

## **EARLY PLAY-BY-PLAY RADIO BROADCAST OF A TEXAS COLLEGE FOOTBALL GAME**

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2003

All football games between Texas A&M University and the University of Texas are special to the students and graduates of both institutions, but the 1921 contest bears special historical significance in spite of the fact that it ended in a scoreless tie. The play-by-play live radio broadcast of this contest planned and carried out by students at the two institutions was a first for a Texas college football game. Technology of the time did not permit broadcasting voice. Thus a special set of abbreviations was devised to enable an operator to send out descriptions of the action using standard International Morse Code signals. What actually started out as somewhat of a prank by a few Aggies became an historic event in the history of radio as well as of Texas A&M and the University of Texas.

This live radio broadcast of a college football game in 1921 was probably a natural progression from what a few Electrical Engineering students at Texas A&M had accomplished in 1920. David J. Finn seems to have been the chief, and possibly only, instigator of the efforts in 1920, although he did have some assistance from other students. Finn made arrangements with A&M officials to use the Stock Judging Pavilion on campus for his productions. Prior to the A&M-Southern Methodist game at Fair Park in Dallas on October 9, 1920, Finn arranged for a telephone hookup between the stadium and the Pavilion on the A&M campus and installed a large amplifier in the Pavilion so that those in attendance there could hear the live reports from the game. Aggie students Othman C. Thompson and Arthur C. Keith described the action in Dallas and Finn received those reports in College Station and relayed them to the audience. A miniature football field was set up in the Pavilion. Each play was illustrated on this field as the reports came in from Dallas. The Aggie Band was also present. Admission for the event was 35 cents.<sup>1</sup>

A few weeks later, Finn made somewhat different arrangements for the A&M-Oklahoma State University game in Stillwater. Once again Finn

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<sup>1</sup> *Daily Bulletin*, October 8, 1920 and clippings in the David J. Finn Scrapbook in the Texas A&M University Archives.

made arrangements to use the Pavilion. This time, however, he arranged with a ham operator in Blackwell, Oklahoma (call letters 5ZZ) to send wireless reports to the A&M Station (call letters 5YA). William A. Tolson and Joe Woods were to receive those reports in the Electrical Engineering Building and Aubrey S. Legg was to carry or send them on to the Pavilion where a group of eager Aggie supporters awaited reports on the progress of the game in Stillwater. The Aggie Band was scheduled to be present in the Pavilion “to enliven things up to a higher pitch and make the scene more realistic.”<sup>2</sup> Fortunately, promoter Finn arranged for a backup telephone line from Stillwater in the event bad weather made wireless messages impossible. On game day the A&M station was unable to “raise” the station in Blackwell. A&M alumnus “Bean” (William B.?) Harkrider supplied the telephone reports of the game. In the Pavilion, William F. Adams received the reports and Aubrey Legg called out the plays. Admission to the event was 50 cents.<sup>3</sup> Nothing is said in the reports of this event about a special code or set of abbreviations for the transmission. Thus it was not likely intended to be a true play-by-play account but probably similar to the frequent summaries sent by the Associated Press to newspapers. Being an astute business man, Finn provided complimentary tickets to A&M administrators, including President William B. Bizzell and Engineering Dean John C. Nagle for the two events.<sup>4</sup> Finn paid at least \$150.00 for the use of the telephone line during the Oklahoma State game.<sup>5</sup>

This practice of reporting football games on the A&M campus was continued in 1921. Arrangements were made for continuous reports from the sidelines during the A&M-SMU game in Dallas and were sent by telephone to the Stock Judging Pavilion. The miniature football field was once again put in place to illustrate the plays as “Hike” McConnell announced them in the Pavilion. Admission to this event was 35 cents. The

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<sup>2</sup> *Daily Bulletin*, October 30, 1920 and clipping in the David J. Finn scrapbook.

<sup>3</sup> Clipping in David J. Finn scrapbook, probably from the November 1, 1920 *Daily Bulletin*. That issue is missing from the file in the A&M Archives. William B. Harkrider, class of 1920, appears to be the only person possible from an examination of transcripts of the students involved.

<sup>4</sup> Letters, October 13, 1920, William B. Bizzell to David J. Finn and October 31, 1920 to John C. Nagle to David J. Finn in the David J. Finn scrapbook.

<sup>5</sup> Cancelled check for \$120.00 to Bryan Telephone Company and receipt for \$30.00 from J. P. Mockford for line from Stillwater, Oklahoma to College Station and David J. Finn scrapbook.

names of those who made these arrangements are not known, but David J. Finn was not responsible as he graduated in 1921.<sup>6</sup>

Thus the stage was set and most procedures already worked out to broadcast the 1921 Turkey Day contest between Texas A&M and the University of Texas on Kyle Field. Through daily contact with other stations around the state of Texas and possibly elsewhere, the Aggies working at the A&M station 5XB agreed to report the final score of the A&M-UT game throughout the southwest as soon as the game ended. From that beginning, and possibly with recollections of David J. Finn's plans for the Oklahoma State game in 1920, the idea of a live play-by-play of the game in which the conference championship would be decided seems to have evolved almost logically. Plans for that broadcast were first announced publicly on November 19.<sup>7</sup> Four days later, the *Bryan Daily Eagle* carried a brief front page story about the broadcast. This story was based upon a University of Texas news release in which UT fans were notified that they could receive the broadcast at the UT station 5X7.<sup>8</sup>

William A. "Doc" Tolson of Sherwood, Texas was the principal instigator of this project, but he was ably assisted by Harry M. Saunders, Harley C. Dillingham, and possibly others. Tolson later gave considerable credit to Dr. Frank C. Bolton, head of the Electrical Engineering Department and later President of Texas A&M, and to B. Lewis Wilson, who was in charge of electrical maintenance in the Electrical Engineering Laboratories.<sup>9</sup>

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<sup>6</sup> *Daily Bulletin*, October 8, 1921; David J. Finn, Transcript, Texas A&M Archives. Had he not dropped out of school in September 1921, Edward McConnell could be the one called "Hike." There do not appear to have been any other McConnells enrolled at A&M at the time. Possibly Edward was at A&M even though he was not enrolled in October 1921. Transcripts of all students named McConnell, Texas A&M Archives.

<sup>7</sup> *Daily Bulletin*, November 19, 1921.

<sup>8</sup> *Bryan Daily Eagle*, November 23, 1921. That broadcast of the Texas A&M vs. Texas football game was a first is confirmed in Joseph Nathan Kane's *Famous First Facts*, 1981, p. 520, although the date of the game is mistakenly given as November 25, 1920. That date may have been provided by Texas A&M based upon the faulty recollection of W. A. Tolson to E. H. Elmendorf, Radio—First Football Broadcast file, Texas A&M University Archives.

<sup>9</sup> Letter, October 21, 1945, William A. Tolson to E. H. Elmendorf, Radio—First Football Broadcast file, University Archives, Texas A&M University.

Tolson first enrolled at Texas A&M in 1917.<sup>10</sup> He interrupted his education briefly in 1918 to become an instructor in “Radio Buzzer Practice.” As such he earned \$57.00 each month instead of the \$30.00 paid to privates in the U. S. Army.<sup>11</sup> As soon after the end of World War I as such stations could be established, Tolson was involved in establishing station 5YA as an educational station on the A&M campus. The call letters were soon changed to 5XB indicating a change to an experimental station. It was operating under those call letters in November 1921.<sup>12</sup> This station became WTAW in 1922.<sup>13</sup>

With an existing ham station already on campus, an active and enthusiastic group of amateur radio operators who had regularly been making contact with stations on both coasts of the United States and from Chicago in the North and Mexico in the South, and considerable interest in Texas A&M football, perhaps it was inevitable that this group of Aggies should decide to broadcast the game to Austin and also to any operator who chose to listen to the broadcast.

Tolson and his cohorts had to overcome two major obstacles in order to carry out their planned broadcast. They had to devise a method of connecting the press box in Kyle Field with the transmitter in Bolton Hall several hundred feet away. They also had to develop a scheme of abbreviations in order to send out descriptions of each play in timely fashion. Skilled telegraph operators could send 100 characters, or about five words, per minute. That was too slow to keep pace with the action of a

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<sup>10</sup> William A. Tolson transcript, University Archives, Texas A&M University. He enrolled initially in a two year course in electronics in the fall of 1917. In September 1918 he withdrew from college to work as an instructor. He re-enrolled in the fall of 1919 in Electrical Engineering and graduated June 5, 1923.

<sup>11</sup> Letter, September 15, 1918, William A. Tolson to his parents, Mr. and Mrs. W. M. Tolson. William A. Tolson Papers, University Archives, Texas A&M University.

<sup>12</sup> Frank Matejka, “First Football Game Broadcast” mimeograph 1980. Copy in “Radio—First Football Broadcast” file; letters, December 2, 1918, March 8, 1920, November 4, 1920, and November 21, 1920, William A. Tolson to his parents. Tolson Papers. In the December 2, 1918 letter he indicated he already had permission from Dr. Frank C. Bolton to work on a new wireless radio tower during the Christmas holidays. In the March 9, 1920 letter he mentioned constantly talking about radio with his roommate, inquiries from numerous radio stations about the kind of spark gap they were raising on the radio set being used at A&M, and his regular 10:00 p.m. messages to an American miner near Mexico City to keep him abreast of the news.

<sup>13</sup> Station 5YA apparently became operational in September 1920. By early 1921, the call letters had been changed to 5XB. Frank Matejka “The First Football game Broadcast,” p. 6 citing Q.W.T. of November 1920 and February 1921; “Radio WTAW” file, University Archives, Texas A&M University.

football game. To solve the first problem they strung a line called a “twisted pair” (actually two wires twisted together) from the press box in Kyle Field to the third floor of Bolton Hall. Then they borrowed a high speed contactor from the Signal Corps to handle the primary current of the transmitter over that long line.

The idea for the abbreviations apparently came from Harry M. Saunders, who had considerable experience in sending as an operator for either Associated Press or Western Union or possibly both. He was the best operator in the group involved in this project. He possessed an amateur radio station license (call signal 5NI) and a Commercial First Class Telephone and Commercial Second Class Telegraph license. Saunders and possibly others worked with one of the assistant football coaches on Dana X. Bible’s staff on the scheme of abbreviations. “T” represented Texas, “A” Aggies, “B” ball, “Y” yard line, “FP” forward pass, “G” gain, and “L” loss. There undoubtedly were others but no record of them has been found. Thus, “TB A 45Y” translated to “Texas ball on the Aggie 45 yard line.”

The Aggies then produced copies of their list of abbreviations and mentioned to several of the stations with whom they had regular contact that copies were available. Requests poured in to the A&M Electrical Engineering Department from many of 275 licensed amateur radio operators in Texas. Tolson later remembered that in order to fill the requests, his group cranked the mimeograph until their arms ached and licked so many stamps and envelopes they could taste the glue for days. Thus, what started out to be a simple broadcast from College Station direct to Austin turned out to be heard in many areas of Texas and numerous locations outside Texas.<sup>14</sup>

In order to assure as much as possible that there would be no interruptions in the sending of the play-by-play account of the game, Tolson’s group reportedly installed three sets of equipment. Two sets were hooked up to the A&M power plant. The third was ready to operate on batteries in the event a problem developed at the power plant.<sup>15</sup>

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<sup>14</sup> When the station at Texas A&M was issued the new call letters, it was assigned the initial “W” because it was in the “W” class. The other letters are William Arthur Tolson’s initials reversed. Newspaper clipping, Tolson Papers. Probably from the San Angelo Standard Times, ca. June 13, 1940.

<sup>15</sup> *Houston Post*, November 22, 1921.

During a trial run of the broadcast some days prior to the Turkey Day game, the organizers discovered a snag. The operator in the Kyle Field press box could not hear what he was sending because the transmitter was hundreds of feet away. He had no “feel” of his key. Consequently his sending was not good. At this point, Ralph E. Smith, son of Mechanical Engineering Professor H. W. Smith and an avid ham, offered a solution. The Smith home on the A&M campus was quite near Kyle Field. Young Smith suggested they run a twisted pair from his receiver to the press box and give the operator a pair of ear phones so he could hear what he was sending. This solved the problem, and all was set for a smooth, virtually flawless broadcast of the game.<sup>16</sup>

At Station 5XU on the University of Texas campus in Austin, there was also an active group consisting of George E. Endress, W. Eugene Gray, J. Gordon Gray, Charles C. Clark, Frank Rives, Reed Granberry, Werner Dornberger, and Franklin K. Matejka. The Gray brothers, Clark, and Endress managed the transmitter and receiver positions. They copied the messages received from Kyle Field press box and occasionally communicated back to Harry M. Saunders there. They then passed the slips of paper on which the messages were written to Matejka. He relayed the decoded messages over a horn speaker through an open window to the crowd of University of Texas students gathered outside. These play-by-play descriptions were reported seconds after the conclusion of each play. A listener in Austin noted that the broadcast “was just like seeing the game, and lots more comfortable.” Station 5XU at the University of Texas had been constructed in 1921 in a World War I temporary building on 24<sup>th</sup> Street west of University Avenue.<sup>17</sup>

The broadcast from Kyle Field was also received and announced publicly in Waco by William P. Clark, a ham who operated amateur radio station 5FB/5AZF. He persuaded the editor of one of the Waco newspapers to allow him to put his radio receiver in the editor’s office. The editor was initially quite skeptical, but by half-time he was convinced it had been a good move. His paper’s play-by-play account was so far ahead of the Associated Press reports received by the other Waco paper that he put a loud

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<sup>16</sup> Letter, October 21, 1946, William A. Tolson to E. H. Elmendorf and Frank Matejka “The First Football Game Broadcast.”

<sup>17</sup> Matejka, Frank, “The First Football Game Broadcast,” pp. 1-4 and 11; *Daily Texan*, November 26, 1921. Matejka listed only the Gray brothers, Endress, Clark, and Matejka as participants. The *Daily Texan* did not list Matejka but added Rives, Granberry, and Dornberger.

speaker in his car and drove to the rival's establishment and announced that his paper was giving out play-by-play reports as they happened. The crowd then rushed to the other newspaper.<sup>18</sup>

The Houston Radio Club also received the play-by-play messages and relayed the information to the *Houston Post*. Actual receiving was done on the station of Louis Peine.<sup>19</sup>

Another ham operator, Cecil F. Butcher (call letters 5AL) in Greenville, Texas, recorded in his radio log for Thursday, November 24, 1921, that he copied a play-by-play report from station 5XB of the Texas A&M football game. He noted the station came in fine with no fading. He also noted that he received 5XU at the University of Texas very loud.<sup>20</sup>

That Tolson and his cohorts succeed in their efforts is conclusively reported in the Austin paper thusly:

The A&M wireless service proved its speed Thursday in reporting details of the big contest. Hardly had the play been completed until the world outside of Kyle Field knew what had happened.<sup>21</sup>

By the time the 1922 football season arrived, A&M's radio station WTAW apparently was capable of receiving voice transmissions so Aggies could gather on the lawn outside the Electrical Engineering building and hear the play-by-play reports over a loudspeaker. Anyone else with appropriate equipment could also hear the game. The station also regularly carried concerts and other programs. It was not until early 1923, however, that WTAW was able to originate programs and send them over the air.<sup>22</sup>

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<sup>18</sup> Letter, October 21, 1946, William A. Tolson to E. H. Elmendorf and Frank Matejka, and "The First Football Game Broadcast."

<sup>19</sup> *Houston Post*, November 22, 1921. It is also reported in this article that A. P. Daniel, President of the Houston Radio Club, would be assisting with the sending in College Station. Daniel was not mentioned in any of the other accounts.

<sup>20</sup> Matejka, Frank, "The First Football Game Broadcast," p. 8.

<sup>21</sup> *Austin Statesman*, November 25, 1921.

<sup>22</sup> *Daily Bulletin*, November 1 and 11, 1922 and January 7, 1923.

Very little is known about some of the Aggies responsible for these early radio developments at Texas A&M, but enough is known about a few of them to be able to report that they made good use of their education and experience at Texas A&M. David J. Finn and William A. Tolson became research engineers for RCA. H. C. Dillingham served many years on the Electrical Engineering Faculty at Texas A&M. Harry M. Saunders became a vice president of Western Union. Tolson worked on the development of radio, television, and radar and received numerous patents.<sup>23</sup>

#### ADENDUM TO THE MARKER APPLICATION FOR EARLY BROADCAST OF A TEXAS FOOTBALL GAME

The early broadcasting of college football games is difficult to document with complete accuracy, but there is some evidence to suggest that at least an attempt was made to broadcast a University of Minnesota football game in 1912. Stuart L. Bailey wrote in 1926 that, “The first actual transmission was attempted in the fall of 1912 when the football games were broadcast by wireless from the new station” using a spark transmitter and regular telegraph signals.<sup>24</sup>

On December 18, 1919 a Dr. de Forest “of audion fame” made arrangements to send information on the progress of the Wesleyan vs. New York University football game to students at Wesleyan who were unable to attend the game in New York City. NYU negotiated with Dr. de Forest to provide that information. A reporter wrote an account of the game while the action was in progress. This information was relayed by a messenger from the field to a telephone line connected to the de Forest laboratories. Messages were sent to Wesleyan University by radio-telephone and then sent again as text by wireless telegraph. Thus students at Wesleyan were able to keep up with the progress of the game.<sup>25</sup>

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<sup>23</sup> Various Texas A&M Association of Former Students Directories; *San Angelo Standard-Times* ca. June 13, 1940; and *Houston Press* November 23, 1954. It is interesting that although Tolson appears to have been the primary mover in this project, his participation on the big day was limited to the emergency replacement of a failing part. All of the remainder of the time he played his trumpet in the Aggie Band.

<sup>24</sup> Bailey, Stuart L., “9SI-WLB: experimental Radio and Broadcasting Station of the University of Minnesota,” *The Minnesota Technology*, April 1926, pp. 216, 238, and 242.

Station KDKA in Pittsburgh, PA claims to have broadcast a game between the University of Pittsburgh and West Virginia in the fall of 1921. On November 12, 1921 Franklin Malcolm Doolittle broadcast the game between Yale and Princeton in New Haven on his amateur station 1GAI.<sup>26</sup> Twelve days later a group of students at the Agricultural and Mechanical College of Texas (now Texas A&M University) produced a live play-by-play account of the Thanksgiving Day game between their football team and the team from the University of Texas on station 5XB.<sup>27</sup>

Plans for the broadcast were well known before the game as the *Bryan Eagle* reported that “The most extensive practical use of radio ever attempted in the state and probably in the South will be made of the wireless station at the A. & M. College of Texas for disseminating play by play reports of the Southwestern Conference championship football game to be played at College Station Thanksgiving day. All arrangements for sending the reports have been made by a student, W. A. Tolson, who has become an experienced operator by his study of electrical engineering and as a member of the R. O. T. C. corps unit.” The reporter went on to explain that the “college radio plant is the best in the South” and it has “several different kinds of radio sets and all the equipment is of the very best.” Much of the equipment came from the U. S. government for use in instructing signal corps cadets. Other equipment was purchased by the college “for practice demonstrating work with students of electrical engineering.” The reporter added that the students organizing the broadcast had been communicating with both commercial and amateur stations around the state to receive reports of the game in progress using “a simple code for various football expressions” that had “been worked out for the occasion.” The reporter concluded by noting that one newspaper in an unnamed city has installed a

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<sup>25</sup> Web site <http://earlyradiohistory.us/1919df.htm> copies from *Radio Amateur New*, December, 1919, page 295.

<sup>26</sup> Web site <http://www.wdrocbg.com/doolittle.html>. The site includes a photo of Doolittle, an article from the November 11, 1921 *New Haven Register*, and a November 15, 1921 letter from Warren Atwood who reported that he and about ten other people listened to his “detailed report of the Yale-Princeton game by wireless.”

<sup>27</sup> The Chronology of AM Radio Broadcasting at <http://members.aol.com/jeff/560/chronol.html> also lists broadcasts of games between two teams on November 23, 1919 and November 24, 1920, but both of those listings are incorrect. November 24, 1921 is the correct date for the first broadcast of a Texas A&M vs. University of Texas football game. The Texas A&M radio station was originally given the call letters 5YA but was issued call letters 5XB when it became an experimental station in 1921. The station was later sold by Texas A&M and now exists as the commercial station WTAW.

“Magna Vox, or voice amplifier, fitted up by which reports will be given to the people gathered there during the game” and “similar plans are being worked out at other places.”<sup>28</sup>

As a result of the 0-0 tie Texas A&M was awarded the Southwest Conference championship. Both A&M and Texas had survived one loss during the season, and Texas A&M had another tie game during the season. Texas A&M lost 6-0 to Louisiana State University while the University of Texas lost by a score of 20-0 to Vanderbilt. The difference in the point spread in the two games gave Texas A&M the championship of the Southwest Conference. Texas disputed that decision and wanted to play a second game with Texas A&M, but the conference officials did not allow that.<sup>29</sup>

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<sup>28</sup> *Bryan Eagle* and *Austin statesman* each had stories about the upcoming game for several days before the game was played, and the *Eagle* had many stories after November 25, 1921 about plans and arrangements for a playoff game. The headline and comment are from the November 26, 1921 *Daily Texan*. David J. Finn's scrapbook is in the Texas A&M University Archives. It contains documents about Finn's arrangements to provide timely progress reports on A&M football games played off campus during 1920, but they were not actual live broadcasts.

<sup>29</sup> Bryan Eagle, November 28, 1921, page 2, column 3 and page 3 column 2 and December 2, 1921 page 3 columns 6-7.