollars, of which well over a million was used to maintain the WHETS and on-campus instructional television (ITV) programs. These instructional programs were maintained almost entirely with WSU funds. The radio and television broadcasting stations drew on the university for slightly less than half of their operating costs, with private donations and federal money channeled through the Corporation for Public Broadcasting and other agencies

covering the major part of expenses. Private donations alone, including those from individual listeners and viewers, amounted to $630,000 during the year.

That budget, although modest for the operation of four radio stations, two television stations, and a state-wide instructional TV complex, is a considerable increase over the $700 the regents allocated H. V. Carpenter in 1923 to cover broadcasting expenses for an entire year. On the other hand, in 1992, WSU's combined radio and television facilities were operating more hours each day than Carpenter's station logged during all of 1923. The three FM stations were on the air 24 hours a day; KWSU-AM and the two TV stations each maintained 18-hour daily schedules; and the WHETS and campus ITV services accounted for a varied amount of additional hours. Two low-powered student-operated stations added to the total. KUGR, supervised by the School of Communication, and KZUU, licensed to the Associated Students of Washington State University, ran virtually around the clock except during vacation periods. During the school year, students in the School of Communication also presented TV programs regularly on Pullman cable company's channel 8.

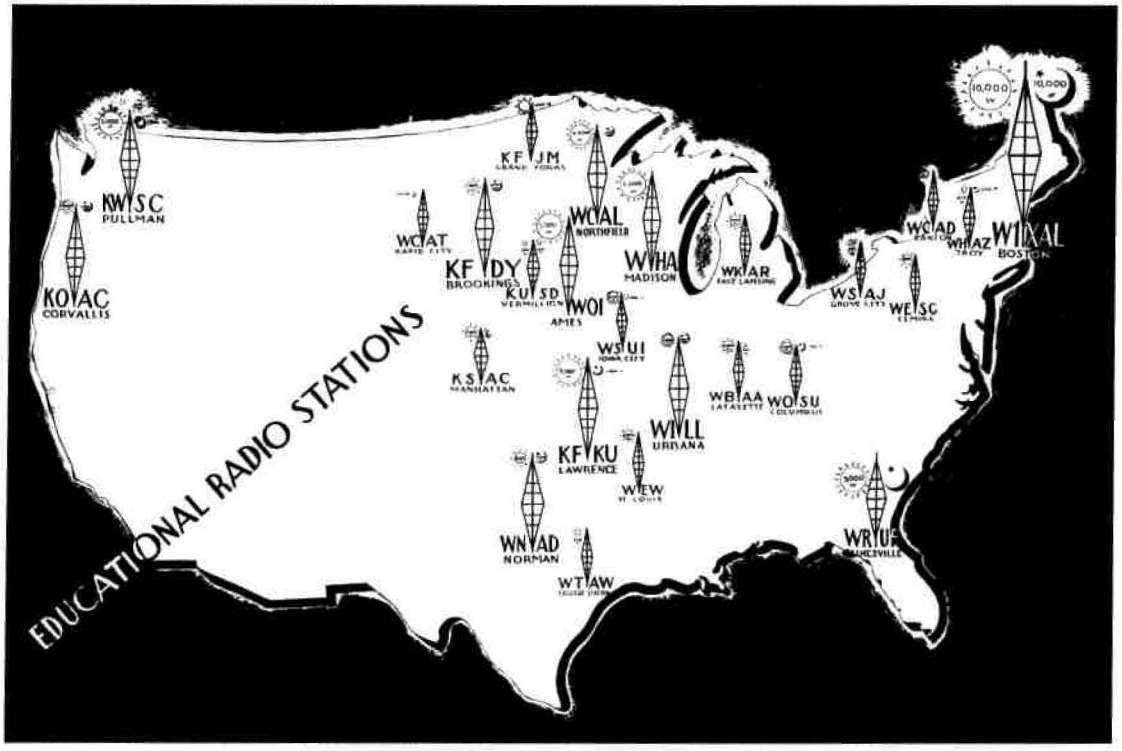
These services account for only part of the impact Washington State University continues to have on the broadcasting scene. Over the past 70 years, literally thousands of WSU graduates have been employed by the broadcasting industry as air personalities, writers, engineers, salesmen, musicians, managers, producers, or combinations of all of the foregoing. Virtually every broadcasting station in Washington has at least one staff member who first encountered the microphone or TV camera in a WSU studio. Hundreds of other WSU graduates are on station or network staffs across the country or work in allied occupations.

Broadcasting has played an ever-increasing role in the daily lives of Americans in the 70 years since Carpenter and Frank Nalder first put WSU on the air. In 1922, the state college station was one of less than 600 American broadcasting operations, all of which struggled to keep on the air a few hours a week. They catered to handfuls of radio fans, mostly those equipped with earphones and home-built crystal sets. Television existed only as a laboratory experiment, with researchers struggling to produce tiny, flickering pictures. By the opening of 1992, the United States contained roughly 11,000 radio stations, 1,468 television stations, and a complex array of broadcasting networks, production facilities, orbiting satellite relays, home-cable installations, and microwave facilities. Americans owned 199 million television sets and 519 million radios—more than two radios for every inhabitant. Television and radio provided most of the nation's news reports, supplied much of its entertainment, affected its buying habits, created and destroyed political figures, and influenced thinking on almost every world and local issue.

Washington State University takes pride in the fact that it has been involved with these media throughout their seven decades of development, and that its efforts have constantly been directed toward improving their social and cultural contributions. What the next seven decades will bring to broadcasting cannot be predicted; but the odds are good that WSU will continue to play a role in making the electronic media agencies for improving the lives of all Americans.

Appendix 1

Maps



"Educational Radio Stations." Represents educational radio stations on the air in 1936 as reported in *Educational Radio Stations. . . A Pictorial Review,* published by the National Committee on Education by Radio, New York City, 1936. All of the stations were licensed to institutions of higher education and many including KWSC, now KWSU, are still broadcasting.

"These People Have Heard Us." Represents response from listeners who notified the station that they had received KFAE on their radios, prepared about 1923.

Appendix 2

Radio-TV Roster

A Note and an Apology

A NUMBER OF PEOPLE involved in the publication of this volume, the writer included, felt that we should include the names of the literally hundreds of WSU students who, through the years, were employed on the staffs of the university's radio and television operations. We have attempted to do so in the following appendix. Finding the names proved to be more of a chore than any of us imagined. The first half of the job was no problem. The late Beatrice Fry, during the years in which she filled various key jobs at Radio-TV Services, assembled meticulous listings of the student staff members from 1922 through 1959. After Bea's untimely death none of us got around to maintaining the records she had started.

The listing which follows includes Bea Fry's compilation and an attempt by Barbara Hanford and several associates to reconstruct the next 30 years. Records at a state institution are never destroyed, but they are buried in forgotten storerooms and dusty basements. Barbara Hanford and company made a valiant effort to exhume the information. They were generally successful, but there are errors and omissions for which I ruefully accept the blame since I did the final checking and amending of their findings.

In the year-by-year listing which follows, the staff members are mentioned only once, usually in the first or last year of their employment, depending on the whim of the compiler. Most of them actually worked for Radio-TV Services throughout their university careers. The listings do not include the hundreds of individuals who were not on the payroll but spent untold hours editing newscasts, pushing cameras, and performing on the air as classroom laboratory assignments. They were definitely a vital part of the broadcasting scene, but we simply had no way of tracking down their names.

1922

Herber, John Charles
Webber, Leone Ardell

1923

Allen, Hugh Eldon
Merrick, Mahlon
Vance, Harold C.

1924

Fowler, Lester Thomas
Prindle, Alice

1925

Kimble, Charles
Marsolais, Doris
Palmer, Harry
Stanton, Harry

1926

Baker, Harold
Clark, Edwin L.
Cloud, Dudley
Hiden, Vincent Arne
Segressenmann, Margery O.
Tower, Douglas

1927

Adams, Edwin Hubbard
Schumacher, Paul A.
Sweet, Violet

1928

Katterle, Zeno Bernel
Rodman, George Edwin
Sloan, David Harold
Yerian, Carlos Scott

1929

Dunning, Richard O'Brien
Hall, Thomas Simeon
King, Kenneth Lee
Terry, Lorraine Mabel
Webb, Wilbur L.
Wixson, Harvey

1930

Anderson, Lannes E.
Buchanan, Lloyd Clayton
Duthie, Hermine
Emigh, Arthur Ward
Fraser, Stella Genevieve
Frost, Dorothy Martha
Fulton, Kate Christine
Globensky, Paul J.
Green, Warren Lincoln
Kuntze, Emmett Lawrence
McBroom, Richard Gordon
Merideth, Ruth Elizabeth
Murrow, Edward R.
Scott, Ilene
Thue, Norman Henry

1931

Church, Stanley Robert
Ellis, Eugenia Amy
Groenig, John Wesley
Moan, Harold Curtis
Weisel, Barbara Arvilla
Wixson, Herbert

1932

Anderson, Lloyd Burton
Blaker, Anson Herbert
Brewer, Cyril Alonzo
Decker, A. Thomas
Hinrichs, Betty
Newby, J. Willard
North, William Lewis

1933

Hatfield, Lester Noel
Snow, Albert Granville Jr.
Squibb, W. Foy

1934

Blakkolb, George Thomas
Coffin, Frank Howell
Edwards, Arthur Wilson
German, Mary I.
Grandey, Roy
McCaw, J. Elroy
Morley, Maxine M.
Niehenke, Bernard
Smith, Dorothy Lois
Sparlin, Margaret Evelyn
Yeend, Kenneth Edward

1935

Allison, George Poole
Boutell, Dorothy
Brewster, Carl Norby
Cannon, Joan
Green, Richard Ellsworth
Hatfield, James Belmont
Hooper, William Arthur
Leslie, Mary Louise
Mock, William R.
Norin, Laurence Samuel
Pile, Donald Hector
Pozzi, Ralph
Rogers, Ralph Whitmer
Winiecki, Frieda
Wood, Albert B.

1936

Brislawn, Edward
Danielson, John A.
Ellis, Paige Constance
Jenkins, Mildred Catherine
Ladd, James William
Laurence, Del
Neilson, Robert S.
Olson, Wayne E.
Rusk, Marian Eileen
Sandberg, Robert A.
Waters, Thomas Robert

1937

Blackmore, John
Camp, A. Elizabeth
Campbell, Jim Peck
Dunning, George
Eilert, Dorothy Laura
Gilmore, Arthur Wells
Hansen, William Bryan
Huff, G. Russell
Jones, Robert Charles
Lavagetto, Frank Thomas
Le Cocq, Rhoda
Leete, Dean
Mann, Normand
Price, Edward K.
Rambo, Sheldon Ivan
Talbot, Clarence Henry
Westacott, Mary Elizabeth

1938

Adams, Virginia Harriet
Arnold, Charles
Bertholf, Delbert Cody
Cameron, Garry M.
Cooper, Betty
Gillespie, Margaret
Green, Eleanor
Henry, Conrad R.
Hingston, Albert Cardiff
Hoffman, Margaret
Inlow, Alice
Lines, Sydney B.
Mallach, Lawrence Walton
Miller, Reginald John
Mortimer, Frank Allen
Nygren, Stanley
Peters, Duncan Dunn
Phillippay, Victor
Prichard, Zelda Mae
Roberts, Curtis
Robinson, Frances Ruth
Storms, John Herbert
Swart, Louise
Swartz, Herman
Todd, Jane Alberta
Turner, Jack
Turner, Louise
Walker, John Delos

1939

Baird, Robert Edward
Burton, Sydney Leonard
Butherus, Edward
Cooil, Diane
Danes, L. Elmer
Fausti, Remo Philip
Gillette, Louis
Goldsworthy, Robert Flood
Heinemann, Edward Alfred
Hokanson, Harold Ture
Kuykendall, Radford
Little, Lauraine Frances
Miller, Robert Hale
Passage, Richard J.
Rosenberg, William Gordon
Sykes, Malcolm William
Thompson, George Erwin

1940

Abe, Susie
Alexander, Ken
Alexieve, Helen Rhyna
Arlin, Norman W.
Bankson, Budd R.
Bernard, James Donovan
Bouska, Betty Jo
Bruning, Frances Fay
Coen, Albert Gale
Corbin, Charles Paul
Davis, Patricia Fontelle
Davis, Tim Daniel
Gentry, Robert
Ison, Aubrey Hugh
Luiten, Irvin Herman
Nolan, James Walter Jr.
Phreaner, William
Rule, Ronald L.
Sarchet, Thomas Cecil
Sater, H. Hartley
Scott, James H. Jr.
Secrest, Betty Nell
Sharpless, Jean Marie
von Marbod, Margett
Warwick, Stanley Grant
West, Ray Lee
Wood, Charles

1941

Aya, William
Byer, Hal
Comegys, Jean Idell
Crain, Paul
Eagleson, Ruth
Ellis, Richard Hampton
Feely, Jack Edwin
Field, Laurence Hayes
Hamley, Evan Arthur
Homchick, Regina Mary
Meenach, Thomas Jefferson Jr.
Peckenpaugh, Jeanne
Rhiger, Richard R.
Salt, Loyd
Tonsfeldt, Lucile
Van Hoy, Virginia
Walker, E. Jerry
Young, Eleanor Virginia
Zimmerman, Charles Robert

1942

Agather, Max Edward
Barr, Eldon C.
Bergquist, Paul Ensign
Birk, Murle Janet
Busby, Francis Marion Jr.
Busch, Marianne
Canepa, Ed
Coffey, Charles Calvin
Day, Marcus M. Jr.
Filer, Mary
Foster, Charles Neal
Frazier, Philip Emory
Godon, Richard Holm
Goldman, Carl Joseph
Lawson, Mary Jane
Lorang, Glenn Charles
Miller, Francis
Mitchell, Hazel
Pendleton, Kenneth
Pierson, Leo Ronayne
Rhodes, William C.
Schmitz, Elna Agnes
Schultz, Robert Meril
Strong, Lois Jo
Van Winkle, Margaret
Warwick, Ellen Jane
Wilkinson, Robert
Woodward, Martin Albert

1943

Ahern, Charles Robert
Doerner, Bruce W.
Doyle, Larry
Fleming, Jackson Martin
Foraker, Viola Lorene
Herring, Charles Herman Jr.
Holt, Patricia Jane
Mooney, George Patrick
Morrell, Clyde Eugene
Roos, Reginald D.
Thompson, Dixie Lou
Turnquist, Sigurd

1944

Anderson, Donald David
Cunningham, Virginia
Foraker, Phillip William
Frese, George Melvin
Gilbert, Margaret
Good, Henry K.
Gray, Edwin Herman
Hamby, Ray I.
Hursey, Glenn
Liebel, Lester Norman
McCallum, George Patrick
McCroskey, Donald Carroll
Nelson, Daphne
Strauss, Patricia Maxine
White, Marjorie Elizabeth
Wilson, Betty Marguerite
Wright, Patricia C. Elaine

1945

Cook, Lorne Marie
Cunningham, Lois Jean
Eckersley, Diane Marie
Egelston, Richard
Folsom, Shirley Grace
Hoff, Rodney Guy
Lund, Evelyn
States, Meriel Margaret
Todd, Eleanor Olive
Towne, Alma Marie
Witscher, Mary

1946

Bayton, John Ronald
Boone, Mary
Busek, Eileen Marie
Faulkner, Carolyn May
Hall, Elizabeth J.
Harrison, Janet Ruth
Hastings, C. Myrt
Hayward, Donald
Jarstad, John Otis William
Locke, Clarence Stanley
Loving, Larry Edwin
Miller, Marilyn
Parker, Horace
Parks, Wayne L.
Price, Mildred
Schmidt, Betty Jean
Smith, Irving Springer
Smith, Thomas J.
Snow, Harold Dale
Spratlin, Robert

1947

Adams, Andrew B.
Barnier, Ruth Esther
Bowers, Ethel Lou
Chambers, Joan Daphne
Cone, Marilyn Louise
Curtis, Robert Russell
Daniel, John Isaac
Earl, Alice Lily
Emerson, Elder R.
Flint, Helen Jean
Hale, LeRoy Franklin
Isherwood, Clarence Alfred
Johnson, Allison
MacKelvie, Arthur Reed
Magnuson, Betty Lorraine
McCallum, John Dennis
Morgan, Vicki Jeanette
Munns, Nydia Jane
Murphy, Marjorie Lucille
Noftsinger, Kathryn Jean
Parks, Jackleen Muriel
Raney, Alan Keyes
Rhodes, Charles Herbert
Riley, Mollie Gene
Ross, Richard Clark
Smith, Constance Anne
Wallin, Jean Harriet
Weeks, Richard Davis

1948

Adams, Roland Norman
Armstrong, Patricia L.
Billings, Frank
Brannon, Dale Francis
Bridges, Nathan Ives
Bryant, Kathleen Elizabeth
Cannon, Frank C.
Carlson, Del Leroy
Devlin, John
Eddy, Walter R.
Ferris, Leslie Gene
Gelbach, Herman Ralph
Greiner, Fred
Hart, Doris Jeanne
Hovde, Andriene
Jaeger, Joseph Marvin
Link, Jack Jamison
Mally, George William
Martin, Patricia Lou
McLeod, James S.
Meeker, Douglas Moran
Mendelsohn, Arthur
Moe, C. Roger
Moody, William G.
Morris, Carol
Myers, Ira Thomas
Nichols, Richard D.
O'Day, Patricia Ann
Olson, Shirley Ann
Oyler, William
Pozzi, Ron
Robinson, James
Roth, Eugene W.
Sarchet, Douglas
Saunders, Robert
Seaman, Robert C.
Shaver, Robert W.
Shemwell, Elwood
Smith, Mary Lou
Strom, Melvin Henry
Swartz, Robert L.
Uthes, Kenneth

1949

Bainter, Jack
Busek, Anita
Conyard, Patricia Ann
Curda, Verne
Dallas, Vernon Glenn
Durham, Warren John
Elam, Richard Warren
Fitzpatrick, Leslie Bernard
Ford, Charles Edward Jr.
Gasman, William B.
Greer, Louise Ruth

Haight, Frank Wilson
Hanson, Philip Russell
Herbert, Ralph D.
Holt, Darrel Woodruff
Hopkins, George
Johnson, Virginia Rae
Johnson, Wynne
Jones, Roderick Willis Jr.
Kiehl, Cyril Leroy
Marihart, Ronald Joseph
Mauer, Ronald Kenley
Monroe, Mary Lou
Puckett, John
Rue, James Joseph
Thompson, Gloria
Walters, William Mack
Warren, James Ronald
Wilkins, Arthur Pritts
Wood, Donald Edward
Woodward, Ronald Ross

1950

Asplund, Stanley Washington
Buckingham, Frances Jean
Burger, Jack L.
Burgess, Paul D. Jr.
Colkitt, Gerald
Concie, Robert Frederick
Cooper, Elroy W.
Denton, Edward F. (Bill)
Desilet, LeRoy Thomas
Di Meo, John Robert
Fay, Walter Haines
Forsell, Ronald Oscar
Gamble, William Wesley
Garrett, Harold Riley
Glover, Marien
Gusman, Marcia Joan
Halstead, Floyd H. Jr.
Hane, Joan
Hanks, J. Wayne
Harris, Leslie W.
Harvey, William
Karlela, Gertrude H.
Law, Raymond Mark
MacPherson, Hugh John
Malone, Nola
McAdam, James Henry
McDaniel, J. Grant
McIntosh, Houston Turner
Murdoch, Alan G.
Nichols, Ralph A.
Nugent, Frances
Powell, William Thurston
Roiko, Edythe
Simmons, Howard
Simpson, Weymeth Murrel
Spechko, Paul R.
Spencer, Willard Jr.
Stottlemyre, James Leland
Tessin, Frank Alexander Jr.
Thornton, Jack B.
Tochterman, Charlotte
Wagner, Fred Eugene
Wickstrom, Charles Crawford

1951

Anderson, Robert Malcolm
Bauer, Alvin Elden
Britt, James Edward
Brynestad, Joyce
Casson, Harry Russell
Cooper, Harry Victor
Friel, Charlotte
Havig, Dean Philip
Johnson, Stanley Paul
Kinder, Herbert Todd
Knievel, Anton John III
Miller, Jean
Nelson, Albin Voltimore
Saraceno, Frank
Serr, Jeanne Rosemary
Spann, Marian
Wood, Robert Gene
Yaw, Helen Ruth

1952

Berg, Bruce Haller
Christiansen, Verne
Dasch, Philip R.
Gronseth, H. Morton
Guthrie, Kay Winfield
Harper, Barbara Louise
Hathaway, James Bradford
Hollingbery, Marilu
Lebold, Bill Boyd
Lentz, Norman Eugene
Lewis, Harry W.
Lindberg, Charles
Livingston, Phil
MacKelvie, Douglas A.
Murdock, Donna B.
Pederson, Rufus J.
Pierce, Samuel Maurice
Ries, John Arthur Jr.
Tallent, John Evan
Shuman, Howard H.
Stenkamp, John
Sumbardo, Robert Arthur
Walker, Rex M.
Wallace, Alvin
Wilcox, Theodore

1953

Allard, Richard Crockett
Barker, Thomas William
Bischoff, James A.
Bryant, Ted Eugene
Burns, Gary Loyal
Dunning, Carol Jeanette
Finnell, Robert Roy
Gardner, Richard M.
Giesa, Jay Ward
Heft, Jeraldine Kay
Johnson, James Lee
Jones, Gareth Edwin
Kassel, Emory Dale
Kerr, Peggy Joanne
Klages, Karl William
Lorang, James Tobin
Menitt, Jean Marguerite
Miller, Zaner Erwin
Morgan, Gwendola Susan
Poulter, Raymond N.
Purcell, Edward L.
Sutton, William Gene
Thuemmel, John Peter
Triplett, Martin Edmund
Wells, Mary Louise
Winkler, William Gene

1954

Adkins, Robert Dewey
Bock, Duane Hugh
Buck, Steven Merrimen
Erickson, Elmer Herbert
Ferguson, Robert
Francone, Armond Gene
Havo, David
Jackson, Keith Max
Koeppen, Joy
Loren, Richard William
Marshall, Walter Henry
McDonald, Malcolm Gideon
Riser, Mary Lee
Schreiner, Lois
Schwenk, Milton Emerson
Shuman, Richard Peter
Thomson, C. William
Tribble, Clair Hunt

1955

Aliverti, Edward Gene
Arend, William Brannon
Burmester, Neil Richard
Clark, Marjorie
Clough, Jeanne Louise
Graham, David B.
Gregerson, Carol Lee
Hartley, Charles Robert
Hunter, Elaine Stevens
Kahle, Arthur E.
Karlson, Karen Dorothy
Lamb, Allen Delano
McDonald, Arthur Harold
McGreevy, Daniel Edward
McKinnon, Donald W.
Ness, Kenneth Owen
Owings, Janis Diana
Payne, Charles Victor Jr.
Snyder, Charles Ernest Jr.
St. John, Marshall
Underwood, David Bert
Wike, Gene Eldon

1956

Bloyd, Carol
Burt, Fred Walter
Chehey, Charles Leo
Eddy, Ruth Ann
Ellmore, Roland Terry
Gardner, Richard Antone
Grant, Alan Arthur
Hardwick, Robert Lee
Heil, Richard Lutz
Herold, E. C.
Hicks, Jack Aubrey
Hoss, Ronald P.
Irvine, Barbara Jean
King, Francine L.
Lake, Jerry Dean
Lantow, Shirley Mae
Luck, Jo Ann Joyce
McMahan, James
Meister, Janice Diane
Miller, Gregory Alan
Mitchell, Dean William
Morris, Bernard
Munroe, John King
Oliphant, Burt Hiatt
Shidell, Muriel Ann
Steinke, E. L. Theodore Jr.
Watson, Raymond Gray
Wharton, Joan Coralie
Woodward, Gordon Durrell

1957

Albrigtson, Diane Joan
Cooley, Theodore Francis
Ellsworth, Charles Oliver
Esslinger, Duane
Fowler, Harold Louis
French, Robert William
Hamilton, Ralph B.
Heninger, Rex Lee
Hilden, Patricia Ann
Hougan, Tom McKay
Love, Robert
Manus, Carolyn Frances
McCluskey, Suzanne
McCormac, Sam
McCurdy, J. Bayne
McMillan, Allan Bane
Neagher, Joseph
Norlin, Grant Kaywood
Otto, Theodore
Pierson, John Fredrick
Purcell, James P.
Siniff, Grace Elizabeth
White, Marilee
Windhusen, Jean L.

1958

Aylor, William B.
Burns, Donald Oakley
Cook, Ben Burton
Fankhauser, Calvin Otis
Gilleland, John Louis
Harleman, Paul
Huntington, William
Jefferson, Barbara
Law, David G.
Lorenz, Raymond Otto
McDonald, Richard Henry
McElhaney, James
Mueller, Helen
Murdoch, Antoinette
Naught, Verne
Palmer, William Otis
Ragan, George Richard
Ryan, Nora
Thorsen, Gerald Thor
Turnbow, Robert Gerald
Valley, Jack
Vogelman, Robert J.
White, Larry James
Wile, Dale Wayne
Young, Robert Howard

1959

Anderson, Deyrol
Barber, Ronald Paul
Baumgart, Donald Ray
Burgess, Barbara E.
Cooper, George Edward
Calhoun, John Robbie
Eagle, Patricia
Hirzel, Ellwood James
Holcomb, Sarah
Martin, Rox Alee
Meek, Annette Weissenborn
Morrell, Charles
Olds, Michael Converse
Read, Thomas Wilmot
Robison, Douglas Lyle

Sanders, Gordon A.
Sharman, G. Edward
Smith, Richard H.
Staeger, Robert L.
Standal, Jerry Thor
Watson, Sylvia Jo Ormsby

1960

Agee, Mike
Barmore, Thomas
Brubaker, Bill
Brubaker, Robert
Cordon, David
Curry, Gerald
Gomstad, Lorne
James, Michael
Komp, Joe
Loss, James
Marx, Robert
Miles, Richard
Murlin, William
Peppard, Steven
Watt, William

1961

Linder, Neil
Lunnum, Joan
McCoun, Cathy
Ormsby, Richie
Root, Marilyn
Sandifer, John
Wight, Kay
Yokum, Jerry

1962

Cooper, George
Highland, Carl
Houghland, James
Kuiper, Brad
Lind, Dennis
McConnell, Robert
Rader, Larry
Westberg, Dewey
Weskil, Roger
White, Robert

1963

Altman, Mike
Banford, Barbara
Bergen, Judy
Borovec, Duane
Burton, Robert
Butler, Donald
Carter, Ron
Eckman, Arthur
Gill, Elsie
Hawkins, George
Hunt, Thomas
Johnson, William
King, Ronald
Mauser, Rick
McFadden, Thomas
Moore, Patrick
Mulloud, Steve
Murlin, Bill
Richard, Terry
Sexton, Michael
Sowers, Thomas
Stanford, Thomas
Tuinings, Dick
White, Donald
Winkle, Ed
Zaspel, Joe

1964

Beckley, Melinda
Berger, Janet
Bleisner, Wayne
Carlson, Melvin
Duncan, Bonnie
Edlund, Eric
Ericson, Anna
Gordon, Robert
Hammerstrom, Richard
King, Corwin
Kirkwood, Beth
Kuhlman, Craig
McCloud, Steven
McFadden, John
McGraw, Richard
Martin, Gerald
Minor, Richard
Parker, Kenneth
Thompson, Eddie
White, Robert

1965

Baker, Ray
Bertrand, Kenneth
Bline, Dick
Driskill, Charles
Fairhart, Michael
Florine, Linda
Frender, Janet
Hansen, Ron
Hess, Leigh
Hogg, Fred
Johnson, Forrest
Johnson, Owen
Justice, Gary
Klusman, Judith
Linder, David
Manildi, Don
Martin, Gaye
Mettler, Lyle
Moore, Patrick
Peppard, Jon
Porter, Steve
Radford, Frank
Raymond, David
Rogerson, Ronald
Rowe, Patrick
Schroedel, Joel
Scott, Patrick
Smith, Gary
Vaughn, Theran
Wallace, Judy
Walters, John
Zimmerman, Don

1966

Albrecht, Jan
Brunkow, Robert
Duff, Jane
Forbes, John
Gellatly, David
Hardy, William
Hayward, David
Keeler, Steven
King, Ronald
Kluge, Bernard "Ben"
Lacey, Dave
Lindsay, John
Matthey, Mike
Montgomery, Steven
Morrow, Gerald
Pitzer, Donald
Stack, Nancy
Thompson, Cormac
Watkins, Harry

1967

Andrews, Douglas
Bentley, Mike
Coleman, Terry M.
Ellison, Marty
Fenner, David
Graham, Mike
Haller, Sandy
Harrison, B. Dale
Hess, Leigh
Hudson, Sally
King, Tom
Morrison, Sherry
Myers, James
Neuenshwander, Tod
Olsen, Norman
Peppard, Steven
Pugh, Randolph
Reese, Mark
Rounce, Jeff
Scott, Patrick
Simon, Richard "Rick"
Spellecy, Ron
Stanoch, Joe
Wada, John

1968

Hardy, William
Hull, Verna
Houghton, Louise
Mary, Mike
Overstreet, David
Seran, Kenneth
Smiley, James
Spellacy, Richard

1969

Archer, Lan
Meyers, James
Nihoul, Thomas
Palmer, Hal
Pederson, Robert
Pitzer, Don
Shephard, Susan

1970

Adams, James
Anderson, Al
Bettencourt, Dennis
Benedict, Darrell
Bielski, David
Brechner, Kevin
Brown, Sandy
Cowan, Gregory
Crowell, Steven
Davis, John
Deccio, Dennis
Denstedt, William
Flower, Phillip
Hanford, Barbara
Harle, Andrew
Harvey, Mark
Howe, Rich
Hughes, Douglas
Johnson, Greg
Kaufman, Mark
Kidder, Eric
Longmeier, Dennis
Lowe, Neil
Mains, Mary
Makela, Mike
Manor, Ron
McCammond, Gordon
Meyer, Robert
Mooring, John
Mustard, William
Powell, Albert
Priest, Gerald
Richer, Larry
Rothschild, Peter
Rounce, Jeff
Salmon, Mike
Sappenfield, Steve
Schutt, Mickey
Warren, Ted
Wheelon, David
White, Gary

1971

Bergeron, Kurt
Boril, John
Bush, Jerry
Dunn, William
Eck, Ralph
Greenbough, Steve
Harden, Ron
Harvey, Mark
Hebner, Jack
Howe, Ron
Hughes, Douglas
Jones, Craig
Jones, Tim
Kennelly, Marilyn
Lyday, Kenneth
Magnuson, Kathy
Meyer, Robert
Mielke, Sue
Miller, Steve
Moll, James
Morrison, John
Roberts, Keith
Salvatore, Joe
Savage, Craig

1972

Barry, Douglas
Briehl, John
Burford, Brooks
Hamilton, Steve
Hinde, Charles
Howe, Richard
Hunzeker, Jack
Johnson, Chris
Mellin, Tim
Moll, James
Nilan, Judi
Ward, Charles
Watson, John

1973

Causgrove, Mary
Hogan, Thomas
Hopkins, Thomas
Johnson, Bruce
Murdock, William
O'Mary, Gary
Lester, David
Robins, Larry

1974

Buchanan, Mark
Drucker, Marsha
Flink, Kevin
Franklin, Dennis
Johnson, John
Jones, William
Moore, David
Murray, Frank
Parents, Ed
Peterson, Doug

Stendal, Mark
Van Sant, Peter

1975

Blodgett, James M.
Chelminiak, John
Cowan, Richard
Dupar, Corky
Fortier, Amy
Habenicht, Kimberly
Larson, Daqvid
Lewis, Randy
Reeves, Fred
Taylor, Chris
Trefry, Stuart

1976

Anderson, Gary
Barrett, James
Buttleman, Keith
Dwelley, Jill
Ketcham, Libby
Marshall, Chris
Meador, Jack
Miner, Tony
Pearson, Shelly
Peters, Don
Shahan, Eric
Shiers, Frank
Singhrs, Kim
Syring, John
Wagner, James
Wood, Alex
Wurhl, Libby
Zimmer, James

1977

Bills, Wayne Ray
Boaz, William
Chew, Geoffrey
Cooper, Robert
Cowan, Richard
Dickinson, Tom
Huotari, Brian
Levold, Steve
Rossman, Mark
Schram, Marilyn
Wilson, Steve

1978

Allianic, Jan
Colyear, Michelle
Huckstep, Vivienne
Jackson, Rod
Klave, Douglas
Lindstrom, Kris
McCoy, Bones
Meyer, James
Neilson, Cheryl
Rabiner, David
Romero, Robert
Rybock, Paul
Sherman, Rick
Swartz, William
Tytler, Stephen
Whitaker, Chris
Williams, Les
Zarowitz, Jay

1979

Altose, Larry
Cleveland, Shannon
DeLong, Shawn
Doer, Kevin
Elliot, Mark
Forhan, Chris
Foster, Vern
Fox, Walter
Goertzen, Kathy
Greene, Kenneth
Hofsted, Julie
Irvine, Bill
Kulich, Linda
Levold, Steve
Lowe, Bryan
McGilivay, Pat
McGreevy, Tim
Miller, Scott
Morrison, Nora
Pickett, Tod
Pilkey, Sue
Proudfit, Brett
Rasmussen, Rob
Schuoler, Elizabeth
Seebeck, Paul
Shipman, Keith
Sichalwe, Mann
Smith, Barbara
Sonderman, Jeff
Weathermon, Kristine
Wilson, Jan
Woodruff, Melissa

1980-1984

Berg, Gregory
Berhow, Joel
Berreman, Mardiece
Biondi, Matthew
Borroz, Tony
Bredahl, Donna
Bryant, Daniel A.
Butler, Catherine
Buntock, Paul
Carver, Curt
Chanleatle, Luis
Childers, Darci
Christenson, Linda
Devereux, Stan
Dooris, Pat
Duff, Isolada
Evans, Arthur
Forhan, Chris
Galimanis, Mike
Greene, Kenneth
Griffith, Randy
Hanley, Gerald
Hansen, Laurie
Hauge, Ed
Holmberg, Tom
Horne, Gayle
Hunt, Tim
Jackson, Joan
Johnston, Rene
Kane, Frank
KuwaHara, Jan
Kelly, Dennis
Koller, Gregory Lee
Larson, Dan
Lee, Kenneth
Lowery, Robert
McGrady, Willie
McKean, Steve
McLean, Mason
Medek, Marty
Meyer, David
Miyamoto, Jeff
Moore, Kevin
Morelock, William
Nord, Pam
Osborne, Gary
Pack, Brad
Powell, Dennis
Redmon, Jesse

Renner, Dave
Ricker, Philip
Saretske, Loran
Shipman, Keith
Skak, Shiela
Smith, Doug
Spille, Kraig
Stauffer, Steve
Thompson, Dick
Velasquez, Ana Maria
Wagner, Dana
Watkins, Darin
Williams, Dave
Willis, R.D.
Wilson, Mike
Wisner, Chris
Woodall, Vern

1985-1989

Adams, Heidi
Ashley, Dayle
Avey, Arthur
Bailey, Mark
Bain, Rod
Blazeworth, Carol
Boland, Jenny
Brant, Lenny
Brouilaard, Doug
Brown, Terrance
Bryd, Ray
Bryant, Daniel
Buckley, Jody
Buel, Richard
Busey, Richard
Bustetter, Kerry
Butler, Tom
Cleland, Nicole
Cooley, Mike
Cooper, Perry
Dickey, Randy
Ferrucci, Teri
Fish, Caroline
Gade, Peter
Gallucci, Maura
Goble, Melanie
Graham, Barbara
Graham, David
Grimm, David
Hallock, Scott
Harney, Mike
Helsten, Debra
Hindle, Jeff
Huddleston, David
Jones, Jossanda
Jones, Karen
Kari, Dan
Keilin, Robert
Keller, Tina
Klein, Val
Klinger, Jeff
Klinkenberg, Paul
Kreamer, Scott
Law, Joanna
Lucas, Paul
Luebers, Mark
Mackner, Jackie
Manning, Anne
Masteror, B.C.
Mercer, John
Monk, Susie
Miller, Kathryn
Moore, Melissa
Murray, Brian
Nakata, Steve
Nelson, Sherry
Ostervold, Val
Payne, Jeff
Peltier, Jeff
Perdue, Earl
Plut, Jason
Prunty, David
Raab, Lori
Rhodes, Drexel
Roth, Ryan
Sayle, C.J.
Schnaible, Paul
Scott, Vik
Seick, Garrett
Setterberg, Diana
Seward, Cary
Shaffer, Chris
Shonka, Janet
Snyder, James
Southworh, Michael
Spraker, Dave
Stanford, Kenneth
Stephenson, Sydney
Turner, Kimberly
VanderVoorde, Matte
Vik, Scott
Wike, Scott
Wallace, Roger
Weeks, Kevin
White, Tony
Williams, Jeanica

General Managers/Directors of WSU Radio-TV Services

Allen Miller
Robert Mott
Calvin A. Watson
Gordon Tuell
Lyle Mettler
Dennis Haarsager

Managers/Directors of WSU Radio Stations

H. V. Carpenter
Frank F. Nalder
Kenneth Yeend
Glen Jones
Frederic Hayward
Eldon C. "Pete" Barr
Allen Miller
Burt Harrison
Robert Eastman
Charles Hinde
Denise Mongeau
Neal Robison
Frank E. Roberts
Arthur Cohen
Jean Palmquist

Managers/Directors of WSU Television Stations

Calvin A. Watson
Tom Rogstad
Lyle Mettler
Kenneth G. Fielding
Susan Franko
Warren Wright

About the Writer

BURT HARRISON HAS spent most of his adult life in broadcasting, including 27 years on the staff of WSU Radio-Television Services. In addition he has done time as a soda jerk, shoe salesman, farmhand, sheepherder, newspaper reporter, mortuary and baseball organist, piano player in a variety of third-rate nightclubs and second-rate dance bands, public schoolteacher, flack artist for the Corps of Engineers, and mayor of a small Washington town.

Harrison has also been a Fulbright Lecturer in north Thailand, a collector of oral history of public broadcasting, faculty member at three universities, science writer, book reviewer, TV producer, board member of numerous broadcasting organizations, and world traveler. In 1977 he received the Corporation for Public Broadcasting's first Edward R. Murrow award for outstanding contributions to Public Radio. He has also been named Broadcaster of the Year by the Washington State Association of Broadcasters. Harrison and his wife Dee recently celebrated their 52nd wedding anniversary. They enjoy living in Albion, Washington, a few miles northwest of Pullman, but are willing to go anywhere else on ten minutes' notice.

WASHINGTON STATE
ON THE AIR

A lot of outrageous things can occur in the operation of a radio or television station, particularly if it is run primarily by freewheeling college students. This history of broadcasting at Washington State University examines some of these happenings, along with the important events that have made KWSU Radio-TV a leader in its field.

In these pages, Burt Harrison traces the growth of WSU broadcasting through 70 years--from 1922, when the college went on the air with a homemade radio transmitter and an antenna supported by "liberated" windmill towers, to the development of the present network of radio and TV stations serving an audience in three states. He also touches on the careers of many of the more than 1,000 broadcasters who had their first encounter with a microphone or camera at WSU, and examines the college's role in the creation of today's nationwide Public Radio and Television services.