

A NEW "FIRST" STATION?

WITH the start of 1959, it is singularly appropriate for the *Journal of Broadcasting* to introduce a new controversial topic for consideration. For nearly a quarter of a century there has been debate as to which station can lay claim to the title of "oldest" in the nation. Most authorities credit KDKA, Pittsburgh, Pennsylvania, as most deserving of the honor. But, as Edward Shurick discovered when he tried to verify the KDKA claim for his published record of the first twenty-five years of American broadcasting, there are many contenders for the distinction of having been "first." There has been general agreement, however, that broadcasting in the United States dates from 1922 when the first stations were licensed by the Department of Commerce and commenced *regular* broadcasting service.

But Professor Gordon Greb of San Jose State College introduces a new entry, pushing the date back a full fifteen years. Through painstaking research, he establishes the claim of KCBS, San Francisco, as the nation's oldest, dating back to 1909, a full half-century ago. Professor Greb's research is doubly interesting, since it not only brings to light new data concerning the development of the broadcast medium, but it also exemplifies the application of historical method to broadcast research.

The history of broadcasting as a mass medium is perhaps too short to have its historians. The two individuals most frequently mentioned in this regard—Archer Gleason and Edward Shurick—published detailed chronologies. Their work was more that of journalistic reporting than sound, well-researched historiography. Yet broadcasting history is beginning to attract the attention of some scholars in the field. Each year sees an increase in the number of graduate theses and dissertations dealing wholly or in part upon historical aspects of broadcasting. There is evidence that in the future historical method may occupy a much more

important share of attention of scholars interested in the broadcast media.

It might even be said that until an institution achieves recognition from social historians, it can scarcely be considered "mature." Studies such as the present one by Professor Greb may well be a sign of the maturation of broadcasting. No longer the commentators of the social scene write of the "lusty infant" or the "young" medium of broadcasting. This year—1959—becomes an historic milestone in the annals of broadcasting—its Golden Anniversary year!

Regardless of what station, by whatever definition, may ultimately possess the coveted title of "oldest station," it cannot be denied that Professor Greb has made a unique contribution to broadcasting history. May it inspire still further research of a comparable nature!

By Gordon Greb
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THE GOLDEN ANNIVERSARY OF BROADCASTING

By Gordon B. Greb

When San Francisco Sigma Delta Chi professionals in September, 1958, discussed what newspaper site deserved an historic marker, Gordon Greb thought, "Why not radio?" This idea stimulated research into pioneer broadcasting claims—and this article. Mr. Greb received a Master of Arts degree in Journalism from the University of Minnesota in 1951 and is a doctoral candidate at Stanford University. His master's thesis, "Free-

dom of the Movies in Presenting News and Opinions," was quoted before the U.S. Supreme Court in the precedent-setting case, Burstyn v. Wilson, et al, 343 U.S. 495 (1952), which struck down movie censorship. Mr. Greb is an Assistant Professor in the Department of Journalism and Advertising at San Jose State College where he directs the radio-television news sequence. He also has taught at Minnesota, Oregon, and Stanford.

THIS should be the year for both television and radio to kick up their kilowatts to celebrate the Golden Anniversary of Broadcasting.

Notwithstanding the many claims to "first broadcasting" by such stations as WHA, Madison, Wisconsin; WWJ, Detroit, Michigan; and KDKA, Pittsburgh, Pennsylvania, there is considerable evidence supporting a California station's claim as being the granddaddy of them all because of its 50th birthday this year.¹

While each of the aforementioned stations deserves recognition for unique contributions to radio as we know it today, the real pioneer of broadcasting is Herrold's Station of the Garden City Bank Building in San Jose, California.

This station began so early in the 20th Century with its broadcasting activities that it was not even required to have any call letters but simply identified itself by using the name of its founder, Charles David Herrold, principal of the Herrold College of Engineering and Wireless, San Jose, California. In January, 1909, it had its first successful broadcast.²

What began back in 1909 has continued in straight-line continuity to the present broadcasting of KCBS, the 50-thousand watt key station of the Columbia Broadcasting System, San Francisco, the direct lineal

¹Sawyer, *History of Santa Clara County* (1922), pp. 1293-4, and *Federal Writers' Project, California* (1939), p. 117.

²From letter signed by Chas. D. Herrold, March 11, 1932.

descendent of the small 15-watt spark transmitter with which "Prof" Herrold experimented so many years ago.³

"On January 1, 1909, I opened my School of Radio in San Jose," Herrold wrote Lee de Forest. "From the first, broadcasts were a part of my routine. I never employed a Poulson arc in broadcasting, nor did I use the so-called 'peanut whistle' type of spark of Charlie and Jack McCarthy in Oakland. I experimented with practically all the existing types of sparks and arcs, with the exception of the Alexandersen (sic) high frequency generators, which were very obviously outside the reach of my pocket book. When I opened my school I kept some sort of wireless telephone equipment hooked up all the time. The output was always small up to late in 1911, and the distances covered were small . . . In spite of continual changes in apparatus, there was always music of some sort coming from my station. It was real broadcasting—how do I know? Because I had to make my own audience. I went out through the valley and installed crystal sets so that people could listen to the music."⁴

These first broadcasts were more than three years before Congress enacted the Radio Act of 1912, which required licenses and call letters from "voice" transmitters.⁵ Until then, Herrold's operators simply announced, "This is San Jose calling," gave a vocational school identification and went into their news and music. Operating the station continuously was a logical way for him to gain publicity for his wireless school among an audience most likely to enroll, the teen-age amateurs. Herrold recalled that he used the call letters FN early in his experimental broadcasting. He also used experimental land station licenses 6XE (portable) and 6XF on variable wave length assignments. By 1913, the call letters SJN were heard on the air. And in 1921, after licenses finally were issued under the classification of broadcasting, Herrold's station became KQW. The call letters were changed to KCBS in 1949.

Herrold, a classmate of Herbert Hoover at Stanford University before the turn of the century, died in 1948 at the age of 72 in a rest

³*Broadcast Reporter* (Jan. 2, 1933) quotes Fred J. Hart as saying the station would celebrate its 25th birthday on January 17; however, there is no evidence this date has any special significance.

⁴From letters dated March 25, 1940, and April 23, 1940.

⁵The act was approved Aug. 13, 1912. Herrold always claimed that his license in 1912 was the first to be issued to an actual radio telephone. Records show he filed application on Dec. 4, 1912.

home at Hayward, California.⁶ So his letters, personal records, newspaper clippings, and other collected materials are the principal documents of his story.⁷ But these private papers are not all. There are his contemporaries, too, who can verify what happened in these early days and the author sought them out.

One of the first to associate himself with Herrold in San Jose was a young man named Ray Newby, the professor's assistant and wireless code instructor. This 16-year old experimenter taught the half-dozen students enrolled in the fifth-floor classes of the Herrold College in the Garden City Bank Building, First and West San Fernando streets, San Jose. Newby had a natural bent for tinkering with electrical gadgets, as did his mentor. In an interview, Newby told what happened.⁸

Q. "Is this the same Ray Newby who with Charles D. Herrold successfully broadcast by radio from the Garden City Bank Building in San Jose in 1909?"

A. "Yes, sir! Definitely! I'll never forget it."

Q. "Can you tell us about that?"

A. "Well, it was experimental at that time and it was quite a thrill to everyone. All the crystal detectors in San Jose and for miles around were not only thrilled but shocked to hear voices coming over when they were really listening to the spark code . . . The voice was a shock to almost anyone that heard it the first time."

Q. "You told me earlier that it was on a little set you built that the first successful broadcast was made."

A. "Yes, when he (Herrold) put this school in operation he had built an umbrella, fan-type antenna from all corners of the building, out over the whole town, practically for a block in every direction. . . . I think what started the whole thing—so far as putting the voice out over this large antenna—was when I brought in a little one-inch spark coil and he had a microphone and we connected the thing into a storage battery and talked into this microphone and rattled out some

⁶Oakland Tribune (July 4, 1948).

⁷Herrold's personal papers filled three large boxes. These were examined for the first time in 10 years by the author, together with his son, Robert R. (Herrold) True, on Jan. 2, 1959, and all radio contents were entrusted to the author for this study.

⁸From author's tape-recorded interview with Newby, Jan. 9, 1959.

voice. And right away we began to hear some telephone calls that they had heard us."

The antenna Newby mentioned created quite a stir in downtown San Jose the year it was installed. It was an enormous carpet aerial containing over 11,500 feet of wire, fanning out from the top of the seven-story bank building to the adjoining buildings on two sides, each three stories high, and to a pole atop a third three-story structure. Herrold preserved a detailed drawing of the "old aerial" among his personal papers. The October, 1910, issue of *Modern Electrics*, a publication for amateurs, is known to have called attention to the San Jose aerial.⁹

The claim that Herrold made for his 1909 station and its inauguration of broadcasting was never that he was the first man to talk over the wireless instrument or to transmit music over it. Those credits, he was first to admit, belonged to other men.

"I have never claimed such a distinction," Herrold told a radio interviewer on Jan. 15, 1934. "I question whether any American has such a distinction, unless Enos Dolbear can be said to be the first man in America to talk to a receiving station at a distance without connecting wires of a telephone line. He did this at a distance of one mile, ten years before Marconi's time. In Europe such men as Count Arco and Professor Slaby; Reumer; Vlavinir Poulson, the Danish Edison; Simon; Dudell; and Thompson were far ahead of Americans in evolving wave-producing devices modulated by the voice. In America we had Collins and Francis McCarthy in San Francisco who talked from Twin Peaks to San Francisco, about three miles, using a spark telephone. Dr. Lee De Forest in this country did considerable development work on experimental wireless telephones before I did my work at San Jose . . ."

What Herrold established with his operating wireless-telephone station atop the Garden City Bank Building was, in one word, "broadcasting." The early definition of the word was, "A casting or scattering in all directions, as seed from the hand in sowing." Herrold contended no one actually used the instrument deliberately in this fashion until he created his station in 1909, even though one or two others may have speculated about its possibility. The great excitement that others

⁹Herrold, "90 Miles With a One-Inch Coil," *Modern Electrics* (October 1910), pp. 380-1. The statement appears, "With . . . the 7,000-foot aerial, phonograph music was easily transmitted from 15 to 20 miles . . ." Two aeriels are described.

found in using the wireless-telephone in the early years, Herrold maintained, was in trying to improve point-to-point communication. The household telephone still was incapable of spanning long distances and many experimenters were concentrating solely on ways of tying radio into direct-line equipment. This was not broadcasting but narrow-casting.

"A narrowcast," said Herrold on the same 1934 program, "is a message sent from one transmitting station to one certain receiving station and intended for none other . . . There is not the slightest evidence to show that Collins, McCarthy, De Forest, Poulson, or any of these early experimenters had in mind the use of their experimental radio telephone for entertainment purposes."

Herrold did more than think about broadcasting. He began programs of news and music on a regular schedule, starting in 1909, and he continued the schedule without interruption, except for mandatory silencing of all civilian stations during the first world war. When licenses were issued again, Herrold was back on the air, programming entertainment as usual.

There is ample evidence that Herrold operated on a daily schedule from 1910 forward.¹⁰ Most members of the older generation living within a 50-mile radius of San Jose know about it and contemporary wireless operators testify to it.

Ray Newby, who participated in the broadcasting station's earliest activities, answered direct questions on this point:

Q. "You went into radio programming on a regular schedule?"

A. "Oh, yes. It got to be a habit with everybody. They would even call us up and want to know when we were going to test some more. And it was not long until we got into a prearranged schedule so that we would have listeners that could report to us . . ."

¹⁰From signed statements, many of them notarized, by Ray Newby, Terry Hansen, George W. Davis, R. S. Gray, James G. Hestwood, and others. The author has examined personal records of W. W. Hanscom for 1912-17, in which, for example, he notes having heard the San Jose station on a daily basis, May 1-Oct. 24, 1913. These papers are preserved by Mr. and Mrs. Douglas Perham at their New Almaden (Calif.) Museum of Historic Properties. Mr. Perham has a large collection of original Herrold broadcasting equipment. San Jose City Historian Clyde Arbuckle also collects and exhibits Herrold material at the State House Replica Museum, located at the Santa Clara County Fairgrounds.

Q. "When would you broadcast regularly . . . ?"

A. "Oh, daily! The first I remember . . . it was a habit to go on Wednesday evening and broadcast news, records, and voice for one half-hour. And sometimes we would run longer if the microphones and everything didn't get too hot."¹¹

Herrold's first wife, Mrs. Sybil M. True, of San Jose, answered the same question with the same information—"every Wednesday night." In fact, she herself was a pre-World War I disc jockey on what she called her "Little Ham Program." She recalls that her program attracted teen-age amateur set enthusiasts and that weekly contests encouraged them to listen regularly.

"I really believe I was the first woman to broadcast a program," Mrs. True said, explaining how she would borrow phonograph records from a local music store "just for the sake of advertising the records to these young operators with their little galena sets. And we would play up-to-date, young people's records. They would run down the next day to be sure to buy the one they heard on the radio the night before . . . We would ask them to come in, and sign their names, where they lived, and where they had their little receiving sets . . . And we would give a prize away each week."¹²

To encourage the public's interest in radio, Herrold established a listening room in the Wiley B. Allen Company store in downtown San Jose just prior to 1912. There he installed comfortable chairs and two dozen pairs of telephone receivers, hanging from the walls, each of which fed "concert" programs from two master receiving sets. This store loaned Herrold "hit tune" phonograph records so that the musical programs could be changed to suit listeners' tastes. Mrs. True said she always acknowledged audience requests.

Mrs. True verifies the beginning of her broadcasting activities by virtue of the fact each Wednesday she needed a baby-sitter for her oldest son, Robert. He was an infant at the time she conducted her weekly programs. Motion picture film shows Mrs. True holding the

¹¹Newby, *ibid.*

¹²From author's tape-recorded interview with Mrs. True, Jan. 2, 1959. She had not seen Newby in 30 years and did not know where he lived. So the cross-verification occurred without cues.

baby in front of a microphone while Herrold tested the effects of crying on the meters.¹³

Soon after the station began broadcasting in 1909, Herrold became dissatisfied with the voice quality of the "spark" method because it was not distinct enough. So he began experimenting with the "arc fone" system, trying to exaggerate the factors that made the streetlamp arcs hum and sing. By causing the arc light to oscillate fast enough, the tone frequency could be increased to the point where the ear could not perceive the high-pitched "singing" but a carrier wave would be created to carry voice and music.

By 1912 Herrold had so improved his arc system that he interested the National Wireless Telephone and Telegraph Company in it. He became the company's chief engineer with the primary task of building and supervising the installation of his arc systems for the U.S. Navy at Mare Island and at Point Arguello, California, while still maintaining his college and regular broadcasting operations at the Garden City Bank Building. Assisting him in this were operators Emile A. Portal and Kenneth Sanders. Frank Schmidt, who also worked from time to time at the University of Santa Clara, also served as Herrold's mechanic.

The success of the Herrold station in San Jose in the early years was measured in many ways. There was a pickup truck which one of Herrold's students drove around the countryside, stopping at designated places to test reception. A laboratory also was built in a cabin, high in the Santa Cruz mountains, above which a 500-foot long aerial was strung from the peak of one mountain to another. A vertical wire dropped down from this to the receiving set in the shack. Herrold tested the signal from San Jose by taking equipment deep into the New Almaden mines; or by immersing rubber-coated wires in the Alum Rock creek; or by having his students fly kites with aerials attached from various locations.

One letter in Herrold's files from Leslie F. Sherwood states that when he was a wireless operator on the S.S. City of Sydney, sailing out of San Francisco from 1911 to 1913, he often heard the transmissions of the San Jose and San Francisco stations.

¹³This is 35 mm. film found among Herrold's personal papers and dates the event as 1914 or early 1915 by reason of the baby's age. Robert was born Sept. 5, 1914.

"The greatest distance I received good speech was abeam San Pedro . . .," Sherwood wrote from Miami Beach, Florida in 1933. "As to quality, the signals were as clear cut and smooth as the present day transmitters. Laying at the dock in San Francisco, I many times heard your tests as follows, 'Hello, San Jose. Hello, San Jose.' etc., followed by a phonograph record more enjoyed with the head phones than with a standard Victrola of the time."

The San Francisco station was atop the Fairmont Hotel and was an N-W-T-and-T company station in which Herrold had great interest, because it was his ambition to be the first man to build a workable two-way radio communications system by talking to it from San Jose.

One June 20, 1912, with company stockholders looking on, Herrold succeeded in his plan to talk back and forth from the Garden City Bank to the Fairmont Hotel. Sanders and Portal operated the San Jose outfit while Schmidt and another student, Henry V. Anzini, operated the other. He used two transmitters and their water-cooled microphones at each location, enabling the operator to switch to the second unit if the first one failed. "This communication," said Herrold, "was continued uninterrupted for over 8 months." His personal file contains notarized documents to prove it.¹⁴

During 1912 the government wireless station on Point Loma complained about considerable interference from an unknown wireless-telephone operator who insisted on singing, "Oh, You Beautiful Doll" on the air waves. But a search failed to pinpoint the vocalist other than in the vicinity of San Jose.¹⁵

Another complaint not only illustrates the power of Herrold's station but proves as well that his operators were required to complete their scheduled tours of duty, not shut down whenever they felt like it. The following letter from G. E. Baxter, an operator for the Marconi Company, finally reached the U.S. Radio Inspector's office.¹⁶

"Dear Sirs;—

At one thirty PM to-day, the wireless telephone station of the National Wireless Telephone and Telegraph Co., at San Jose, started

¹⁴The most important being that of George W. Davis, who was the N-W-T-and-T company vice president at the time.

¹⁵This report from the San Francisco *Examiner* (Sept. 6, 1912) amused Newby who recalled he often sang with the records, "just as the disc jockeys do today," he said.

¹⁶From correspondence by Baxter dated Jan. 3, 1913. (Copy available at the New Almaden Museum of Historic Properties.)

talking to the amateur station 'LQ' (Mr. K. Saunders, San Jose). (sic) At about the same time, the steamer (sic) 'Nann Smith' started calling this station with a message, but the arc from the San Jose wireless telephone station cut his signals down considerably and they were unreadable at times. At one thirty four PM, I told 'SJN' (San Jose Telephone) to 'break' and started the 'Nann Smith.' All this time 'LQ' was sending to 'SJN' but I could tune the Nann Smith in loud enough to read through him. 'SJN' stayed out for a minute or so, and then broke me right in the middle of the message.

"Mr. Portall (sic) was using the telephone and wanted Mr. Saunders (sic) to come up there and relieve him, as he wanted to go some place on a car and they held me up until one forty two PM arguing the point with one another. As soon as they arrived at a conclusion, I called 'SJN' and he answered immediately, showing that he could hear me OK, and I told him it was bad enough for him to use the telephone arc when he had to without using it to talk across town with. His talk was entirely unnecessary, as they could have used the wire telephone just as well."

The long-distance capabilities of the Herrold-built stations bordered on the spectacular for the time. At Mare Island, using a Herrold outfit, operator Sanders got confirmation from the U.S. Naval wireless station at Bremerton, Washington, that his transmissions were "great." The message also said, ". . . the record, 'Trail of the Lonesome Pine,' you played came in extra good." On the same day, George Hanscom, civilian engineer for the government, got a dispatch saying the Mare Island station was being heard by the U.S. Naval station at Arlington, Virginia, three thousand miles away.¹⁷

In early 1914 Herrold left the N-W-T-and-T company but continued to operate the Garden City station as his own. On February 13, he accomplished what was up to that time the longest two-way conversation between two wireless-telephones yet reported. He succeeded in communicating back and forth with Point Arguello from San Jose.¹⁸

With the opening of the Panama Pacific Exposition in San Francisco in 1915, Herrold got an unusual opportunity to demonstrate the

¹⁷From U.S. Naval Radio Service message, Mare Island, Sept. 18, 1913. Reception by Arlington is cited by Fred F. Wells, *Who is the Father of Radio Broadcasting?* (unpublished interview with Herrold), archives of the State House Replica Museum, San Jose, California.

¹⁸*San Francisco Call*; also *San Francisco Examiner* (Feb. 13, 1914).

dependability of his arc system of broadcasting. Lt. Ellery Stone, the U.S. Radio Inspector, personally invited Herrold in San Jose to establish a lengthy schedule of programs to be picked up by receivers at the government's booth at the World's Fair.¹⁹ Herrold provided no less than six to eight hours of musical programs daily from his San Jose station. Dr. De Forest, who also had an exhibit, found that his tube-transmitter would not work; so his booth operator tuned in the San Jose station to demonstrate De Forest's receiving set.²⁰

Said Herrold long afterward, "Now if there was any other Broadcasting Station in the World at that time and if there was any other inventor who had perfected a reliable radio telephone capable of transmitting undistorted music and clear speech day after day in actual broadcasting, I certainly never heard of such. I read every scrap of scientific literature on the subject and read claims on 3000 U.S. and Foreign Patents so as to be thoroughly familiar with every inch of progress made by every known experimenter in the world.

"Now the very vital question will be put to the witness — 'Why did you not immediately profit by all this development? The answer is a very simple one — The Herrold System of Radio Telephony would not work on wave-lengths under 600 and the allocation of 360 meters by the Government was fatal. Over two decades of work, and expenditure of over \$80,000 and a lot of patents went on the scrap pile. My Broadcasting Station . . . passed into the hands of those who could install the most modern High Powered Western Electric Equipment . . . And so we rest our case, a case which will be carried eventually to the highest court — the Court of Public Opinion of the whole world."²¹

Some years after Herrold issued this ringing call for recognition, apparently to a local newspaper, there came to him an unusual tribute in an extraordinary way.

It was Lee De Forest Day at the San Francisco World's Fair at Treasure Island, Sept. 7, 1940. Dr. De Forest addressed a banquet of the Veteran Wireless Operators Association. He said:

Very appropriately, the re-birth of my earliest broadcasting began here on the Pacific Coast when, during the Panama Pacific

¹⁹*Broadcast Reporter*, *ibid.* Also a notarized statement by R. S. Gray, Oakland attorney.

²⁰Newby, *ibid.*

²¹From letter dated March 11, 1932.

Exposition, Pioneer Station KQW at San Jose maintained regular transmissions which were daily heard in the Palace of Liberal Arts. That station, KQW, can rightfully claim to be the oldest broadcasting station of the entire world . . ."²²

Although Herrold cannot be present, there will be another honor bestowed upon him on April 3, 1959, at the site of his old "spark" transmitter in the Garden City Bank Building (today the American Trust Company), San Jose, California. On this date, the San Jose State College Undergraduate Chapter of Sigma Delta Chi, professional journalism fraternity, will place an historic marker on the building with the salutation that it was here that the "World's First Regular Broadcasting Station" had its beginning.

²²From speech quotation of De Forest, Sept. 7, 1940, copy of which is possessed by Ralph Brunton, Atherton, California.