# Radio's Influence on Music from 1919-1926 

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# Senior Thesis Approval 

This Honors thesis entitled

## "RADIO'S INFLUENCE ON MUSIC FROM 1919 TO 1926"

written by

## AARON HAWLEY

and submitted in partial fulfillment of the requirements for completion of the Carl Goodson Honors Program meets the criteria for acceptance and has been approved by the undersigned readers.

Thesis Director

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MAY 5, 2000

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## Introduction

Advances in technology have dramatically changed the lives of Americans throughout the twentieth century. Many of these advancements have become commonplace. For instance, the words "airplane," "computer," "radio," and "television" were not common a hundred years ago. Today, even small children know the definitions of these words. In addition, as new technologies develop, methods of accomplishing tasks change. These changes are then incorporated into our normal way of life. This gradual development causes many people to fail to consider the true implications of the technology on their way of life. Aspects of American's lives that used to be considered luxuries are now thought of as necessities or mere conveniences.

The influence of technology is far reaching, altering all aspects of life and fields of study. In the field of music, these changes can be observed by noting the effects of inventions such as the radio, the electric synthesizer, and the computer. This study focuses on the influence radio had on music from the years 1919 to 1926. This time period covers the years immediately following World War I, when radio broadcasting started until the end of 1926 , which saw the advent of nation-wide broadcasting with the debut of the National Broadcasting Company.

Music, like many fields, covers a wide range of topics such as genres, compositional practices, instrumental choices, developing styles, and vernacular
music. Therefore, to attempt to trace all the minute changes even of one specific genre of music for one specific year would be an enormous task. Furthermore, much of the findings after analyzing the music, noting changes, and documenting them, would still be subjective. Changes, however, may be traced if they are broad in nature such as the "identity" of the listening audience. Therefore, this thesis examines the broad changes radio's development had upon the listening audience, music business practices, music education, and popularization of all forms of music.

## Chapter 1

## A CHANGING AUDIENCE

A successful musical performance results from the contributions of three parties. Composers create written scores that express their ideas to the performers. Using their talents and skills, performers play this music interpreting what the composer has written. The members of the audience listen to the music and evaluate it according to their personal tastes. Often, the effectiveness of a selection relies not only on a technically correct production by the performer but also on the audience's appreciation and understanding of the performance as conveyed by the performer both intellectually and emotionally. The invention of radio technology and the development of radio broadcasting impacted all three participating parties in a musical performance. The American listening audience changed in two primary ways: the number of individuals listening to music increased and the audience for art music expanded to include all social classes.

## Increasingly Larger Audiences

By 1919, phonograph technology had considerably altered the listening audience. As early as 1894, the cost of owning a phonograph player had dropped to around $\$ 40$; and by 1906 , standard record prices had declined to as low as 36 cents. ${ }^{1}$ These low prices allowed many individuals of varying social classes the opportunity
to listen in their homes to high quality recordings of music from various genres. As the popularity of phonograph records increased and prices decreased, the number of people listening to music on a regular basis grew. Where two thousand people may have heard one live performance, the same songs could be recorded and distributed to tens of thousands of people. The most popular songs could sell up to a million records. ${ }^{\text {ii }}$

While phonograph technology increased the amount of music heard in homes on a regular basis and increased the size of the listening audience, radio's influence on the size of the listening audience would eventually far exceed that of the phonograph. Radio broadcasting not only disseminated music to increasingly larger numbers of people but also allowed live music to be heard throughout the United States at the same time it was heard in the concert hall or other venue. This new aspect of a performance changed the face of an audience for performers. They were now performing for the people at a concert and for the thousands and eventually millions of people at home. Yet, it took several years for this audience to develop.

Before the First World War, the primary users of radio technology were large shipping companies, the navy, and amateur inventors interested in wireless technology. For these users, the primary purpose of wireless technology was to increase communication to areas previously unreachable. Shipping companies, for instance, desired to maintain communication between points separated by water. This task was deemed too costly for standard wire technology. The developers and early
inventors used music as a tool in experimentation. Whether live or recorded, music provided a perfect means for evaluating the quality of reception, because music required the production of a wide range of frequencies for prolonged periods of time. These early broadcasts, consisting primarily of music from phonograph records, set the precedent for sending music through radio waves. However, these experiments in broadcasting music over the airways did not result in the style of commercial broadcasting that listeners are familiar with today. Broadcasting was a means of testing the reliability of equipment for point-to-point communications. These pre-war broadcasts were rarely scheduled. Furthermore, most experimenters used low wattage transmitters and equipment that frequently failed to work. These factors discouraged the formation of a regular listening audience. The audience before World War I consisted primarily of other amateur broadcasters. The size of this group, while impressive (some estimates indicate 200,000 to 300,000 had receiving stations) ${ }^{\text {iii }}$ is insignificant in the discussion of an increased audience size, because the number of people listening to any one broadcast was relatively small.

Throughout World War I, the government turned to amateur inventors and radio set producers for its needs. Amateurs were recruited to operate equipment, and producers were called on to create new and better technology. The true impact of the war on radio is difficult to measure; however, it clearly led to a heightened interest in amateur operation and more advanced equipment. Following the war, radio's purpose as a means of point-to-point communication seemed unchanged. In fact, the
federal government, recognizing the importance of controlling communications during times of conflict, formed the Radio Corporation of America (RCA) to protect America's interest in radio technology. iv

A significant change occurred in the way the public viewed radio primarily because of one station, 8 XK, and its broadcaster, Frank Conrad. In 1919, after governmental restrictions on broadcasting were lifted, amateurs around the nation returned to their experiments. From his home in Pittsburgh, Pennsylvania, Frank Conrad broadcasted phonograph recordings of concerts. At first, he had a small listening audience of around 200 other amateurs. ${ }^{v}$ They applauded his selections using "dots and dashes of wireless telegraphy,"vi and even wrote him asking for certain selections. This audience quickly grew, and in December the New York Times reported that, "listening by means of the wireless telephone to a selection of music played by a phonograph has become the Saturday evening amusement of 400 owners of wireless sets." ${ }^{\text {vii }}$ In the summer of 1920, Conrad began broadcasting regularly scheduled concerts to satisfy the requests from the members of his audience. In

September, Horne's department store printed an advertisement in the Pittsburgh Sun:

## AIR CONCERT "PICKED UP" BY RADIO HERE

Victrola music, played into the air over a wireless telephone, was "picked up" by listeners on the wireless receiving station which was recently installed here for patrons interested in wireless experiments. The concert was heard Thursday night about 10 o'clock, and continued 20 minutes. Two orchestra numbers, a soprano solo - which rang particularly high and clear through the air - and a juvenile "talking piece" constituted the program.

The music was from a Victrola pulled up close to the transmitter of a wireless telephone in the home of Frank Conrad, Penn and Peebles avenues,

Wilkinsburg. Mr. Conrad is a wireless enthusiast and "puts on" the wireless concerts periodically for the entertainment of the many people in this district who have wireless sets.

Amateur Wireless Sets, made by the maker of the Set which is in operation in our store are on sale here $\$ 10.00$ up.viii

The vice-president of Westinghouse Corporation, Harry P. Davis, who was also Conrad's employer, noticed the advertisement. The Westinghouse Corporation soon had a new concept in mind for radio. The owners of Westinghouse realized that regular broadcast could bolster the company's sales of radio equipment. This new concept quickly spread and started the radio broadcasting era.

In 1921, interest in radio increased tremendously. However, this growing obsession among the public seemed to go unnoticed by many of the print media. Around the nation, radio clubs in organizations such as the Boy Scouts of America and other amateur experimenters gained new significance. These radio enthusiasts became potential members of the audience. Furthermore, they were valuable sources of knowledge on how to build cheap radio sets. An excellent example of the impact amateur experimenters and young boys had on the growth of radio technology can be seen in events occurring in Chicago in 1921. During the rush to obtain receivers due to the airing of the Chicago Opera season in 1921, boys of high school age were credited for at least seventy-five percent of the increase in the number of receivers from 1,300 to around 20,000 in use in the city.ix In addition, war veterans knew how to build receivers and, more importantly, transmitters. "Every such amateur sender was a broadcasting station in the making." $x$ New stations appeared weekly as over 200
broadcasting licenses were issued by the Department of Commerce in 1921.xi All this activity resulted in public demand for receivers that was insatiable. Radio Broadcast reported that those attempting to buy radios, "stood perhaps in the fourth or fifth row at the radio counter waiting their turn only to be told when they finally reached the counter that they might place an order and it would be filled when possible."xii

As the number of homes with radios increased, the demand for content also increased. Almost all stations initially relied on phonograph records as a primary source of programming.xiii The listening audience generally did not mind at first. The experience of obtaining sounds from hundreds of miles away was enough to encourage them to purchase radios and tune in to distant channels. While programming comprised primarily of phonograph recordings did not increase the size of the audience listening to live music, this format of programming did serve as a stepping-stone to better programming. Stations that could provide live entertainment quickly saw the need to do so. As early as March 1920, Frank Conrad aired a performance of his son playing the piano. KDKA, which are the call letters his station was issued under the direction of Westinghouse, was one of the forerunners in providing live entertainment during the early 1920s. .xiv $^{\text {xi }}$

By 1922, thousands of homes were tuning in nightly to radio broadcasts. Secretary of Commerce Herbert C. Hoover noted:

We have witnessed in the last four or five months one of the most astounding things that has come under my observation of American life. This Department estimates that to-day more than 600,000 (one estimate being 1,000,000) persons
possess wireless telephone receiving sets, whereas there were less than fifty thousand such sets a year ago. ${ }^{\text {xv }}$

This radio audience continued to grow dramatically throughout the 1920s. The Federal Communications Commission (FCC) estimates that by 1926 there were 4.5 million sets in use around the United States. xvi

The audience size also grew as major corporations began to recognize the value of offering programming on a nation-wide basis. In the mid-1920s, many stations attempted to share programming from station to station. Rural stations were interested in being linked to larger stations in the major cities, so that they could provide better programming. The most successful radio producer to link programming in the early 1920s was American Telephone and Telegraph (AT\&T). AT\&T owned the majority of telephone wires across the country, which was the best means of connecting two stations at the time. As early as 1923, one broadcast on AT\&T's main station, WEAF, could be heard in 26 cities from coast to coast.xvii Performances such as those at the Metropolitan Opera House could be heard as easily in Los Angeles as they were in New York City. By 1925, many local stations were receiving part of their programming from distant, larger stations. This, in turn, led to larger audiences.

The size of the listening audience also increased throughout the 1920s as certain segments of the population that had previously been excluded from enjoying music because of the location of their home were now a part of the listening audience. For
instance, an article in Radio Broadcasts that highlights the efforts of the Detroit News in broadcasting the Detroit Symphony Orchestra on a regular basis states:

Contributions for the support of the orchestra have come from grateful people in a score of states who have thus been enabled to hear much finer music than could ever before be heard in the small towns where they make their residence. The radio has opened new worlds of melody to music-hungry folk throughout the Middle West.xviii

Radio technology eliminated the need to travel long distances to enjoy high quality performances. One member of society who benefited from this new convenience was the rural farmer. Prior to 1920, their rural setting had separated farmers from much of the "social" scene. Radio Broadcast notes, "There are more than $32,000,000$ people on farms comprising nearly one third of the total population of the United States. Most of these people are located where they are practically cut off from immediate contact with the outside world." ${ }^{\text {xix }}$ Regardless of social class, travel for a farmer and his family could be expensive and time consuming. Whereas individuals who lived in the city could walk to a local church, bar, or opera house to enjoy music, the farmer had to make a trip into town. Of course, the farmer had not been truly isolated since the invention of the telephone and the popularization of the phonograph. However with the invention of the radio, the farmer had immediate, free access to news, weather, market updates, and entertainment.

## Music for All People

The ability to create inexpensive radio receivers changed the makeup of the listening audience. Before the popularization of radio, listening habits of music
patrons had been strongly dictated by class affiliation. Listening to classical music performances was a cultural experience, often reserved for the upper and middle classes. The lower socioeconomic classes were not excluded from hearing music of an artistic nature; however, the availability of this music was often limited because of the cost required. Attending operas required not only paying ticket costs but also dressing properly. If the poorer classes could afford seats, they were generally in the balcony section. In addition, the more privileged families were the members of society who could afford costly music lessons and afford to host recitals in their homes. Moreover, the members of the upper class were most likely to attend social affairs that included ballroom dancing and other light music. For their entertainment, the members of the lower class often turned to vernacular music, which could be heard in bars, dance halls, clubs, churches, schools, and parades.

With the popularization of the radio, many of the problems of availability because of socioeconomic class were erased. Anybody could have a radio. Radio parts were cheap enough that even poor individuals could easily save to buy them. "People who couldn't afford brand-name receivers made their own crystal sets from kits. . .or bought factory-made crystal sets for as little as $\$ 10$ (that was equivalent to two weeks' wages for many blue-collar workers)."xx On the other hand, by 1922, fashionable radios were being produced that hid the complex, unattractive wiring in a stylish wood box. These sets suited the tastes of the highest of society.

Radio helped spread the culture of classical music. The majority of music programming throughout the early 1920s was of an artistic nature. Individuals of the upper and middle classes were impacted by radio, because they now heard music at home that they might have been able to hear only by going to a concert. The impact on the lower socioeconomic class was dramatic. These listeners now had free access to classical music on a daily basis. An article from Radio Broadcasts, which describes a situation in the "mean" streets of Chicago in the "dispirited tenements and glum 'workingmen's cottages'" states:

> Each of the numerous shoots of wire intimately connects some desert dweller and his family with such luxury as used to belong only to the wealthy few. Grand opera, news expensively and quickly gathered, the words of political and religious leaders, instrumental music by great artists - all these are carried by the house-top antennas down into dingy rooms for the comfort of persons for whom such things simply did not exist a year ago.

Furthermore, the music available through broadcasting did not require purchasing new records each week to hear the latest performers. Of course, the availability of classical music through the radio does not prove that every individual of the lower socioeconomic class listened to it. However, the popularity and demand for radio indicates that it was not only a fad of the wealthiest. People of all classes could afford radios and did purchase them. The radio, thereby, enabled all people to listen to similar music.

[^0]${ }^{\text {iv }}$ Robert L. Hilliard, Michael C. Keith, The Broadcast Century: A Biography of American Broadcasting (Boston: Focal Press, 1992), 19.
${ }^{\text {v E.P.J. Shurik, The First Quarter-Century of American Broadcasting (Kansas City: Midland Publishing Comp., 1946), } 15 . ~ . ~ . ~}$
${ }^{v i}$ Ibid., 14.
${ }^{n u}$ New York Times, December 26, 1919.
${ }^{\text {vii }}$ Erik Barnouw, A Tower in Babel: A History of Broadcasting in the United States. Vol. 1 (New York: Oxford University Press, 1966), 68.
${ }^{\text {ix }}$ Radio Broadcast, October 1922, 505.
${ }^{\star}$ Franklin M. Reck, Radio: From Start to Finish. (New York: Thomas Y. Crowell Comp., 1942), 50.
${ }^{\text {xi }}$ Hilliard and Keith, 26.
${ }^{\text {xii }}$ Radio Broadcast, May 1922, 1.
${ }^{\text {xiii }}$ Czitrom, 72.
${ }^{\text {xiv }}$ Gleason L. Archer, History of Radio to 1926. (New York: American Historical Society, Inc., 1938), 211.
${ }^{\text {xv }}$ Radio Broadcast, May 1922, 22.
${ }^{\text {xvi }}$ U.S. Department of Congress, Historical Statistics of the US: Colonial Times to 1970. (Washington, D.C.: Government Printing Office, 1975), 796.
xvii Barnouw, 145.
${ }^{\text {xviii }}$ Radio Broadcast, June 1922, 140.
${ }^{\text {xix }}$ Radio Broadcast, January 1923, 214.
${ }^{x x}$ Hilliard and Keith, 28.

## Chapter 2

## PERFORMERS AND COMPOSERS

Radio broadcasting would not be complete without programming content. As major suppliers of this content, performers and composers, found their roles in the production of music changed by radio. Performers gained new popularity, as they became regular guests in thousands of homes across the United States. However, performing for a radio audience was considerably different from a live performance. Composers reaffirmed their important role in the production of music by challenging the radio producers' rights to play songs without paying royalties to the composer of the song and its publisher.

## New Popularity Among Stars

Radio technology impacted performers by increasing the size of the listening audience. Whereas phonograph records could reach as many as a million homes, the radio provided popular performers live on a regular basis. The listeners could expect to hear everything from old favorites to new releases. Radio's popularity allowed performers to sing for tens of thousands of listeners. For instance, in January 1923 Radio Broadcast stated, "The noted soprano of the Metropolitan Opera Company [May Peterson] has favored the invisible audience with her singing and we may say with no fear of contradiction that she has been heard by more than 100,000 people in a single
evening, when she sang at WJZ."i In the mid-1920s, as radio corporations began to network their stations the number of people listening to a single performance rose. The listening audience from week to week combined exceeded the number of homes that could be expected to listen to phonographs on a regular basis.

As listeners heard their favorite radio personalities from week to week, or in the case of announcers, day to day, their interest in their lives grew rapidly. "As voices became familiar, listeners developed a compulsive curiosity about the people behind them. ${ }^{\prime \prime}$ ii This attention was desired by some performers who disliked not seeing an audience and despised by others.iii "Many a performer began getting letters by hundreds and thousands."iv Even though, radio stations received requests for information concerning these idols, they would not release personal information. ${ }^{\text {v }}$ The standard response from the radio stations stated that personal information could not be divulged. Barnouw states, "the idolatry must have been furthered by changing styles of performance. In 1922 performers still imagined themselves in a vast auditorium 'where rear seats are hundreds of miles from the stage,' but by 1925 a cozier image was established. Many artists liked to imagine the audience as 'a single person.' "vi A few performers benefited from radio through increased record sales. Yet, this was a rare phenomenon, and writers in the press generally considered radio a competitor of the phonograph. ${ }^{\text {vii }}$

As the popularity of performers increased, the attitude toward providing services for the radio stations changed. In the early days of radio, some artists
performed simply for the publicity. Radio stations recognized the importance of treating performers properly. For instance, Westinghouse appropriated "money for things like flowers, and limousines to meet artists at the Hudson tube or ferry," for their WJZ station. viii Yet, as interest in radio grew, performers began to demand pay and benefits for their performances. Radio Broadcasts highlights the mentality of the best performers:

Mme. Galli-Curci, one of the most celebrated singers in the world, was invited to sing via radio, and promised big advertising. She was also guaranteed an audience of a million and an orchestra to assist her. Of course the lady's managers declined the invitation. As she can earn $\$ 4000$ to $\$ 5000$ a night, why should she waive this sum. ${ }^{\text {ix }}$

Often, local stations could not afford these fees and were forced to use only local amateurs. This distinction in available programming separated the local stations from the large radio businesses.

## Altered Performance Practices

As the radio business developed, many stations were transformed from small one-room outfits that included a phonograph player and a transmitter to large production facilities. The transition from phonograph to live music brought with it many difficulties. Some stations had to move to larger facilities, and several aspects of creating the live music had to change. Musicians were faced with considerations such as inadequate recording acoustics, unusual placement of singers and instrumentalists, and large invisible audiences.

Early in broadcasting history, small ensembles were introduced to add live music to the programming of a station. Producers immediately recognized the poor quality of inside performances in standard rooms. When faced with this problem KDKA, Westinghouse's initial station, moved its recording outside. This provided an environment free from unwanted reverberations. Unfortunately, playing outside was subject to weather conditions; therefore, a tent was constructed to protect the players. However, during one storm the tent was blown down, and the group was forced to move indoors. They decided to set the tent up indoors and found it worked just as effectively. ${ }^{x}$ In most future studios, stations created the same effect using burlap.

While the players may have had to adjust to a new environment, it was not highly detrimental to their performance technique. On the other hand, some of the requirements on placement of singers and instrumentalists, created unusual performance situations that affected performances. For example, to properly create the effect of dominance of one voice over another many manipulations had to be performed. "This was accomplished by introducing a shifting process, each singer having a fixed position from which he moved forward, backward, and sidewise according to a prearranged scheme, precisely like a football line that opens and shuts and moves by a code of signals." ${ }^{\text {xi }}$ This procedure was very unnatural for most performers. The act of standing still destroyed the element of drama. As the size and complexity of performances grew so did the number of adjustments that had to be made.

The number of people in the listening audience also created unique circumstances for performers. Artists were not accustomed to singing "live" before tens of thousands of listeners. Furthermore, the audience did not have a "face." On several occasions, this experience proved intimidating for performers. As one performer describes his anxiety:

> In my mind I visualized a life-size map of the United States, and in every town, every hamlet, every cross-roads, there was nothing but ears. And all of these countless thousands of ears were cocked and pointed in my direction. I could see ears sticking out from behind library tables, book-cases and sideboards; the handles were ears, the glass knobs were ears, and they were waiting for me.xii

As radio became more common, such incidents decreased. Performing in a studio evolved into quite a different practice from live performances to accommodate for performers' anxieties. Studios were made to look like living rooms, and microphones were hidden in various locations such as under lampshades. Another change in the studio setting for the performers was that there was no applause or standing ovation after a performance. As one singer expressed it, "At the end, there was the same dull, empty silence. I would have given anything for even a pathetic pattering of applause."xiii To remedy this situation, audiences comprised of a few individuals literally from off the street were introduced.

## New Examinations on the Rights of the Composer

In 1914, the American Society of Composers and Publishers (ASCAP) was formed to insure that the rights of composers and publishers were not violated. Its initial battle concerned the use of songs on phonograph records. Composers and
publishers demanded payment or royalties for each album a company produced. Composers claimed they had a right to profit financially as the phonograph companies profited from their work, and publishers argued that they should receive a portion of the profits for printing the sheet music. The recording companies agreed to pay a licensing fee to ASCAP for the right to use the music.

As radio broadcasting became popular, worries rose among the record companies that their profits might decrease. In addition members of ASCAP recognized that as record sales declined royalty payments would also decrease. Since listeners heard phonograph records and live music over the radio, there might no longer be a desire to purchase phonograph records. The record companies had little recourse and simply watched their record sales decline significantly as the broadcasting boom started in 1922 .xiv ASCAP decided to challenge the major radio corporations as it had the phonograph companies. "Under the copyright law of 1909 a music copyright holder controls the right to perform 'publicly for profit.' "xv ASCAP charged that radio companies were illegally performing music and failing to pay composers and publishers the appropriate royalties. Furthermore, ASCAP claimed that songs lost value, because they were played repeatedly on the radio to the point of becoming hackneyed. This in turn threatened the livelihood of composers and publishers, because it devalued their songs' worth. ASCAP demanded that the radio stations pay licensing fees similar to those imposed on phonograph record companies. xvi

The fees successfully imposed by ASCAP on the radio corporations had two significant effects upon music. First, the addition of an expense for a radio station helped further the separation between the high quality, large stations and the local amateur, small stations. The smaller stations often could not afford the same fees; therefore, they either had to abandon some programming or broadcast illegally. Second, ASCAP had reaffirmed the rights of composers. By successfully winning the case of Witmark vs. Bamberger and forcing companies to pay their fees, ASCAP forced the companies to recognize the composer's role in the creation of a successful performance.
${ }^{\text {i }}$ Radio Broadcast, January 1923, 236.
${ }^{i i}$ Barnouw, 63 .
iii Radio Broadcast, July 1923, 224.
${ }^{\text {iv }}$ Barnouw, 164.
${ }^{v}$ Barnouw, 163.
${ }^{\text {vi }}$ Barnouw, 164.
${ }^{\text {vii }}$ Radio Broadcast, January 1923, 52.
viii Barnouw, 87.
${ }^{\text {ix }}$ Radio Broadcast, Aug. 1922, 291.
${ }^{x}$ Barnouw, 71.
${ }^{\text {xi }}$ Radio Broadcast, Aug 1922, 286.
${ }^{\text {xii }}$ Radio Broadcast, November 1922, 49.
xiii Radio Broadcast, November 1922, 50.
${ }^{\text {xiv }}$ Barnouw, 129.
${ }^{\text {xv }}$ Barnouw, 119.
${ }^{\text {xvi }}$ Barnouw, 119.

## Chapter 3

## THE EXPANSION OF MUSIC BUSINESS

In 1921, large electrical corporations discovered that selling radio parts to the general public could be profitable. Companies such as RCA, Westinghouse, General Electric (GE), and AT\&T fostered the development of the first broadcasting media in an attempt to bolster sales. Radio impacted music business by bringing these massive companies into its ranks.

NEW CORPORATIỎNS IN THE MUSIC BUSINESS

As radio technology gained popularity, its impact on previous forms of music business, printed and recorded, was often debated in journals, magazines, and newspapers. Some writers argued that it would cause an end to the phonograph, and others warned it would destroy the value of printed music. ${ }^{\text {i }}$ However in hindsight, radio technology primarily altered the music business by developing broadcasting companies, a new segment within the music business.

The main corporations to pursue broadcasting were the same corporations that held the patents on the major components of the radio. While some writers of the press in the 1920s proclaimed the virtue of radio as a means of revolutionizing American societyii, the communication corporations valued the revenue from selling radio parts. For instance in January 1920, David Sarnoff submitted a plan to Owen D.

Young, president of RCA that outlined a plan for creating "radio music boxes." He justified the plan by stating that, "manufacturing costs would allow sale of the radio music boxes at $\$ 75$ each. If a million families responded, a revenue of $\$ 75,000,000$ would result." ${ }^{\text {iii }}$ It is apparent in the actions of the businesses that their primary objective was to produce sales not high quality programming. In addition, the competitive nature of these businesses insured that they would take steps to maintain high profits.

Initially, small stations such as those operated by local department stores or hotels were hard to distinguish from stations sponsored by large corporations. Both types of stations used whatever resources were available for programming. Studios were very primitive and typically contained only a piano, microphone, burlap for sound control, and a phonograph player. ${ }^{\text {iv }}$ Fortunately, the listening audience was pleased to hear anything on the radio and was not accustomed to high quality, regularly scheduled programming. Music programming consisted of a large quantity of phonograph recordings and local talent performing for publicity.v Throughout 1922 and 1923, as the number of broadcasting stations rapidly expanded, listeners grew tired of large quantities of phonograph recordings played on the air, interference between stations, randomly scheduled programs, and other problems with the immature art of broadcasting.vi At this point in history, the larger corporations recognizing that there was a positive correlation between higher quality programming
and product sales, began not only to distance themselves from the smaller broadcasting stations but also to stifle competition.

The large corporations' main advantage was financial backing. While it was noted in the first chapter that by the end of 1922 over 400 stations were broadcasting, the death rate of these early stations was very high. Stations often went on the air for a few weeks, and then discontinued broadcasting.vii In many instances, these stations simply did not have the financial means to replace broken equipment, purchase new phonograph records, or hire performers. On the other hand, stations backed by AT\&T, RCA, and Westinghouse not only had the financial resources to maintain the equipment but they also began carrying only live performances.viii Moreover, because they could afford more powerful transmitting equipment, they reached more listeners.

With Herbert Hoover's institution of new regulations in 1923, the most powerful stations were given separate less crowded wavelengths. Hoover's regulations divided stations into three groups:

The first would be the highest-powered stations of 500-1000 watts. . .These stations would no longer be on the same channel but on various channels between 300 and 545 , largely near the center of the dial. They would not use phonograph records. Another group would have power of not more than 500 watts. . They would operate at various channels between 222 and 300 meters. Some time-sharing might be needed. This left, as the third group, a conglomeration of low-powered stations. . .all at one dial - 360 meters - all serving limited local areas, sharing time as required, and in many cases restricted to daytime hours to minimize chronic interference. ${ }^{\text {ix }}$

The majority of local stations fell within this third category; therefore, these regulations further distinguished the stations sponsored by the large companies from the amateur stations.

As broadcasting developed during the early 1920s, stations quickly noted the expense involved with regularly scheduled live performances, paid staff, and maintenance of equipment. The quality available from the large businesses surpassed that available from the small local broadcaster. Yet, the cost to the companies rose dramatically. The rising costs led to much discussion within the radio enthusiasts' circles concerning how to pay these expenses. From the middle of 1922, articles began to appear regularly in periodicals, such as Radio Broadcast, concerning "who" will pay for programming and "how" the cost will be met. In its first issue, Radio Broadcast states, "after the novelty has worn off it will cost money to get talent at the broadcasting station and the question arises - who is going to pay for it?" $\times$ The article continues to outline various possibilities such as endowment by a "public spirited citizen," contributions to a common fund, or through municipal funding.xi At the same time questions were raised about the quality of programming available and its purpose. While there were hundreds of local stations devoted to programs of regional interest, the primary focus on answering these questions was given to the large corporations - RCA, Westinghouse, and AT\&T.

The answer to "how" the cost would be met came from AT\&T. AT\&T considered its broadcasts to be messages, such as the telephone calls, only to many
people. In fact, AT\&T claimed sole right to use radio for this purpose. "Under the alliance agreements, telephony on a commercial basis was the exclusive province of AT\&T. . .and therefore reserved for AT\&T and not open to GE, Westinghouse, or RCA."xii Moreover, it charged consumers for time used on the radio. To aid the purchaser, it would conduct in-depth analysis of its listeners by cataloging correspondence from them to determine their preferences. This practice displays AT\&T's recognition that the audience make-up is important. However, in the first year AT\&T was not highly successful in its attempt. The notion of advertising on radio was condemned by most radio corporations and by Herbert Hoover. Yet, within a year AT\&T's plan began to return profits, and their primary station WEAF began challenging KDKA, Westinghouse's primary station, for quality of programming.xiii

AT\&T's notion of selling "speaking" time encouraged another significant development in radio broadcasting that dramatically influenced the listening audience. The size of the audience listening to a broadcast was directly related to the amount the company could charge for airtime. Therefore, a larger audience was desirable. Early in its attempts at broadcasting AT\&T began to use its wired lines to send a signal to another section of a state or another state to be broadcasted simultaneously. Over the next two years, every major radio broadcaster recognized the need to air some of the same programs around the United States at the same time. Moreover, listeners in rural areas and small towns desired the quality of programming
available from the major stations in cities such as New York and Philadelphia. The result was a strong push by the listening audience toward networked, nation-wide, broadcasting.

By the end of 1926, the listening audience expected high quality, primarily live, performances. Of course, the quality was still not to the level that it would be in the 1930s. However, there was a strong distinction between local amateurs that broadcast phonograph records and New York stations that could provide live operas. In addition by this time, the practice of advertising was accepted, and stations were in direct competition for advertising dollars. This challenged each station to perform at higher levels thán the stations in the surrounding areas; otherwise, it might loose valuable revenue. This trend led to the development of a system such as the one today where programs are chosen according to their ability to attract listeners and in turn advertising dollars.

[^1]xii Barnouw, 107.
xiii Barnouw, 159-160.

## Chapter 4

## MUSIC EDUCATION FOR EVERYBODY

The growth of radio's popularity and the development of broadcasting drew interest from journalists and editors starting around 1922. Articles proclaimed radio had the power to unite the masses and transform American culture. ${ }^{i}$ Likewise, educators advocated using radio technology as a teaching tool to benefit society. As radio's primary broadcasting material, music was naturally included in this learning. While the majority of successful attempts at teaching using the radio occurred after 1926, the years from 1919 to 1926 included a few successful attempts by universities to provide instruction. Furthermore, the masses were educated indirectly by their experience with music from every genre.

## EdUCATIONAL PROGRAMMING

A common dream of some educational enthusiasts in the early 1920s was that of a classroom with students diligently working a lesson directed by a black box at the front of the room. It is evident that this vision never found fruition. Yet, the radio was eventually utilized by some organizations to provide limited amounts of didactic programming. The primary institutions to attempt to provide this programming via radio were universities, churches, and large radio corporations. Of the programs developed, only a few focused on teaching people about music.

Universities were the first significant institutions to attempt to provide programming. "For some reason or another, the winter of 1921-22 saw a huge academic procession to the air, ${ }^{\prime \mathrm{ii}}$ which resulted in 74 colleges and universities obtaining licenses by the end of 1922. The educational programming among these schools was diversified. Some institutions such as the New York University and Columbia University offered lectures in topics ranging from astronomy and literature to home economics and the health care of children.iii Other schools offered full courses, such as the Kansas State Agricultural College that offered courses in psychology, English, sociology, community organization, literature, economics, journalism, and vocational education.iv Universities with large surrounding rural areas were more inclined to offer courses by radio, specifically for people that could not attend, because they lived so far from the campus. However, only a small number of these courses had any influence in furthering music education in America. The death rate of these programs was high, and few records or articles proclaim the success of such programs. ${ }^{v}$

On the other hand, the business sector had moderate success in attempting to provide educational programming through radio. In response to growing discontent with programming options, some larger stations began airing occasional music education programs. However, these programs did not develop until the late 1920s and only lasted a brief time in comparison to other popular shows such as Amos ' $n$ ' Andy.

## EXPERIENCE FOR THE MASSES

While radio programming aimed at music education proved only mildly effective, the general availability of music for the masses was significant in furthering music education. Radio allowed music of an artistic nature to be heard by anyone regardless of social class on a regular basis. Its role as a provider of entertainment helped to insure a steady audience that included listeners who had previously been excluded because of their socioeconomic class.

For the listening audience to experience classical music, it must be present in the radio programming. Radio logs from 1922 through 1925, clearly show classical music as a regular part of radio. ${ }^{\text {vi }}$ Describing these years, Barnouw states:

It was almost all conservatory music; one program director dubbed it "potted palm music." It was the music played at tea time by hotel orchestras. It was recital music. European in origin, it was "culture" to many Americans. It was part of the heritage that thousands of musicians, amateur and professional, had brought with them from the old world. . .This music completely dominated radio in its first years and retained a leading role throughout the 1920s.vii

However, some historians tend to focus solely on vernacular music, creating ambiguity as to which was the dominant form. One view was expressed by station KYW in Chicago: "The radio audience is heterogeneous. To send out nothing but highbrow music would be to discourage many listeners. But nothing amateurish is permitted. Jazz is mixed with the classic, but it must be accomplished jazz, and there must not be too much of it."viii With support from logs and prominent historians, the belief that classical music was prolific on the radio is substantiated.

For music programming of an artistic nature to have an educational role, the listening audience must also have accepted it. To the average person in the early 1900s, music was most commonly associated with entertainment and leisure. ${ }^{\text {ix }}$ However, it was only one among many forms of entertainment such as drama, dancing, reading, and sports. In 1921, music gained new significance, as it became the main programming element in broadcasting. ${ }^{\times}$Music not only maintained its role as entertainment but also influenced radio by identifying it as a form of entertainment. The fact that radio assumed the role of providing entertainment through its programming helps to explain its acceptance by the listening audience.

As noted in chapter one, poor individuals were often excluded from the best "art" music. With the invention of the radio, all classes had the opportunity to experience classical music. Furthermore, radio was identified as a form of entertainment; thereby, increasing the chances for acceptance by all people. Individuals who might never have dreamed of attending an opera because of a lack of desire and of financial means now had the opportunity to have such experiences. Radio allowed all people to "know" or to be educated concerning classical music. An excellent example of radio allowing people to experience high quality music can be seen in Westinghouse's station KYW located in Chicago. At the opening of opera season in 1921, Westinghouse spoke to Mary Garden, director of the Chicago Opera Company. She stated that, "Grand opera is an exotic dish. Taste for it is not instinctive but acquired. Miss Garden saw in the broadcasting plan a chance to
instill a liking for good music in thousands of minds outside the range of any other appeal, and so the plan was adopted."xi The airing of the opera season was an enormous success, and the number of receivers in Chicago increased from 1,300 to 20,000.xii Radio Broadcast states, "to 'listen in' on the opera became the most fashionable and popular of winter sports. Home, it seemed, couldn't be home without a radio set."xiii The fact that classical music was available did not mean that listening habits were automatically altered. Yet, the possibility for an alteration in listening habits existed, as people experienced and enjoyed the music.

Of course, the mere experience of music is not the same as being taught music. Many people today listen to classical music or walk through art galleries without understanding and truly appreciating the art. Without proper training, the possibility of truly "understanding" the art is reduced. However, the term "education" does not in itself indicate an appreciation or complete knowledge of the topic. Radio allowed all people the opportunity to hear and develop an appreciation for classical music. While people may not fully understand the music intellectually, they do have the opportunity to gain an interest in the music. This interest may result in the pursuit of true teaching and instruction in music. The mere availability of music increases the possibility of more advanced educational pursuits.

While there was an abundance of art music on the radio, vernacular music was also present. One of the earliest fascinations with radio, even before the boom in the 1920s, was the distance signals could travel. This capability allowed distinctly unique styles of music from different regions of the United States to be heard all over the nation; thereby, increasing people's awareness of regional styles of music.

As radio stations developed around the nation, many amateurs and average listeners became regular listeners of distant channels. This practice became known as Dxing, and most stations allowed specific times regularly to be off-air, so that Dxers could listen in on channels without interference. ${ }^{\text {xiv }}$ The range that signals could travel was directly related to the power of the stations, except in rare cases. Generally, local or regional stations could only afford smaller, low wattage signals. The stations with backing from the major corporations were the ones that could afford higher wattage transmitters. Therefore, the allure of long distance listening was not only the attempt to listen to stations far away but also hearing higher quality programming.

From 1920 to the mid-1920s, the average station still relied on local talent to some degree.xv This talent, of course, performed the style of music most familiar to them. This enabled listeners from coast to coast to hear a variety of styles of music. For instance, the jazz styles of Chicago could be heard in San Francisco.xvi Listeners often took pleasure in discovering regional differences across the United States. For instance, jazz in New Orleans was distinctly different from that in Chicago and San

Francisco. Hearing these differences allowed performers the opportunity to modify their own art. With the development of radio broadcasting, musicians were able to use live performances to examine the variety of ways to perform a selection in addition to the methods already available to them such as editorial comments in music scores and phonograph recordings.
${ }^{i}$ Douglas, 305-306.
${ }^{\text {ii }}$ Barnouw, 97.
iii School and Society, June 12, 1926, Vol.XXIII, No. 598
${ }^{\text {iv }}$ William B. Levenson, Teaching through Radio (New York: Farrar and Rinehart, Inc., 1945), 30.
${ }^{\text {y }}$ Kittross and Sterling, 70.
${ }^{\text {vi }}$ See appendix A for examples of radio logs.
${ }^{\text {vit }}$ Barnouw, 126.
${ }^{\text {viui }}$ Radio Broadcast, October 1922, 507.
${ }^{1 x}$ Kittross and Sterling, 72.
${ }^{x}$ Ibid., 73.
${ }^{\text {xi }}$ Radio Broadcast, October 1922, 504.
${ }^{\text {xii }}$ Ibid., 505.
${ }^{\text {xiii }}$ Ibid., 504.
xiv Barnouw, 93 .
${ }^{\text {xv }}$ Kittross and Sterling, 72.
${ }^{\text {xvi }}$ Radio Broadcast, October 1922, 508.

In a society where people are constantly connected with one another through cellular phones, beepers, and voice mail, where any type of music can be downloaded in minutes through the Internet, and where individuals are constantly bombarded with music integrated into their workplaces, sources of entertainment, and lives at home; society takes radio for granted. This thesis has highlighted the aspects of music that were affected by the invention of the radio and the development of radio broadcasting, in an attempt to remind individuals of what has become common place in their lives.

The pre-network years in radio's history, from 1919 through 1926, contained many crucial decisions that impacted the way radio broadcasting would develop. These formative years serve as a resource for studying how technologies evolve and shape society. A primary development that impacted each of the three contributors of a musical performance was the dramatic rush to obtain radio receivers. Audiences for live performances grew at an outstanding rate, performers were challenged by the vast numbers listening to each performance, and composers saw royalties from record sales decline as buyers concentrated on obtaining radio sets rather than phonograph records. In response, composers and publishers challenged the radio broadcasters' right to broadcast music without paying licensing fees.

Large electrical companies initially developed radio broadcasting. The companies impacted music, as the dominant form of content, as they made decisions
based upon their goal of generating revenue. To provide programming, stations turned to local talent, thereby spreading music from one region to another. As listeners began to demand higher-quality programming these stations sought to provide the best performances of classical music. These advancements resulted in higher costs for the stations. Seeking to meet these costs, broadcasting stations added commercial elements. After 1926, stations continued to develop along these lines as sponsored programs became prolific. In addition, stations attempting to broadcast for educational purposes alone did not have the financial resources to provide the same quality programming available on the major broadcasting stations.

Radio alse had an impact on the cultural awareness of society. This influence of radio is slightly harder to define. However, the low cost of owning a receiver allowed every member of society to hear classical music on a regular basis. This availability increased all peoples' awareness of the art form.

In this century, technology will continue to shape people's lives. By examining the influence radio had on music, musicians can predict possible changes that new technology will have on music. Internet technologies, for instance, have the capability to change the listening audience, affect performers and composers, expand the music business, and educated people around the world. Music is a living art form that will forever be shaped by society and the technological developments of that society. Musicians, who understand how technology has impacted music in the past, will be better equipped to adapt to future changes in music created by technology.

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## Appendix A - Example Radio Logs

Log from WJZ in Newark, New Jersey - A typical Sunday schedule From A Tower in Babel

7:55-8:05 - Two test records on Edison phonograph
8:10-8:15 - Newark Sunday Call news read by Thomas Cowan
8:15-8:18 - Stand by 3 minutes
All quiet
8:20 - Sacred selections on Edison phonograph
8:35 - Sacred selections on Edison phonograph
8:50 - Stand by 3 minutes. KZN and WNY
8:55 - Sacred selections on Edison phonograph
9:15 - End of concert
WJZ signing off
9:50 - Explain Arlington time signals
9:55-10:00 - NAA time signals
10:05 - Weather forecast
10:10-WJZ signing off
10:25 - Played an Edison record for Walton 2B2H, a local manager, the gentleman who installed Westinghouse receivers.

## Log from KYW in Chicago on August 15, 1922

From Radio Broadcast
8:00 P.M. - Musical by Ethel S. Wilson, soprano; Herman Salzman, baritone; Rosalyn Salzman, accompanist; Bernard W. Wienbroer, cellist; Isadore Witte, pianist. "Pale Moon." Logan, and "Rose in Bud," Forster; "Berceuse," from "Jocelyn," Godard, and "Romance," Kronold; "Toreador Song" from "Carmen," Bizet, and "The Little Irish Girl," Lohr; "Sonata Pathetique," Beethoven, and "Prelude in B Minor," Chopin; "Sunrise and You," Penn, and "One Fine Day," from "Madama Butterfly," Puccini; "Traumerei," Schumann, and "Ave Maria," Schubert; "On the Road to Mandalay," Speaks, and "Rose of My Heart," Moret; "Polonaise Militaire," Chopin, and "Moths," by Phillipp, "Prelude in A Major," Chopin.

Log from WFAA in Dallas, Texas - Tuesday evening, October 10, 1922
(Stokes, A Public Service Program History of Radio Station WFAA-820. pg. 40)
From A Tower in Babel
Baritone Solo
(a) "Vision Fugitive" from Herodiade . . . Massenet
(b) Recitative, "I Rage, I Melt, I Burn"; "Air Ruddier Than the Cherry," from Acis and Galatea . . . G. F. Handel
(c) "Blow, Blow, Thou Winter Wind," words from As You Like It . . . J. Sarjeant Edward Lisman. Accompanist Miss Whitaker

Piano Concerto
(a) "Bourree" . . . Louis Duillemin
(b) "Pavane" . . . Louis Duillemin
(c) "Gigue" . . . Louis Duillemin

Mr. And Mrs. Paul Katwijk
Vocal Solo
(a) "The Birthday" . . Woodman
(b) "Mi Chiamano Mimi," from La Bohéme . . . Puccini

Mrs. R. H. Morton, lyric soprano

Log from WJZ - May 29, 1923
From A Tower in Babel

| 3:00-3:20 | Henry Palmer, pianist |
| :--- | :--- |
|  | West Long Branch, N.J. |
| 3:20-3:40 | Marie Stapleton Murray, Soprano |
|  | 476 W. 144, NYC |
|  | Aud 5631 |
| 3:40-4:00 | Henry Palmer, pianist |
| 4:00-4:20 | Marie Stapleton Murray |
|  | Louise Baker Phillips accom. |
| 4:35-5:00 | Daisy Miller, Negro Dialect Stories |
|  | 134 East 19 NYC |
|  | Stud 6078 |

Log from WJAZ on December 23, 1923
From Radio Broadcast

1. Sobbering Blues

Faded Love Letters
2. My Lovely Celia (Old English)

The Pretty Creature (Old English)
3. Souvenir de Moscou

Mazurka
4. Where 'Ere You Walk
5. Berceuse

Ballade
6. Silvery Moon

Marcheta
7. Do Not Go My Love Minor and Major
8. Sonata, D Major
9. Sunshine of Mine Perkin
10. My Heart At Thy Sweet Voice (Samson et Delilah)
11. Liebestraum

Etude
12. Retreat

Pirate Song
13. Londonderry Air

Rondine
14. Susie

Wonderland of Dreams
(Orchestra)
Munro.
Storace (Baritone Solos)
Wieniawski
Mlyuarski (Violin Solos)
Handel (Baritone Solo)
Chopin
Chopin (Piano Solos)
(Orchestra)
Hageman
Spross (Contralto Solos)
Mozart (Violin Solo)
(Orchestra)
Saint-Saens (Contralto Solo)
Liszt
Chopin (Piano Solos)
LaForge
Gilbert (Baritone Solos)
Kreisler
Beethoven-Kreisler (Violin Solos)
Orchestra


[^0]:    ${ }^{i}$ Joel Whitburn, Joel Whitburn's Pop Memories 1890-1954: The History of American Popular Music (Menomonee Falls, Wisconsin: Record Research Inc., 1986), 11-13.
    ${ }^{4}$ Ibid.
    ${ }^{\text {wi }}$ Daniel J. Czitrom, Media and the American Mind: From Morse to McLuhan (Chapel Hill, North Carolina: University of North Carolina Press, 1982), 68.

[^1]:    ${ }^{\text {i }}$ Radio Broadcast, January 1923, 52.
    ${ }^{\text {" }}$ Susan J. Douglass, Inventing American Broadcast: 1899-1922. (Baltimore: John Hopkins Univ. Press, 1987), 303-306.
    "" Barnouw, 79 .

    * John M. Kittross, Christopher H. Sterling, Stay Tuned: A Concise History of American Broadcasting. (Belmont: Wadsworth Pub. Co., 1978), 63.
    ${ }^{v}$ Kittross and Sterling, 72.
    ${ }^{{ }^{v}}$ Hilliard and Keith, 29.
    ${ }^{\text {vii }}$ Kittross and Sterling, 63.
    viï Barnouw, 112, 122-123.
    ${ }^{\text {ix }}$ Barnouw, 121.
    ${ }^{\text {x }}$ Radio Broadcast, May 1922, 3.
    ${ }^{\text {xi }}$ Ibid.

