A STUDY OF THE TECHNIQUES OF SPORTS TELECASTING

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HISTORY OF THE TELECASTING OF SPORTS AND STATEMENT OF THE PROBLEM

Introduction. In any study about television perhaps the first thing to be done is to define the word television and tell where the word originated. Richard Hubbell tells us that after several weeks of searching, he found how and why the name was created.

> . . . It apparently was coined in 1900 by a French librarian who was trying to catalogue some material on the electrical transmission of pictures--which was then called telescopy, electrical telescopy, or telectroscopy. This librarian concocted the word 'television,' which we have adopted without the accent marks. Although it has been well publicized, it might be in order to note that the word 'television' comes from Latin and Greek roots, and means, literally, 'distant-seeing.'[1]

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[1] Richard Hubbell, Television Programming and Production (New York: Murray Hill Books, Inc., 1948), pp. 11-12.

It seems quite interesting to note that such a great medium should derive its name in an unusual manner such as this. The creation of the name as told by Hubbell is being accepted because no other writer on television seems to offer any other origin of the word. As can be seen, the meanings of the Greek and Latin roots fit television as we know it today and will probably continue to fit even better. It is truly

"distant-seeing" when sitting before a set in Pittsburgh, a family sees wrestling bouts being held in Chicago, Illinois, variety shows from New York, and Senate investigations taking place in Washington, D. C. Perhaps in the next few years this same family will watch scenes from all over the world.

Differing from the origin of the word, television, almost every writer in the field has produced a definition. Hutchinson in his book, Here is Television calls it, "The transmission of a succession of images and their reception in such a way as to give the impression of a continuous reproduction of a scene to a distant viewer."[2] William C.

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[2] Thomas H. Hutchinson, Here is Television (New York: Hastings House, 1950), p. 365.

Eddy says, "Television is, in truth, a melting pot of the sciences, the arts, and the populace."[3] David Sarnoff,

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[3] William C. Eddy, Television: The Eyes of Tomorrow (New York: Prentice Hall, Inc., 1945), p. vii.

Chairman of R. C. A's Board of Directors, has been connected with radio and television most of his life. He has been prominent in almost every important movement since radio began. About television he remarks,

> We have learned to believe in the miracles of science. Television is such a miracle. But television, if it is to fulfill its highest purpose, must begin where science leaves off and help bring

about new miracles, not only in machines but also in man-miracles to which the human heart as well as the human mind must contribute.[4]

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[4] Lenox R. Lohr, Television Broadcasting, (New York and London: McGraw-Hill Book Company, Inc., 1940), p. xiv.

Mr. Lenox Lohr, President of the National Broadcasting Company in 1940, defines television as, ". . . the instantaneous transmission of moving images containing sufficient detail for entertainment or for informative purposes, the whole being accomplished by electronic means."[5] Hoyland

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[5] Ibid., p. 15.

Bettinger, a writer on television techniques, classifies television as either a medium of communication or an entertainment medium. He goes on to say, however, that these are narrow terms, that it is a powerful sociological force. That, like radio, it goes into the home and thus into the heart of the nation. He mentions that it forms attitudes, conditions thinking and establishes and nurtures cultural standards.[6]

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[6] Hoyland Bettinger, Television Techniques (New York and London: Harper and Brothers, 1947), p. 11.

Later, in his glossary of terms, he actually defines television as:

the transmission and reproduction of a view or scene, especially a view of persons or objects, by

> any device or apparatus that converts light rays into electrical impulses in such a way that they may be transmitted and then reconverted by a receiver into visible light rays forming a picture.[7]

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[7] Ibid., p. 169.

Dunlap calls to our attention one of the more humorous ideas of what television is. He tells of Marconi having received a vast number of letters when he was credited with having developed a method of seeing by wireless. Many of the letters were from older ladies who protested his destroying the privacy of the home. Marconi then said, "They seemed to think that I had invented an electric eye that would look through walls and mountains. That's what they understood to be television. I assured them that I had no such idea."[8]

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[8] Orrin E. Dunlap, The Future of Television (New York and London: Harper and Brothers Publishers, 1942), p. 8.

For the purposes of this study no such elaborate definition as any of the preceding is needed. It can merely be called the transmission of active pictures electronically.

I. HISTORY OF TELECASTING

In order to give the reader some background for this study, the first step will be to sketch a short history of telecasting, including events which led to television as it

is today. It can be easily imagined that a complete history would take several volumes in itself. The following will yield some of the important dates in television's gigantic growth.

Most people think of television as being an idea that grew up during the nineteenth and twentieth centuries. This is not true. Several hundred years ago, even in Biblical times, people were interested in seeing beyond their "horizon." It is just within the last few decades that this has become a reality instead of a dream.

The first important experiment related in any way to radio and television was back in 640 B. C. It was noticed that amber, after rubbed, would attract some light articles. This was the first discovery of frictional electricity. The word electricity was given, because the Greeks called amber "elektron." The sunny luster of amber was the reason for the name. Thus, the first electricity was discovered. Through the years men with great minds began to explore the mysteries of electricity. In 1650, a German, Otto von Guericke, invented the first frictional electric machine--the air pump. That was the beginning! From then until 1800 many discoveries were made and great men born--Benjamin Franklin in 1706, Allesandro Volta in 1745, Samuel Morse in 1791, and Michael Faraday in 1791. Some of the discoveries were--Boyle noted that electrical attraction takes place in

a vacuum, Grey observed that electric forces could be carried about 1,000 feet using a hemp line, the electrostatic condenser or Leyden jar was discovered, Franklin proved lightening to be electricity by his kite experiment, and the voltaic cell was invented in 1794. These discoveries, plus some other less important ones, made up the background for the tremendous steps taken during the nineteenth and first half of the twentieth centuries.

In 1801 electricity was put into practical use with the display of the carbon arc light. Ohm gave us his law of resistance in 1825. The first "microphone" was made in 1827 by Charles Wheatstone of England. It was a crude device that he developed to amplify weak sounds. Another great practical development came forth in 1831 when Joseph Henry developed the first electric bell. During this period Samuel F. B. Morse had conceived the idea of the telegraph and conducted many experiments using the telegraph. In March of 1843 the Congress of the United States appropriated to Morse $30,000 to erect a telegraph line from Washington to Baltimore. It was in the same year that Morse and Alfred N. Vail originated the Morse Code, used in communication for years to come. In the next year, 1844, the first telegraph line in the world was opened between Washington and Baltimore with the famous message, "What hath God Wrought?" These "roaring forties" produced two

of the best known nineteenth century inventors, Thomas Alva Edison and Alexander Graham Bell. The years to follow were brightened by the experiments of these men.

After the "roaring forties" progress toward radio and television went by leaps and bounds. Designs were sent by telegraph as early as 1856. On August 16, 1858, President Buchanan and Queen Victoria exchanged greetings via the first trans-Atlantic cable. Communication was expanding between continents as well as locally. Men began experiments with the wireless which was to be the forerunner of communication today. In direct relation to television, the photoelectric property of selenium was discovered by Joseph May. This was later to be used in television tubes. Such great men as Fessenden, De Forest, Marconi, Hertz, Braun, and Fleming were born. The telephone was invented by Bell in 1875 and communication again jumped ahead. Sir William Crookes invented the Crookes tube and demonstrated the properties of cathode rays in 1878. This was a direct lead toward television. Paul Nipkow came into the scene in 1884 with the television scanning disc. He received a German patent on January 6 of that year. Progress was being made toward making television a reality.

Other new appliances were needed, however, before the scanning disc could be put into use. In 1890 C. Francis Jenkins began the needed search for these.

It was shortly after this, in 1895, that twenty-one year old Guglielmo Marconi amazed the world by sending and receiving the first wireless signals on his father's estate in Italy. This started an avalanche of experimentation all over the world. Marconi set a pace too fast for most and led all of the way.

Four years later, in 1899, he sent his first signal across the English Channel by wireless. Ships began to use the wireless for short distances. Companies were set up in England, the United States, and elsewhere to promote the use of wireless and to perfect it. Remember that this was still only sending signals.

In December of 1900, Professor Reginald Fessenden transmitted the first speech by wireless at Cobb Island, Virginia. He used a spark transmitter to send this speech. The wireless continued to grow and in December of 1901 Marconi and two of his assistants received the first trans-atlantic wireless signal at St. Johns, Newfoundland. The letter "s" was sent from a transmitter at Poldhu. Wireless was now secure, having saved passengers and crews from many ocean disasters and even carrying the news of the assassination of Archduke Francis, of Austria, along with other news of the outbreak of World War One.

A new strain was placed upon the scientists and experimenters in radio. The strain of war and perfecting new

developments for use in war zones and on battlefronts had arisen. It was during these pressing times that Marconi predicted a "visible telephone" by use of wireless and in August, 1915, David Sarnoff, one of our great names in radio and television, proposed the "radio music box" and outlined a system of public broadcasts. He was Assistant Traffic Manager of the Marconi Wireless Telegraph Company at the time. He repeated his recommendation in a memorandum to the Vice-President and General Manager of the Company, E. J. Nally, in September of 1916.

The first experimental radio station was opened in November of 1916 by De Forest. Election bulletins were picked up by amateurs within a two hundred mile radius. The same year, station 2XK in New Rochelle, New York, started a regular one hour broadcast of music every night except Sunday from nine until ten o'clock. It was three years later that the first attempt was made to broadcast a president's voice. President Woodrow Wilson was returning from the Paris Peace Conference aboard the U. S. S. George Washington. President Wilson made an address to the crew, but those listening from the shore could not hear his voice clearly. The same year the United States Signal Corps broadcast the first church service from Trinity Church, Washington, D. C. Also in 1919, station 8XK started private broadcasting as the pioneer station of the world. It was later to become station KDKA

and is located in Pittsburgh. In 1920 KDKA broadcast the Harding-Cox election returns and station 8MK was opened by the Detroit News. This station later became WWJ. From 1920 on, broadcasting grew like a bad weed. Some of the time it was considered to be such a weed. All types and kinds of programs were aired locally and eventually in 1922 the first network broadcast took place.

In 1923 one of the most important patents effecting television was filed. It was for the iconoscope and was filed by its inventor, Dr. V. K. Zworykin. In fact, Dr. Zworykin had a complete television system working on sixty cycles. He demonstrated a rough pattern on the face of the cathode-ray tube and also demonstrated the kinescope picture tube that was part of the system.

Both John Baird in England and C. Francis Jenkins were working on a mechanical system at the same time. These systems put into use a mechanical scanning disc and could produce only a low definition picture.

Nineteen twenty-seven showed progress in television when, in January, Philo Farnsworth filed a patent for an electronic system of television, and wire television between Washington, D. C. and New York was demonstrated by the Bell Telephone Laboratories. They also demonstrated television by radio using the same frequency for both picture and sound. The first transatlantic television appeared the next year

when Mrs. Mia Howe, in London, was seen in Hartsdale, New York. She was telecast by Baird's mechanical scanning system.

In May of 1928 station WGY in Schenectady, New York, started a regular program schedule. They had programs on the air three days each week and on September 11, 1928, they telecast the first complete dramatic program. It was a one-act melodrama called "The Queen's Messenger."[9]

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[9] Hutchinson, Op. Cit., p. 342.

At this time almost every company that manufactured electronic equipment was experimenting in the television field. All of the systems being used still employed some mechanical devices. Most of the pictures that were received were very small and quite crude. There were not more than sixty lines scanned in each picture. The cameras used for pick-ups were stationary, therefore the subject to be televised had to be brought to the camera. Nothing more than the head and shoulders of a person could be televised if an understandable picture was wanted. Obviously, such service could have little entertainment value.[10]

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[10] Lohr, Op. Cit., p. 19.

On June 27, 1929, the first color television was demonstrated by the Bell Telephone Laboratories. It was done

by use of wires from one end of a room to the other. The picture was no larger than a postage stamp. November of the same year saw Dr. Zworykin demonstrating his new kinescope or cathode-ray picture to the Institute of Radio Engineers. The meeting was held at Rochester, New York. This tube was an improvement over Braun's crude cathode-ray tube. The system used one hundred and twenty line pictures instead of the usual sixty lines.

By the close of 1931, there were five experimental stations telecasting. The five were General Electric in Schenectady, N. B. C. (R. C. A.), C. B. S., Gimbel Brothers in New York, and Don Lee in Los Angeles. All of the stations used some variation of the mechanical scanning method and a one hundred and eighty line picture. The number of lines was finally raised to two hundred and forty, but this was the highest degree of picture definition ever gained by the mechanical system.[11] The next year all of these stations

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[11] Hutchinson, Op. Cit., p. 343.

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had discontinued operations. It was obvious why their transmission stopped. The ceiling for their system had been reached.

During this period of "feeling out" with the mechanical system, experimentation with an all electronic system was in full force. The iconoscope was in its first form and

being developed rapidly by Zworykin. He already had his receiving tube, the kinescope, in working order. It had been used with mechanical scanning devices. Another man, Philo T. Farnsworth, was also working on a camera tube which he called the "image dissector."[12] During the whole of 1933 and 1934

[12] Lohr, Op. Cit., p. 22.

television was conducted mostly in the laboratories of the various companies and private individuals. The iconoscope and image dissector were developing for their future use. Their day had not yet come.

The Television Committee of the British Government in February of 1935, suggested that a short wave television system be established as a public service. They had investigated many systems and in 1936 an all-electronic system began a regular schedule of telecasting. The period of programs was not long, but it was regular. The first year the telecasts coming from Alexandra Palace in London were from nine to ten in the morning and from three to four in the afternoon. This did not include Sundays.

In the United States more expanding was taking place. R. C. A. had announced plans in 1935 to spend a million dollars on some television field tests. Different sized screens and different pick-ups were being demonstrated. The first coaxial cable between New York and Philadelphia was

opened for tests by the Bell Telephone Laboratories. The estimated cost of this line was five hundred thousand dollars. The Don Lee Broadcasting System started public exhibitions of television. On June 23, 1936, the Federal Communications Commission started to hold hearings on the future of television and ultra-short waves. R. C. A.'s million dollar test started from on top of the Empire State Building.

The year 1937 dawned with many advances in television. Some of these were the one hundred and forty-one line television by Philco, invention of the electron projection gun for scanning by Zworykin, and the appearance of the N. B. C. mobile television unit on the streets of New York for the first time. Along with continued tests and experiments in 1938, great public interest in television was aroused when David Sarnoff, the President of the Radio Corporation of America, announced that television receiving sets would go on sale to the public at the opening of the New York World's Fair, April 30, 1939.

Most writers consider the real starting point for television in the United States to be in 1939 when telecasting began in earnest. Regular schedules were started in New York by N. B. C., in Chicago by Zenith, and in Los Angeles by Don Lee. Sets went on sale to the public at the World's Fair and public demonstrations were given. The industry

that was starting out was just a child, but it was already starting to walk. It was not a one man invention. It was produced by putting together the discoveries and experiments of hundreds of men.

Finally, in July of 1941, commercial television on a 525 line basis was given the go ahead sign by the Federal Communications Commission. There were twenty-one stations licensed in the country, but not all were operating. Things went smoothly for a while and then it happened--Pearl Harbor! What would happen to television now? Hutchinson says,

> No one knew exactly how our entry into the war would effect television but they soon found out. At first the possibilities of the medium as an aid in training air raid groups and other civilian war workers was utilized, but the war soon began to make inroads in technical personnel and equipment. In January, Zenith discontinued their broadcasting operations. In June, C. B. S. reduced their program schedule to four hours per week, while Du Mont inaugurated a regular weekly service. In September, Television Productions began operations in Hollywood and two months later C. B. S. discontinued service altogether. In April of 1943 a policy of accepting commercial programs produced by advertising agencies for broadcasting was inaugurated by General Electric and in May the same policy was decided on by Du Mont.[13]

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[13] Hutchinson, Op. Cit., p. 348.

The situation was really at low ebb. Old receiving sets were wearing out, and no new ones were being built. Anything that was being produced was sent to the armed forces. The industry needed help on future plans. Finally, the Radio

Technical Planning Board was formed. They submitted their findings to the F. C. C. in 1944 and steps were taken for a cooperative broadcasting schedule. C. B. S. returned to the air and for the remainder of 1944, 1945 and 1946 programs were broadcast every night of the week by one of the three stations that was operating in New York City.

After the war was ended, television again started to grow. New cameras, new tubes, and scores of other new inventions pushed it ahead at a fantastic rate. In truth, the television age had started. Sets were manufactured in mass quantities and the American public retired to their living rooms to watch the growth of this new "toy." The public now had the wish of hundreds of years--to see beyond the horizon. But no sooner did the public get their wish until they began to appeal for color television. That called for the scientists to again pick up their tools and start experimenting. This they did and in the near future it is hoped the public will be able to sit in their arm-chairs and see the color of a beautiful sunset hundreds of miles away as easily as they could by looking out their own windows. What the future holds for television cannot be said. It can be said, however, that its future is great. No matter what slows it up or hampers it along the road, nothing can stop it or push it backwards.

II. BACKGROUND AND HISTORY OF RADIO SPORTS

Radio sports have been a popular pastime with the American people for a great many years. Many listen regularly to scheduled games and events. In fact, some of the largest radio audiences are those listening to popular sporting events. The first sport to be broadcast by radio was a boxing contest between Johnny Ray and Johnny Dundee in Pittsburgh's Motor Square Garden. The time was April 11, 1921, just five months after the Harding-Cox election returns were broadcast by the same station, KDKA. Three months later the Dempsey-Carpentier fight was broadcast by WJY with a transmitter in a railroad terminal at Hoboken, New Jersey. The bout took place in Jersey City, New Jersey, and was announced by Major J. Andrew White. These first two boxing exhibitions created such public interest that almost every starting station had some sports broadcasting in its program schedule.

On August fourth, and fifth, KDKA created two more "firsts" in sports broadcasting. Number one was the first radio broadcast of tennis. It featured the Davis Cup matches being held at the Allegheny Country Club, Sewickley, Pennsylvania. On August fifth, it was a National League baseball game being broadcast for the first time. For the baseball game, a wire joined the station with the ball park.

On October of 1921, a new station, WJZ, opened in Newark, New Jersey. It was the first station to officially open in the New York metropolitan area. Its first program contained bulletins from the World Series.

Sporting events have played an important part in the development of radio. They increased the popularity by increasing the number of listeners. Many stay-at-home fans began to depend upon radio to bring the contests to them. The invalid was pleased at the coming of these events into his living room. The first radio network broadcast with WJZ, New York and WGY, Schenectady, was the World Series on October 27, 1922. The next day, October 28, WEAF in New York broadcast the Princeton-Chicago football game from Chicago. It was the first field broadcast to use long lines. On July 12, 1923, the radio audience heard Firpo defeat Willard in a heavyweight fight broadcast from Jersey City by WEAF, New York. In the second round of a fight broadcast by WJZ on September 14, Dempsey beat Firpo. The 1923 World Series between the New York Yankees and the New York Giants was done by Graham McNamee over station WEAF. On the initial N. B. C. coast-to-coast hook-up in 1927, the football game from the Rose Bowl was heard. From 1927 until today the broadcasting of all sports has become a permanent part of program schedules all over the country. Radio has built up many of the sports and they have helped to build radio.

The first announcers for these sports broadcasts got the job because they could ad lib well. They soon found that ad libbing was not the only quality they needed. In fact, sometimes the facts of the game suffered because of the announcer's fluid description. Some special methods have been set up by the sportscaster. He now uses "spotters" to help him follow the action in basketball, hockey, football and sometimes for baseball. Along with "spotters" a "spotting board" was developed. This is a simple card or roller to enable the play-by-play announcer to get information quickly. A great deal of information must be gathered before broadcast time for most sports. It is this preparation before the game that is of prime importance. In speaking about the week before a football game, Mel Allen says,

> It's like boning for an exam, learning to associate a player's name with his number until it's almost automatic. Also in advance of the game, I'll secure offensive diagrams from the various coaches in order to tell where men are likely to play in certain situations. This is not to dismiss defensive play entirely, but the announcer, in a sense, is always on the offensive. This is natural because to the listener, advancing is the big thing. People are not too concerned with who makes the tackle until after the play is run. They are concerned with who's got the ball, where he's going, how far he went, and who blocks for him.[14]

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[14] Giraud Chester and Garnet R. Garrison, Radio and Television (New York: Appleton-Century-Crofts, Inc.), p. 347.

Some sportscasters have made a name for themselves because of their favoritism toward their home team. Generally, this is not a good quality to have. One well known example of favoritism is Rosy Rosewell who does the broadcasts of the Pittsburgh Pirates in the National League.

Most noted sportscasters agree that it is necessary to learn the terms or vocabulary of the sport to be broadcast. The listeners will be people who follow that particular sport, and they will be familiar with the popular terms and expect them to be used. In a thesis for the Pennsylvania State College, Milton Bergstein sets up a list of principles that apply to general sports broadcasting. They are:

1. The sports broadcaster must master the ability to speak quickly enough to stay apace of the action without slighting enunciation or clarity.

2. The sports broadcaster must acquire a complete vocabulary of words, expressions, and terms which are applicable to the particular sport he is broadcasting.

3. The sports broadcaster must be completely familiar with the official rules of the sports which he hopes to broadcast.

4. The sports broadcaster must realize the importance of maintaining friendly relations with school officials, coaches, and game officials.

5. The sports broadcaster must devote as much time as possible to pre-broadcast preparation.

6. The sports broadcaster must realize that his pre-broadcast preparation will depend, largely, upon the conditions under which he will be broadcasting.

7. The sports broadcaster should pass along decisions of officials with no comment as to their accuracy or fairness.[15]

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[15] Milton Jerome Bergstein, "A Study of the Techniques and Principles of Radio Broadcasting of Sports," (Unpublished Master's Thesis, The Pennsylvania State College, State College, 1950), p. 89.

Listeners usually fail to realize that the beginner in sports broadcasting has a hard road to travel. The season in most sports, especially on a local basis, is so short that he is just getting "warmed up" to the job when the schedule is finished. The next year, then, shows a drop in perfection from the last game of the season before, but the broadcaster soon gets back to the level of the year before and progresses farther on toward a better broadcast. Walter "Red" Barber, sports director of C. B. S., and broadcaster of the Brooklyn Dodger baseball games, gives a word of advice to the sportscaster: "Most mistakes come from carelessness, a momentary break in concentration. The first essential is complete concentration on your play-by-play assignment."[16]

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[16] Chester and Garrison, Op. Cit., p. 350.

A few points to remember in sports broadcasting might be outlined. One of the important things the announcer has to be vital. Do not let the interest lag at any

time during the contest. Even when the game is running at a slow pace, the sportscaster must be peppy and full of interest, expecting the action to start again any second. The announcer must be specific! This means do not dress up the action to be what it is not. In sports broadcasting the listener can always pick out a phony. It is only fair to the listener to give him a true picture of the action. If the sports announcer is really interested in the sport he is broadcasting, he should have little trouble keeping interest in his voice. The interest will be there without any forcing or falsifying. All sports should be exciting to the listener at home. The fact that the unexpected may happen at any time during the contest helps to create this excitement. It must be shown in the announcer's voice too. He is the reporter of the event and should try to bring it to the audience so they picture themselves watching the event. It is not the sports announcer who is the star of the broadcast, but the sport itself.

The broadcasting of sports has emerged in the middle of the twentieth century as a big business. Its growth and popularity have been tremendous since its beginning at KDKA in 1921. Almost every conceivable sport has been broadcast at one time or another and the advertising rights for major sport broadcasts have been in the hundreds of thousands of dollars. It can actually be said that as far as radio goes, sport's the thing.

III. BACKGROUND AND HISTORY OF TELEVISION SPORTS

In television, sports usually come under the heading of news or special events. They are considered to be one of the best drawing cards that television holds. When television opened its regular program service in April of 1939, it was faced with a great problem. The new medium was here and the public was ready to accept it, but what type of programs would be aired to fill up the schedule? One of the solutions was the telecasting of sports. Just twenty days after the opening of the World's Fair and the opening of regular television schedules, the first sport was telecast. This was on May 17, 1939 and was telecast by N. B. C. The sport was the great American game of baseball between Columbia and Princeton. It was a ten inning game and Princeton defeated Columbia, the final score being two to one. This first sportscast used the television cameras for two hours and fifteen minutes, and only one camera was used at Baker Field. After the game got under way, it was realized that one camera could never cover all of the action in a baseball game. During this game the players looked like white dots moving around on the television screen. The players could not be identified and the viewers could not tell the difference between the two teams. The ball could only be seen on plays in the infield such as bunts close to

the camera. It was the announcer who saved the telecast from being a complete flop. He had to describe the action and name each player. The umpire was heard most of the time, but the announcer repeated the balls and strikes so that the audience was certain to hear them. It was found that even when the eye sees what is going on in the game, it needs some added description to make the picture complete. Not everyone who views the game is a regular fan. They do not know the terms used to describe the action or how certain plays work. These can be explained by the announcer. The general public does not know the statistics on each individual player so the announcer can supply this information. All of these points were handled very well by the announcer in the first telecast of baseball. He made the telecast a success.

Just three days later, on May 20, 1939, N. B. C. landed another television first when they telecast the six-day bicycle race at Madison Square Garden. For this television broadcast, N. B. C. used regular telephone cable pairs for the local pick-up from the "Gardens."

It must be remembered that during this time England was busy too. They had been offering a regular program schedule since 1936. Many types of programs had been viewed by the public in Great Britian. On May 24, 1939, they added sports to their list of programswhen they televised the English Derby. The telecast was sent to theatres in London

who produced the image on a screen fifteen by twenty feet. The admission price was $2.50 and each theatre was packed with viewers. If the theatre wished to re-broadcast the telecast, the rights cost $1250 for each theatre. This telecast was so successful that the British Broadcasting Corporation introduced sports quite regularly on their programs. The next two to be telecast were tennis and the Oxford-Cambridge boat races. The reader must remember, however, that the British system for television, just like their radio system, is not a commercial system of free enterprise like in the United States. The British Broadcasting Corporation is the only organization that has the right to broadcast or televise anything at all other than experimentally. The revenue for support of this system is by a tax, rather than the commercial system used in the United States.

Back in the United States, N. B. C.'s parade of firsts in sports television was still growing. On June 1, 1939, the noted fight commentator, Sam Taub, through the facilities of N. B. C. television authorized by fight promoter, Max Jacobs, brought to the video public the first prize fight to be telecast. Two California heavyweights, Max Baer and Lou Nova, battled through eleven fast rounds; Nova emerged the victor. Max Baer left the ring at Yankee Stadium beaten and battered from the event. Only one camera

was used for the telecast. This camera, though, was enough to enable the viewers to feel they were sitting in a ringside seat. Dunlap describes it as:

> . . . the camera had not yet gained the sensitivity that showed puffed lips, a reddening nose, swelling eyes, lacerations and bruises. The rawness of pugilism was missing, but television showed sagging legs, tiring arms, swings that missed, and slams that hit the target. An extra camera or two for close-ups from different angles was all that was needed as a touch of perfection.[17]

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[17] Dunlap, Op. Cit., p. 140.

One week after the Rove-Baer fight telecast, the R. C. A. Laboratories introduced something new in television that was to make a great improvement in sports telecasting. The new discovery was the improved camera called the "Orthicon." This camera gave clarity and depth to the pictures. It was about four times as sensitive to light as the iconoscope camera. Outdoor pick-ups were improved by more than one hundred per cent. At the same time the lenses on the existing cameras were revamped and closeup shots were now able to be taken from the regular shot distance. Both of these improvements aided in bettering the television broadcasts of sports.

During this same period, the Columbia Broadcasting System, with their large studios in the Grand Central Terminal was experimenting with boxing telecasts. They set up an

scene in their studios and used fluorescent lights for illumination. The results were very good. They had set up an experimental studio in which everything could be controlled but the action of the fighters. Lighting could be kept at a certain level, the cameras could move any way that seemed best, and even the audience was controlled. The camera shots held a great deal more interest because of the mobility of the cameras. Closer shots could be obtained without having to move rows of high priced seats. These experiments were so successful that the possibility of holding boxing contests in studios seemed very feasible. The reason that stopped this, of course, was the larger crowds wanted by the promoter.

After the many camera improvements had been completed, N. B. C.'s mobile unit again went to a baseball game. This time it was a big-league ball game between the Brooklyn Dodgers and the Cincinnati Reds at Ebbets Field. The game was on August 26, 1939. A new type lens and two cameras were used. This time the players could be seen and recognised. The ball could be followed no matter whether it was a pitch, line drive, or a slow roller to the pitcher. The viewer, watching in his living room, had a better picture of the ball game than the two dollar and forty cent seat. He had a much more intimate picture of the whole contest.

The first football game was telecast by N. B. C. on September 30, 1939. This ran N. B. C.'s list of firsts in

television sports to five. The contest was between Fordham and Waynesburg at Randall's Island Stadium in New York City. The telecast of this gridiron engagement started an avalanche of football games in the next few years until now, during the football season, almost every station carries a Saturday afternoon game. N. B. C. found football to be even a little easier than baseball to televise. The ball moves more slowly than the baseball and is larger, thus, easier to follow with the camera. Since the football does move slower, a close-up shot can also be obtained more easily. The first football telecast used two cameras. One was placed on the forty yard line and the other was on the rim of the stadium for long, overall shots. This system covered the field fairly well. Naturally, the more cameras there are, the better the telecast will be. This is up to a certain number, of course.

The fact is realized that, if teams are going to be televised, they will have to adjust their uniforms for the television viewer, until color television is brought into the picture. The camera makes only a slight difference between colors. Blue, black, and brown look the same to the viewer, as do red, maroon and orange. Perhaps jerseys could be in checks or stripes or even black and white. Any wide difference in shading or design would be sufficient to help the audience differentiate between the two teams.

The next sport to be telecast was hockey. A game between the Rangers and the Canadiens was presented on February 25, 1940, from the Madison Square Garden. In the hockey telecast, the cameramen really got a workout. The puck moved so quickly along the ice that the full attention was required of the cameramen at all times. Often it was even a strenuous physical job to keep the cameras moving. The wide-angle lens was used almost all of the time. Things moved too rapidly for a close-up lens to pick up much. The only chance for using a close-up lens in the first telecast, was during plays close to the goal. Even with many difficulties, hockey was a well received addition to the television sports parade.

Three nights later, on February 28, 1940, the first telecast of basketball was sent to the receiving sets in the New York area. Two games from Madison Square Garden, Pittsburgh vs. Fordham, and the New York University vs. Georgetown were televised. This sport was considered by some to be the ideal television sport. The area is limited and this makes it easy for the camera to follow the action. The way the game is set up, moving from one end of the floor to the other, also helps the television camera. For many of the early telecasts of basketball, only one camera was used to cover the action. This was sufficient. Other cameras have been brought to the court, however, to add some variety

in angle and in distance. Most basketball today is played at a fairly fast pace and this keeps the interest of the viewer. The players can easily be picked out by the numbers and followed throughout the action. Hutchinson says that in the televising of basketball, "the play is easy to comprehend, you see why the stars are stars."[18]

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[18] Hutchinson, Op. Cit., p. 202.

The televising of track was the next sport on the parade of telecast sports. As with many of the other sports telecast, Madison Square Garden again was the scene of the event. It was the Intercollegiate track meet on the second of March, 1940. Only one camera was used in the pickup, but it did a remarkable job of following around the track. It was placed in the center on one side of the arena. From this point it was possible to follow almost every event with the one camera. Later more cameras were used with better results for the final picture.

Shortly after this period (the exact date is not known) wrestling started to be televised. About the televising of wrestling, Hutchinson says:

> So far, television has been of advantage to promoters. For instance, many people have never seen a wrestling match. They may have seen part of a bout at their motion picture theatre in the newsreel, and that about ended their experience. The possibility of putting wrestling on television came at a

> time when we were racking our brains in a vain endeavor to determine what to do with the mobile unit crew on Monday night. Out of the blue came the suggestion, 'Why not wrestling?' In an endeavor to answer this query, we contacted the powers that be and found that it was entirely possible. The promoter was agreeable at a price within our budget. Power for the mobile unit was available, they even agreed to let us raise the light level in the ring, if necessary, to get a good picture. And wrestling went on television.[19]

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[19] Ibid., p. 201.

Wrestling is considered to be the best example of television helping the promoter. Since it has been telecast, people have flocked to see the actual matches. Interviews between contests show that the majority of the people who go to see wrestling have seen it on television in some part of the country. It is perhaps the ideal sport for television. The ring is small, about sixteen feet square. The lighting is sufficient for an excellent telecast. The rest of the auditorium is not lit so that the focus is on the ring. The two contestants are almost always in close contact with each other. All of these factors add up to a sport that has become increasingly popular because of its being broadcast on television and, in turn, has helped to build television audiences. It has been remarked over and over again that wrestling is one of the best "acting" shows on television. This might be true, but the televiewers enjoy it.

With the coming of the Second World War in 1941, sports telecasting suffered along with the rest of the television programs. Very little was done throughout the war in any branch of television. Sports telecasting, however, had gotten the start that it needed to insure itself a berth in the post war program schedules.

The first important telecast of any post war sport was the Army-Navy football game in Philadelphia. It was telecast by WNBT in New York on December 1, 1945. The connection between Philadelphia and New York was a coaxial cable.[20] The following June 19, the heavyweight championship bout between Joe Louis and Billy Conn was televised from Yankee Stadium by N. B. C. Louis won by a knockout in the eighth round. The telecast was also seen in Washington, D. C., via coaxial cable.

[20] This was the first time a 525-line picture was used commercially. See Appendix.

In January, 1947, the National Broadcasting Company signed a contract with the New York Giants for the telecasting of their home games in 1947. This was the first step toward regular television of baseball which was to result in fifteen of the sixteen major league teams' home games being televised. The one club which is not televised at the present is the Pittsburgh Pirates in the National League.

In 1950, the World Series between the New York Yankees and the Philadelphia Phillies was telecast to an estimated audience of thirty-eight million viewers. There was a seventy-seven station network telecasting the games as far west as Omaha, Nebraska. The advertising rights were sold for eight hundred thousand dollars.

Since most sports telecasts are handled by the mobile unit crew, it might be well to describe this phase of telecasting. The first mobile broadcast was in 1939. In reality, the first regularly scheduled television series was done at the Worlds Fair in 1939 with this mobile unit. At that time the mobile equipment was carried in two large trucks or vans. They were quite large and bulky, but they served their purpose. The first truck contained the pick-up and control equipment while the second held the transmitting equipment. The combined weight of the trucks was around ten tons. The two trucks, when on location, were connected at the control truck by a cable. At first, it was necessary to find a power supply nearby for each telecast, but later a portable power supply was carried along. This type of mobile equipment was used for about three years, before it was replaced by portable equipment. This portable equipment was known as "suitcase" gear. It was packed in twelve cases, each containing slightly over one hundred pounds. In using the portable equipment, a control room was

selected, and from there the cables were run to the cameras. With this new equipment the remote men from N. B. C. had progressed from two programs per week to eight or ten per week in 1946.

It is necessary in any remote broadcast to utilize approximately twenty-two people. The necessary personnel are as follows: a director, supervising engineer, two video engineers, one audio engineer, three cameramen, three assistant cameramen, and two transmitter engineers. This is the total at the scene of the telecast. The other six are needed at the station and transmitter. Four engineers are necessary at the station and the other two at the transmitter.

Before the telecast is to take place a survey must be made by the program producer and the supervising engineer. Each will be interested in finding out certain things. The engineer will check the following:

1. The power supply
2. Location for the control room
3. Location for the antenna
4. Placement of cable lines
5. Test of transmission
6. Equipment required[21]

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[21] John P. Royal, Television Production Problems (New York, Toronto, London: McGraw-Hill Book Company, Inc., 1946), pp. 129-130.

The program director will check on the following:

1. Subject to be telecast
2. Camera locations
3. Lenses to be used
4. Continuity of telecast
5. Possible changes[22]

[22] Ibid., pp. 130-131.

When all of the items listed have been taken care of, the telecast is ready to be sent to the multitude of television screens in the viewing audience.

Today the mobile crew has a standard job of broadcasting all major sports, news, and public interest events. They have been doing a tremendous job with the equipment they have and continue to improve as the equipment improves.

Today almost all sports are being telecast as standard programs from the television stations. Such telecasts as major league baseball, professional and college football, basketball, boxing, wrestling, hockey, horse races, track, tennis and many others are viewed with the same enthusiasm in the home as at the event itself.

IV. STATEMENT OF THE PROBLEM

The growth of sports television today has opened the door of opportunity to countless people. Although still in its infancy, television is unlimited in its horizon. It has tremendous possibilities for the future. As an entertainment medium, it will carry the world of sports into the

home of countless people. However, television will need an increasing number of properly trained and experienced workers who can grow with and contribute to this new realm of sports. How can one go about getting into this field? How can one equip himself for this training? The answers depend a great deal upon his background, his interest, and his desire to learn about the ways and methods used in televising sports.

The problem of this study, then, is to collect and compile information from a survey of the various ways sports telecasts are being done and the many methods used in the telecasts. It would be impossible to set up a list of rules and regulations for the accepted way of televising sports because there are so many different methods used. Rather than this, it is the writer's desire to set up a guide of ride to the newcomer in the field of televising sporting events. With this guide the interested person can quickly and easily find what has been done and what is presently being done in the telecasting of sports. It will show him the plans and methods that are being used and help him to better his own ideas on how to telecast sports. Often people have to start into new fields blindfolded, without having the background and information necessary to begin correctly. The purpose of this study is to help avoid some of these pitfalls.

CHAPTER II

DEVELOPMENT OF THE RESEARCH TECHNIQUE

Introduction. In order to facilitate the gathering of information to be used in this study, a questionnaire was set up. The purpose of this questionnaire was to uncover some of the different methods used by telecasters today. It assembles information on many different sports and attempts to find out how much telecasting, both live and network, is done by the various stations throughout the country. The questionnaire endeavors to bring to light the background on each sport, that is, how many hours of preparation are spent by the telecaster and staff before the finished product can be brought to the viewer. Also included in this is what this preparation consists of such as general statements from each telecaster or director about the preparation that he does. Techniques and methods used by the various sportscasters are contained in the information revealed by the questionnaire. For instance, the extent to which the action is described such as during pauses or timeouts, during lulls in action, all during the event, and never during the event. The telecasters are asked what is done with cameras and what is talked about during half time, time outs and in between matches. They are asked what their subject of conversation is when there is no action taking place in the sport. They

are questioned [illegible] bridge to the fans. [illegible] questionnaire [illegible] are [illegible]

[illegible]

[illegible]

[illegible] 19[illegible]

[illegible]

[illegible] fill in [illegible] questionnaire [illegible] and return it to me as soon as possible at the above [illegible].

As you can see, your cooperation [illegible] is quite necessary for its completion and [illegible] appreciated.

[illegible],

Louis [illegible]. [illegible]

This questionnaire is an attempt to assemble information on techniques of sports telecasting. Please fill in each

blank as accurately and completely as you can. Any additional information that you feel might be of assistance can be placed on the back of the sheets.

(Please PRINT or TYPE all information)

1. What are the call letters of the station? ____________
2. Where is the station located? ____________
3. Who is filling out the questionnaire? ____________
4. What is this person's position? ____________
5. Does the station do live sports telecasting? ____________
6. If so, how much time per week is devoted to sports? ½, ⅔, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
(Circle the number of hours per week)
7. What sports are telecast live by a staff from your station? (Check [illegible] are telecast)
Football ________ Boxing ________ ________
Baseball ________ Wrestling ________ ________
Basketball ________ ________ ________
(Fill in any others that are telecast)
8. How many hours [illegible] are devoted to sports telecasting? (Any [illegible]) ____________

The rest of the questions are only for stations who do live telecasts, but comments from others would be gratefully accepted.

9. Approximately how many hours are used in pre-program preparation by the telecaster for each of these sports? (Please circle the number of hours)
Football....0 1 2 3 4 5 6 7 8 9 10 If more, how many____
Baseball....0 1 2 3 4 5 6 7 8 9 10 If more, how many____
Basketball..0 1 2 3 4 5 6 7 8 9 10 If more, how many____
Boxing......0 1 2 3 4 5 6 7 8 9 10 If more, how many____
Wrestling...0 1 2 3 4 5 6 7 8 9 10 If more, how many____
________0 1 2 3 4 5 6 7 8 9 10 If more, how many____
________0 1 2 3 4 5 6 7 8 9 10 If more, how many____
10. Of what does this [illegible] preparation consist? (Please give a short description of what is done and covered by this preparation) ____________
____
____
____
(Use back of sheet for [illegible] comments)
11. To what extent do you [illegible] taking place? (Check [illegible] one or more)
Only during [illegible] out: ____________
Only during a lull in action ____________
All during the event ____________
Never during the event ____________
____

12. What do you talk about when there is no action taking place? _____

13. If you use spotters, how do they keep up with the play? Do they use spotting boards? If so, what type? Pin? Slot? _____

14. Do the cameras ever show the telecaster? _____
If so, when? (Check the time or times)
Before game or match_____ During game or match____
During time outs _____ Between plays_____
After game or match_____ Between matches_____
During half or quarter time____

15. What do you do with the cameras during half time, time out, or between matches? _____

16. What do you talk about during this half time, time out, or between matches? _____

17. Do you ever interview participants either before or after game time? (This means using the camera)_____

18. Do you direct the camera pickup or is there another director? _____
If there is another director, how does he help you make a better telecast?_____

19. Do you usually interview coaches or officials before game time? _____ If so, what information do you desire? _____

20. How many cameras are used for each sport? (Circle the number)

Football	1 2 3 4 5 6	Boxing	1 2 3 4 5 6
Baseball	1 2 3 4 5 6	Wrestling	1 2 3 4 5 6
Basketball	1 2 3 4 5 6	_____	1 2 3 4 5 6
_____	1 2 3 4 5 6	_____	1 2 3 4 5 6

21. Are there favorable or unfavorable comments on doing radio and television at the same time, by the same man? (Simulcast)

22. What, would you say, are the main differences between sports broadcasting for radio and telecasting?

23. Do you have any other comments which you think would be valuable to a person going into this field?

24. Please give the names of your staff doing sports.

The following note was included with the follow-up questionnaires:

> This is a follow-up questionnaire of one originally sent to you. Perhaps the first one was misplaced or overlooked. I would appreciate it greatly if you would fill this one in and return it to me immediately so that it can be included with the returns from other stations.

I. SETTING UP THE QUESTIONNAIRE

In setting up the sports questionnaire, the first point taken into consideration was the length. It has been found that a questionnaire that is too long will not be returned. This was taken into consideration and two pages was

decided to be the length used. The questionnaire was prepared on eight and one-half inch by fourteen inch paper.

The next step was to become familiar with the many terms used in television and how it actually worked. A few of these many terms can be found in the Appendix. Naturally there are many other terms used by the various television stations that could be included in this study, but the number would be too great. It would practically take a seperate study to include them all. The ones mentioned in the Appendix seem to be the most important ones. These definitions are especially essential to the person who is interested in sports or special event telecasting.

The third step taken by the writer in creating the questionnaire was to decide what questions to ask. The type of questions and the questions themselves had to be settled upon. After much thought and investigation had been completed, it seemed best to include both general and specific questions. In the specific questions facts would be directly obtained while the general method of questioning would bring out some of the ideas of the telecaster which could not be gathered in any other way. The first few questions were very specific. They classified the questionnaire. They asked for the call letters of the station, where it was located, who was filling out the questionnaire, and the position that this person holds. All of these points are significant in

classifying the questions that have been answered. The fifth question asked if the station did live sports telecasting. If so, all of the questions would probably be answered. If not, the person would answer through question eight, but he was permitted to answer any other question from knowledge or previous experience.

Question number six asks how many hours per week are devoted to these live sports. To make it easier for the person answering and the interpreter, numbers were placed to circle for the number of hours. The next question, number seven, is a natural follow-up of question six. It asks what sports are telecast live from the station. This includes a listing of the five major sports that are seen by the viewer and blanks for any other sport that might be included. As can be seen from the questionnaire, the five major sports are football, baseball, basketball, boxing, and wrestling. A few of the others that might be included are track, hockey, tennis, golf, softball, racing (horse and auto) and swimming. In fact, almost every known sport has been televised by one or more television stations at some time.

So far the questionnaire has the information on how many stations are doing live sportscasting and what sports are included. Number eight asks how many hours a week are designated to any sports program (eg.--network, sports news). This will include a variety of shows, most of them fifteen

minute productions. After question number eight, only stations who do actual live telecasts were to answer. The rest of these questions were dealing specifically with live telecasts of the various sports.

Perhaps one of the most important items is often overlooked by the individual who listens to radio sports or watches a telecast of his favorite sport. This is the work that is necessary before the program can become a reality. The broadcaster or telecaster spends the majority of his time at this. A football telecast which only takes between an hour and two hours to produce may have had as many as twenty or thirty hours of work behind it. Questions nine and ten cover this pre-game work. Number nine asks how many hours of pre-game preparation are used for each sport. Blanks are included for sports other than the five major ones. Number ten asks for a short description of what is done and covered by this preparation. In this manner, each individual telecaster is given a chance to list the steps he takes in preparing for a sport and the information that he is interested in finding out. This is the general type of question that was talked about before in this chapter.

What does the questionnaire want to find out now? What is important in the technique of the many announcers? On what do they differ greatly? The answer to this is when they talk, how much they talk, and what they talk about.

This is probably the main substance of any technique, per se. The next section of questions, then, will cover this problem. Number eleven asks to what extent is the action taking place described? It lists four possible times as being: only during pauses or time outs, only during a lull in the action, all during the event, or never during the event. The person answering the questionnaire is asked to check the times when he describes action. Number twelve follows up eleven by asking what is talked about when there is no action taking place. Later in the questions, speech during other periods is covered.

The next point to be covered was how the sports announcer on television keeps up on the play or action. The majority must use spotters. Do they use spotting boards? How do they keep the announcer informed? Question thirteen asks these questions plus what type of spotting board is used--pin, slot, roll, etcetera.[1]

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[1] These terms are explained in Chapter Three.

How many of the productions of sports show the telecaster on the screen? Fourteen asks this and also when, if at all, the telecaster is picked up by the camera. The times listed to be checked are: before the game or match, during time outs, after game or match, during half or quarter time, during game or match, between plays, and between matches.

These are the only times the telecaster might be shown during a sporting event.

The person interested in telecasting will want to know what is being done with the cameras all of this time. The section starting with fifteen concerns the use of the camera both directly and indirectly. Fifteen asks what is done with the camera during half time, time outs, or between matches. Naturally with this question, as with most of the others, the expected answers were kept in mind when writing the question. Such answers as interviews, commercials, crowd shots, etc. were expected. Following up the idea of these periods of time, sixteen is "What do you talk about during this half time, time out, or between matches?" Then, since interviews are expected to be given by some as the use of this time, seventeen goes on to find out whether or not participants are ever interviewed either before or after game time. This refers to an interview before the cameras.

Another point to be considered is who does the directing. Some of the sportscasters direct their own shows while others have a station director doing the job. The latter is probably preferable in most cases. The play-by-play man has enough to do watching his information and the players. He cannot pick up all of the little things from a monitor screen. Eighteen, then, asks who directs the camera pickup and if there is another director, what does he do to help make a

better telecast. How about last minute changes in line-ups or the feeling of a coach or official before the contest begins. Is this important? Question nineteen is, "Do you usually interview coaches or officials before game time?" "If so, what information do you desire?"

Going back to the cameras again, the question arises as to how many cameras to use for a specific sport. This will probably vary with each individual sport. When sports telecasting first started only one camera was used. After the first few telecasts, it was realized that one camera could not cover any sport adequately. Today the average number of cameras is from two to five, somewhere in between. Twenty questions the number of cameras used for each sport. The five major sports are listed and blanks are left open for any others.

Some television stations have tried doing simulcasts. A simulcast is when the play-by-play is carried both by radio and television. It is the same man doing the broadcast and the telecast. Some simulcasts have been favorable and others unfavorable. To find out what the general opinion on these is, question twenty-one was included.

Everyone knows that there are a great many differences between radio and television. However, it should be of some value to find out what the men in the field think. What do the sportscasters believe the main differences are between

radio broadcasting of sports and televising them? These differences should probably be emphasized in the training of a person for telecasting of sports. This is covered by question twenty-two.

In the twenty-third question the television sports announcers are given a chance to unburden themselves. Most people in a job or field have a great many suggestions to give to someone who wants to go into this field. A collection of these suggestions and ideas would be valuable to anyone who wants to take up this line of work. That is what has been done in question twenty-three. The telecasters have been asked if they have any comments which they think might be valuable to a person going into the field of sports telecasting.

Thus the questionnaire, after revisions, was sent out. Copies were mimeographed and signed by the writer. A short letter was included at the beginning of each questionnaire to introduce it to the reader.

II. THE MAILING LIST

It was now time to send out the questionnaires. The complete list of stations (both radio and television) is given in the Broadcasting and Telecasting Yearbook. The 1951 edition of this magazine was obtained and the call letters of the stations listed. Along with the listing of

stations is included the address of each station and the different directors. This information was gathered for the mailing list. If the station had a sports director listed, the questionnaire was sent to that person. If there was no sports director, they were sent to the special events director. If neither of these were listed, it was mailed to the program director. The questionnaires were sent to all one hundred and seven television stations operating in 1951. Twenty-five additional questionnaires with short notes attached were sent later to some of the stations that did not return a questionnaire in the first group. From the first group, thirty-nine were returned. This is probably the majority of those doing live telecasting of sports. The additional twenty-five were sent to stations that had a sports or special events director listed. A note was attached saying that perhaps the first questionnaire was overlooked or misplaced and if this one was returned immediately, it would be included with the returns from other stations when tabulating the results.

Thus the questionnaires were completed, the mailing list drawn up, and follow-up questionnaires sent out. The results that will be covered in the next chapter began to come by return mail. The complete mailing list can be found in the Appendix. The preliminary work was completed and the final step was putting the results into a readable form.

CHAPTER III

RESULTS OF THE QUESTIONNAIRE

This chapter on the results of the sports telecasting questionnaire will be divided into three sections. The first division will be the introduction to sports telecasting and the introductory work performed by the sportcaster or the station. The second section will be on the actual telecast itself. This includes all that is done by the sportcaster during the telecast of the event. The third division will contain general information about the station, the sportcaster and the field of sports telecasting.

I. INTRODUCTION TO SPORTS TELECASTING

As stated in Chapter II, two groups of questionnaires were sent to television stations in the United States. The first group included all one hundred and seven stations doing telecasting at the time of this writing (June, 1951). From this group, or Group A as it shall be called, the returns numbered thirty-nine. This was a thirty-six per cent return. Group B, the second group sent out, included twenty-five questionnaires to stations that had not answered the first group. Only four questionnaires were returned. This meant a sixteen per cent return for Group B. The total number of stations, then, was one hundred and seven. From this one

hundred and seven, a total of forty-three questionnaires were returned. This can be seen in Table I. It gave a total of forty per cent for all of the returns. From the forty-three television stations reporting, thirty-one stated that they do some live sports telecasting. By this live telecasting is meant a sports program directly originating from the station. It does not include any network sports telecasting. Two other stations stated that they weren't doing any live telecasting at the present time, but they had done some in the past. A list of the stations doing live sports telecasting can be found in the Appendix. The percentage of stations doing live telecasting is seventy-two per cent. This means that almost three fourths of the stations do live sports. Of course, some of the stations have network sports shows and other sports shows that are not actual live telecasts of the sporting events as defined. In fact, only six of the stations reporting stated that they had no sports at all in their program schedule. Probably most of these also have sports but neglected to complete the questionnaire. The total number of hours per week as reported by the thirty-eight stations carrying varying amounts of sports, was two hundred and twenty-four hours and twenty minutes. This can be found in Table II. This averages out to six hours and fourteen minutes for each station. Naturally the live telecasting originating at the station is only a small fraction of all the sports telecasting

TABLE I

SUMMARY OF THE QUESTIONNAIRES SENT TO TELEVISION STATIONS

Group A

Stations Receiving Questionnaires	Returns	% Returns
107	39	36

Group B

Stations Receiving Follow-up Questionnaires	Returns	% Returns
25	4	16

Total Groups

Total Stations Receiving Questionnaires	Total Returns	Total % Returns
107	43	40

NUMBER OF HOURS OF SPORTS TELECASTING FROM TELEVISION STATIONS

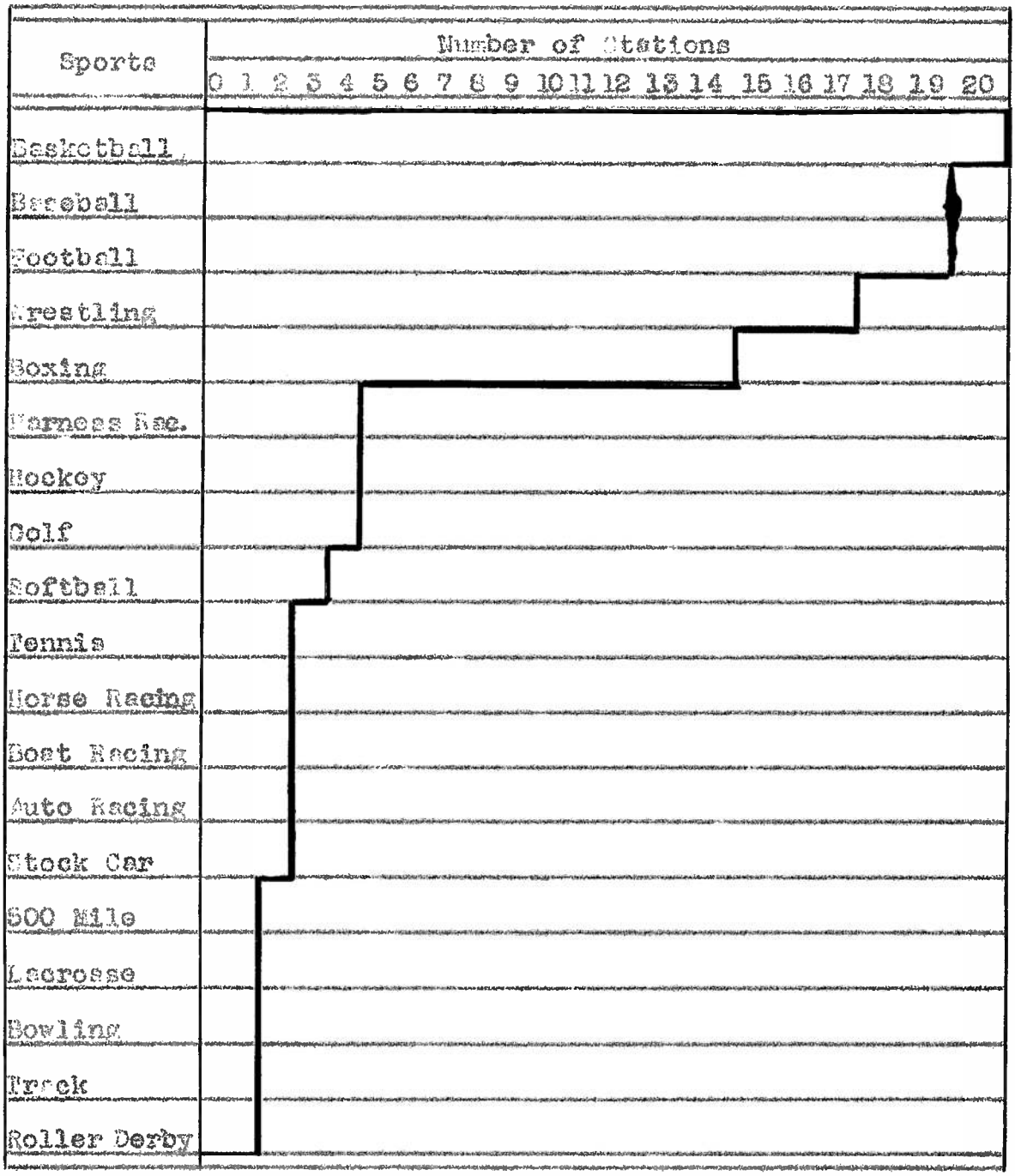
Station	No. Hours Sports	No. Hours Live Sports	% of Live Sports
WBRC-TV	7.5	5	66.7
WJZ-TV	7	7	100
WATV	12	13	100
KMTV	8	8	62.5
WHDH-TV	1	0	
WTOP-TV	3	0	
WSTP-TV	.5	.5	100
WCPO-TV	10	10	100
WSAZ-TV	7	6	86
KPTV	4.5	3	66.7
WBNG	10	10	100
WPZM	3.5	3.5	100
WTCN-TV	3.5	1	28.6
KSYI-TV	4	4	100
WBAP-TV	23	23	100
WAAM	11	11	100
WTPD	1	1	100
WXYZ-TV	14	10	71
WKY-TV	7	6	86
WDAF-TV	1.00	Not regular	
WOI-TV	1.08	Not regular	
WBAL-TV		Not regular	
WTTV	13	13	100
KRLD-TV	5.5	3.5	64
KPRC-TV	6	6	100
WPTA-TV	3	2	66.7
WCBS-TV	3	2	66.7
WAVE-TV	7.16	6	84
WOR-TV	20	20	100
WMAR-TV	13	2	15
WPIL-TV	Varies	Varies	
WJAC-TV	6.5		
KOTV	3		
WTMB	.25		
WFMY-TV	2		
WMBR-TV	1.25		
WNBF-TV	.58		
WOW	.42		

being done. This is so mainly because of the many network telecasts of sporting events. These telecasts are then sent to the various stations under the wing of the network. Besides network telecasts there are numerous five, ten and fifteen minute sporting news shows from the stations which help to make more sports time. Twenty-five stations, however, reported a regular number of hours for live sports telecasting. This can be found in Table III. The total number of hours given was one hundred and eighty-two hours and thirty minutes. This makes an average of seven hours and eighteen minutes of live sports telecasting for each station doing live telecasts. Several stations reported doing live telecasting but said that their schedules varied too much to give an average number of hours.

Many sports are being telecast by the stations today. As was mentioned in Chapter I, almost every sport thought of by man either has been or is being telecast. From the questionnaire it was found that nineteen sports are being telecast at the present time. Table III shows this. These nineteen sports are: football, baseball, basketball, boxing, wrestling, roller derby, golf, stock car races, hockey, harness racing, auto racing, boat racing, five hundred mile race, softball, track, bowling, horse racing, tennis and lacrosse. Of these sports, basketball is the most popular. It is telecast by twenty stations. Football and baseball

TABLE III

NUMBER OF TELEVISION STATIONS ORIGINATING SPORTS TELECASTS



held second place, being telecast by nineteen stations. Wrestling is reported by seventeen stations and boxing by fourteen. The other sports that are telecast range from four stations down to one station for five of them.

Chapter I states that before the telecast begins necessary steps of preparation must be taken. One of these steps is to decide upon the equipment required for the telecast. This includes the number of cameras to be used. The questionnaire returns gave reports of cameras used for fifteen of the nineteen sports. Table IV shows the camera listings. They ranged from one camera to a maximum of six cameras. One station said that they only used two cameras because they only had two! Four stations reported the use of only one camera. Oddly enough, these four stations used the one camera on four different sports--football, basketball, boxing and wrestling. The general opinion, however, seems to be that one camera does not give an interesting and varied telecast for any sport. About this Dunlap says, "Immediately it was apparent that a lone lens could not cover baseball's scattered action and acreage. The players looked like 'white flies' scampering across the screen."[1] Even when an improved

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[1] Orrin E. Dunlap, Jr., The Future of Television (New York and London: Harper and Brothers Publishers, 1942), p. 142.

---

camera was used, different shots could not be obtained. For

TABLE IV

NUMBER OF CAMERAS USED BY TELEVISION STATIONS FOR THE SPORTS TELECAST

Sport	Number of Cameras				
	1	2	3	4	Average
Football	1*	12	7	4	3
Basketball	1	20	3	0	2
Baseball**	0	10	9	1	3
Boxing	1	15	2	0	2
Wrestling	1	16	1	0	2
Roller Derby	0	0	1	0	3
Stock Car	0	1	1	0	3
Hockey	0	3	0	0	2
Harness Rac.	0	3	1	0	2
Auto Racing	0	1	1	0	3
Boat Racing	0	1	0	0	2
500 Mile	0	0	1	0	3
Golf***	0	2	1	1	3
Tennis	0	1	1	0	3
Horse Racing	0	2	0	0	2

* Number of stations placed in the blocks.
** One station reported using 5 cameras.
*** One station reported using 6 cameras.

mobility, either two or three cameras are needed. If a picture is not picked up well by one camera, a closer camera is a definite advantage to the viewer. The objective is, essentially, to please the viewer; therefore, two or three cameras are usually used.

The six cameras were used by one station for the telecasting of golf. The average number of cameras used for each sport are: football--three; baseball--three; basketball--two; boxing--two; wrestling--two; roller derby--three; stock car races--three; hockey--two; harness racing--two; auto racing--three; boat racing--two; five hundred mile race--three; golf--three; tennis--three; horse racing--two. It can be seen that either two or three cameras are needed for the successful sports telecast. More can be used but are not essential.

Along with the technical preparation necessary before a successful telecast of any sport, goes the preparation that the sportscaster himself must make. This preparation usually consumes more time than the telecast itself. Bud Sherman, sportscaster for station WBAP-TV in Fort Worth, Texas, says the most important step to be taken by the telecaster is to, "Prepare, Prepare, Prepare!!!"

Some of the preparation that is needed does not come just before the match. It is needed before any person attempts to start in either the broadcasting or telecasting of sports. One qualification is the vocabulary of the

particular sport being telecast. This includes words, expressions and terms. The sportscaster must be able to use the language of the sport he is telecasting. Audiences today have come to accept this and to expect it. Another requisite is for the telecaster to be familiar with the rules of any of the sports he expects to telecast. He cannot carry a rule book with him to the event and expect to take time to look up every infraction that occurs. These two are the most important general prerequisites for a person who expects to do any sports telecasting at all.

The pre-game preparation discussed in this chapter, however, will be the specific preparation that takes place a short time before the actual telecast. It is the time taken to gather all sorts of information for the telecast. Primarily, it refers to the time spent by the telecaster or his staff and includes a wide variety of information. The time spent on this preparation varies greatly with each sport and each telecaster. The range is from fifteen minutes to thirty hours. The detailed number of hours can be found in Table V. The average amount of preparation for each sport reported is as follows: football--eight and one-half hours; baseball--four and one-half hours; basketball--four and one-half hours; boxing--two hours; wrestling--two hours; roller derby--two hours; golf--ten and one-half hours; stock car races--two and one-half hours; auto racing--four hours; five

TABLE V

PRE-GAME PREPARATION FOR VARIOUS SPORTS BY STATIONS

Sport	Number of Hours of Pre-Game Preparation																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30
Football	*1	1	2	2	2	2		3		2		2			1	1				1	1
Basketball		2	4	7	2	1	2		1		1									1	
Baseball		2	3	2	6		2				1				1						
Boxing		7	6		1						1										
Wrestling		9	2	1			1								1						
Roller Der.		1																			
Golf		2																			1
Stock Car			1																		
Hockey							1														
Harness Rac.		1			1																
Auto Racing					2																
500 Mile																					1
Softball						1															
Bowling						1															
Tennis			1					1													
Lacrosse				1																	

* Number of stations placed in the blocks.

hundred mile race--thirty hours; bowling--four hours; lacrosse --three hours; tennis--five hours; softball--four hours. These averages are taken from the returns of the questionnaires.

More important than the amount of time spent is what information is gathered. One account of the variety of material gathered is given by Bud Sherman of WBAP-TV. He says that the amount and type of preparation varies with each sport and with the nature of the event. For high school football, since it is entirely local, a lot of investigation into the hobbies and talents of the players is needed.

College football necessitates a concentration not only on outstanding performances but also a larger file of background material on players from the television station's area.

Baseball requires a constant day-by-day office compilation of statistics, particularly about the pitchers. Batting averages and other statistical information must be kept up to date on a day-to-day basis using newspaper box scores as source material.

Basketball, both college and high school, require less pre-game work than most sports because of the small number of players on each team. Some statistics, however, must be kept up to date. Individual scoring, individual and team averages and fouls are some of these statistics.

For boxing Sherman says that WBAP-TV concentrates mostly on the personalities of the contestants. Naturally their records are important but since Sherman does only amateur bouts, the records are not nearly as essential. For professional boxers, records are of greater importance.

Mr. Sherman asks if wrestling is a sport or just a spectacle as it seems to be on most stations. He states that it is WBAP-TV's most popular television show and that after doing wrestling shows for more than two years, no preparation is necessary. He lets the events call themselves.

Bud Sherman concludes by saying that in all sports he has found that the fans are interested in sidelight stories on the participants. For this reason it is important when doing pre-event work to concentrate not only on statistics but also on the backgrounds of the individuals. He believes that about eighty-five per cent of the work in telecasting a sporting event is in the preparation. These comments by Mr. Sherman show the importance that the majority of the sportscasters place upon the preparation before an event.

Another sportscaster, Jay Barrington, of station KDAF-TV in Kansas City, remarks that pre-game preparation consists of mostly background on participants and team records. He has found that viewers enjoy knowing not only the apparent things about the athletes but also whether they're married,

how many children they have, what they do during the off-season, any unusual vocations and the like.

Other stations report that many other matters of importance are included in the pre-game preparation by the sports staff. Such things as setting up and practicing commercials, memorizing players numbers, getting specific formations and plays used, making out spotting charts and tags, spending time at practice and training, checking on possible line-up changes and physical conditions of the players, reading newspapers, talking to players, conferring with spotters, writing up pre-game material, investigating history of the teams and the event, inspecting the field or gym with respect to television arrangements and the preparation of background material are all important to the successful sports telecast.

When asked whether they interviewed coaches or officials before game time, eighteen stations of the thirty one stations reported that they did. Some items were covered by these interviews with coaches and officials that were not included in the previous listing of pre-game preparation. Much of the information covered personal opinions of the coaches or human interest information about the players or the coach himself. Officials were usually asked about the interpretation of some rule not familiar to the telecaster. Some of the points asked of the coaches were the condition of

the team, knowledge of the opponent, the team's chances, coaching problems, injuries, ground rules, and special stories. One telecaster made it very emphatic that the person asking the questions should not put the coach or official "on the spot." If the sportscaster expects to receive information from these people, he must keep up good relations with them. Just as with the sports broadcaster on radio, the coaches, officials and newspaper men can either "make or break" the telecaster. Their cooperation is necessary for the success of any telecaster. They can help the sportscaster a great deal in his gathering of information and learning more about the sport he is to telecast.

After the sportscaster and his staff have gathered all of the pre-game information that will be necessary for an interesting telecast, the facts must be recorded so that they can be easily found when needed. Much of this duty will fall into the hands of the spotters. Spotters are the people who keep the telecaster informed during the event. They will record the information in a notebook for handy use. They will also put pertinent facts about each player upon a spotting chart or card if a spotting device is used. If not, all of the information must be memorized by the telecaster or placed in a notebook that will be quickly available. When all of the information is recorded in a compact and easily available manner, the telecaster and staff are ready for the event.

II. THE TELECAST

The first point to be taken into consideration for the actual sports telecast is the director. It is important to know whether the telecaster is doing the directing or whether someone else handles the job. The results from thirty-one stations who answered this question show that usually there is another director to handle the camera pick-up. See Table VI for these results. This means that the announcer does not have to concentrate on all of the cameras but just the one that is doing the actual pick-up. He can then concentrate more upon his own duties. It also means that the director can aid him in making a better telecast. One step which directors sometimes take is to have a pre-event conference. At this conference the announcer and director can plan the telecast and talk over what to do if something unexpected happens. They can also review the last telecast and go over what might have been right or wrong. Different camera shots and styles of coverage can be discussed. Some stations reported that the director helps the announcer by looking for color and other unusual items. Even when under the stands he can inform the telecaster of coming shots from his preview screen. These stations state that the director should not be looking for artistic camera shots but should watch for good shots that the announcer misses. One of the main duties

TABLE VI

DIRECTION OF SPORTS TELECASTS

Stations Doing Live Sports Telecasting*	Announcer is Director	Other Director
WBRC-TV		X
WJZ-TV	X	
WATV		X
KRTV		X
WHEN-TV		X
WTOP-TV		X
WSTP-TV	Not Completed	
WSAZ-TV		X
WTTV		X
WLEC		X
WFDM-TV		X
WTCN-TV		X
KEYL-TV		X
WDAF-TV		X
WHBR-TV**		X
WAAM		X
WSPD-TV		X
KXYZ-TV		X
WKY-TV	X	
WFIL-TV		X
WDAF-TV		X
WOI-TV		X
WBAL-TV		X
KTTV		X
KRLD-TV		X
KFRC-TV		X
WPAA-TV		X
WCBS-TV		X
WAVE-TV		X
WOR-TV		X
WMAR-TV		X
WOW**		X
TOTALS - 32	2	29

* WGPO-TV also does live telecasting, but they did not complete the questionnaire.

** Are not doing live telecasting at the present time.

listed for the director is to be able to anticipate the camera shots that will be coming up so that he knows instantaneously when to change from one camera to another. The director must also cue the cameras so that they follow the announcer's narration. Most of the stations said that the director should be as familiar with the sport being telecast as the announcer. Some of the duties just listed show why that is true. Many of the stations stressed the importance of the teamwork or cooperation between the announcer and the director. Most of the stations reporting had telephone or similar systems of communication between these two. This enables either one of the two to call the other's attention to an interesting camera shot that should be picked up. The director can talk to the announcer over the telephone system, and the announcer can mention a shot over the air. The director will pick up the cue and switch cameras. All of these points listed are important if there is to be any coordination between the audio and video sections of the television broadcast. It is especially necessary to work closely together with audio and video in sports telecasting. In other types of programs the two are united without any trouble at all. For instance, in a drama show the lines and action go together. The same is true for variety shows. In sports telecasting, however, it is possible for the announcer to talk about something that is not on the screen. It may

be on another camera or not being shown at all. This would be very distracting to the viewer at his television set. He wants to see and know what the announcer is talking about. It is very important, then, that the announcer and the director work very closely together not only during the actual sports telecast, but also before and after it.

The next important question that must be decided by the sports telecaster is whether or not he is going to interview participants of the sport either before or after the event. The question was answered by thirty-two stations. Twenty-eight of the stations reported that they did interview participants. Only four reported that they did not. One of the stations stated that they interviewed hockey players between periods rather than before or after the contest. Several of those answering stated that only outstanding people in the sports field were interviewed. In telecasting wrestling, interviews are extremely popular. Not only interviews of the wrestlers but also fans who come to see the matches are put before the screen. They usually interview fans during intermission time (the time just before the feature match) and after the feature match, they interview the winner. Other sports have seen the popularity of the wrestling interviews and have adopted them too. As just stated, almost every station now uses the interview either before or after the event, or match.

The telecaster of any sport has many duties to perform. To relieve him of some of these duties, he may use a spotter. It is the spotter's job to keep the telecaster informed throughout the event and to keep some statistics. Such things as substitutions, who has the ball, injuries, who is the tackler, who makes the goal or score, how much is gained and many other facts are kept by the spotter and transferred to the announcer. To facilitate the spotter in getting information, a spotting board is used. There are two basic types of spotting boards. The first is the pin type spotting board. This system includes a separate tape for each player. Written on the tape is the player's name, height, weight, age, class, home town, position, and whether or not the player is a letterman. Each tape is placed on a board under the position the player is expected to play. Pins are placed beside the tapes of those in the game at any particular time. If a player is substituted, the pin is switched from the tape of the player leaving to the tape of the participant coming into the event. In this manner the announcer or spotter can, at any time, see the complete list of participants.

The other main type of spotting board used is the slot type. For the slot board a card is made up for each player. The same information is placed on the card as on the tape for the pin type board. The cards are then placed in a slot for each position with the one participating on top. When a new

player comes into the game, his card is placed on the top of the pile. This type is thought to be better by the ones using it. They say that it helps the sportscaster since he can only see the cards of those playing and not everyone's card.

Electrical systems are also used by some stations. As a rule these boards are much more complicated and larger than the others. They are usually set up so that the spotter and the announcer have corresponding boards. The spotter pushes a button on his board and lights the information on the announcer's board.

Another system reported used was the roller system. This type is similar to the slot board. There is a roller for each position on which tapes are placed. On these tapes are the same information about each player as on the other boards. The rollers are placed under a slot which shows only one player at a time. Thus, the roller type also shows only the players participating at any given time. This roller type, however, is more complicated to make and usually takes up more space than either the pin or slot board.

Spotters also help the announcer to keep statistics up to date during an event. Most telecasters keep some of the statistics themselves but cannot find time to keep them all. The spotter must keep some of them available for the sportscaster at any time during the telecast. Some sports announcers prefer to have a separate man to take care of the

statistics. Whatever method is used by the team doing the telecast, it is important that the announcer get the statistics that he wants when he needs them.

Twenty-three of the television stations doing live sports telecasting use spotters. This is reported in Table VII. Only nine stations said that they do not use spotters. Out of these twenty-three stations, thirteen gave a preference for the pin type spotting board. Four of the stations use the slot type and three the electrical board. Only one station reported using the roller system. One station said that they use merely a card system and another said that only a scorer is used for baseball. Some stations use more than one type of board.

Naturally the spotters job varies slightly with the sport, but there is essentially the same objective. The objective is to get information to the announcer in the quickest and easiest manner.

The television sportscaster together with the director must decide whether or not the cameras are going to show the telecaster at any time. If there are interviews before, during, or after the event, the telecaster will be shown at these times. Often times he is shown during the event too. This must be decided before the contest takes place. In answering this on the questionnaire, thirty-one of the stations reported that the sportscaster was shown by the camera

TABLE VII

USE OF SCATTER AND SPOTTING DEVICES FOR TELEVISION SPORTSCASTING

Stations Doing Live Telecasting	Number Using Spotters	Number Using Pin Boards	Number Using Slot Boards	Number Using Other Devices
31	23	13	4	5

at some time. Table VIII shows this. Some of the returns stated that the announcer was shown at different times. Twenty-one of the stations reporting show the telecaster before the game or match. Most of these are during interviews or pre-game line-ups. Twenty-one stations also reported that the announcer is shown during pauses or time outs. This also includes half time, quarter time or between matches. Some of these times include interviews and others are when the announcer is giving team background or color. Fifteen stations show the telecaster after the game or match mainly for interviews and recaps of the event. Only six stations, however, show the announcer during the event. This shows that the event is of greater importance than the person who is telecasting the event. The action on the field or in the gym is the subject of the telecast and should be broken up as little as possible. The fan wants to see what is happening rather than the announcer telling about it happening. As the figures show, there is a trend toward showing the telecaster. For the first few years the telecaster was never shown unless he was interviewing a celebrity, but today he is appearing oftener and oftener on the television screen.

One of the greatest problems for the sports telecaster is how much to say and when to say it. Methods and styles that were used on radio have had to change for most of the sports. An example of why this change was necessary is

TABLE VIII

CAMERAS SHOWING THE ANNOUNCER IN TELEVISION SPORTSCASTING AND TIMES SHOWN

Stations*	Station Showing Announcer	Stations Showing Announcer During Listed Times			
		Before Game or Match	During Pauses And Time Outs	After Game or Match	During Game or Match
WBKC-TV	Yes	X			
WKY-TV	Yes		X		
WJZ-TV	Yes		X		
WPIL-TV	Yes	X	X	X	
WATV	Yes	X	X		
WDAF-TV	Yes		X		
KMTV	Yes		X		
WCI-TV	Yes	X		X	
WREN-TV	Yes	Any Time			
WBAL-TV	Yes	X	X	X	X
WTOP-TV	Yes	X	X	X	
KTTV	Yes	X	X	X	X
KSTP-TV	No				
KRLD-TV	Yes**				
WSAZ-TV	Yes	X	X	X	
KPRC-TV	Yes	X	X	X	X
WTTV	Yes	X			
KPAA-TV	Yes	X	X		
WISC	Yes	X		X	
WCBS-TV	Yes	Depends on Sport			
WFBM-TV	Yes	Seldom			
WAVE-TV	Yes	X		X	
WTCN-TV	Yes	X	X		X
WOR-TV	Yes		X		
KSYL-TV	Yes**				
WEAR-TV	Yes	X	X		
WBAP-TV	Yes	X	X	X	X
WOW	Yes	X	X	X	
WMBR-TV	Yes	X	X	X	
WXYZ-TV	Yes	X	X	X	X
WAAM	Yes	X	X	X	
WSPD-TV	Yes	X	X	X	
TOTALS	31	21	21	15	6

* WCPO-TV does live telecasting also but did not complete the questionnaire.

** These stations did not report specific times for showing the announcer.

explained by Hutchinson:

> In an early experimental broadcast a special boxing bout was staged in the studio for executives of the broadcasting stations, the managers of the contestants, important figures in the world of sport, and members of the press. A top flight commentator took over the microphone and the match started. No one anticipated that day what was to happen though we might have, had we projected ourselves only slightly into the future. The gong sounded, the contestants came into the center of the ring, and one of the boxers promptly punched his opponent in the eye. The recipient of the blow took a lusty swing and missed. This all happened 'in less time than it takes to tell.' How often have we read and heard that? Here we saw it happen, for the announcer in his best radio style went on something like this. 'There goes the gong--the two men come out of their corners, they spar for a minute, they are just feeling each other out--ooh--a left jab to the eye--a beauty.' What actually happened was that the blow was struck while the announcer was saying 'the two men came out of their corners.' This procedure went on throughout the broadcast and when the action was rapid the announcer was from ten to fifteen seconds behind the action.[2]

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[2] Thomas H. Hutchinson, Here is Television (New York: Hastings House, 1950), p. 210.

This experience showed how different sports are when presented to the audience through a television camera.

Most telecasters have adopted the technique of explaining the picture to the audience, pointing out things that are not too clear or that might be misunderstood by the viewer. One telecaster says that the less talking that is done by the announcer, the better. He is of the opinion that the announcer's voice is distracting to the viewer.

Another states that the sportscaster should only identify, orientate or amplify the action of the sport being televised. Twenty-five of the stations reported that the telecaster talks at some time during the event. Five other stations said that it depends upon the event. The majority of the announcer's description, though, comes during pauses, time outs and when there is a lull in the action. At these times the announcer can give any pertinent information. Identification of the players and telling some of the interesting facts about each individual is practically a necessity for any successful sports telecast.

What is talked about when no action is taking place is very important to the sports telecaster. This is the time when the telecast could lose interest to the viewer so the announcer has an important duty to perform. One of the main subjects of conversation at this time is the commercial sponsor. The second important subject as reported by most of the stations is color of the game. Many stations move the cameras about to show the crowd. Often the announcer can pick out people of importance so that the audience doesn't miss them. The game or event is often recapitulated. Background on the players and teams is given. Scores from other events can be reported at this time. Other topics are: human interest on players; events in the future; records of the teams and players; oddities; current or past items of

interest; and the band if one is present at the sporting event.

During half time, time out or between matches the same problem is present. The announcer again has the job of keeping interest. Many of the stations do this by having interviews of noted personalities who happen to be at the event or perhaps have arranged to be there for the purpose of an interview. Even members of the teams competing in the event are sometimes interviewed during half time. Naturally, again commercials take up some of the time. During half-time in football, special festivities take place. These are followed by the cameras and commented on by the announcer. This usually takes up most of the half time. In other sports there is usually nothing scheduled at this time and it must be filled by the announcer and cameras. The announcer can recap and analyze the game. Sports demonstrations can be given by an expert. The camera very often picks up the telecaster who might give an interesting anecdote pertaining to the sport being telecast. Most of the subjects that were listed for times when there is no action are applicable here also.

Many topics are presented during the telecast by the announcer. It is his job primarily to identify players and action and to amplify certain bits of action or strategy that might not have been understood by the viewer. One

writer says that the sportscaster should be sort of an encyclopedia to the person watching the sport. The announcer should have all pertinent facts and information about the sport being telecast. In fact, one sportscaster stated that the announcer should have a great deal more information than he would ever use. This is necessary because the announcer never knows just what facts and figures he will need. The more information he has, the better the telecast will be. This does not mean that the announcer must give out this information all during the telecast like a machine that can't be shut off. Only when something is not clear or when more information might add to the interest of the viewer, should the telecaster attempt to describe or amplify.

III. GENERAL INFORMATION

The majority of the television stations use the announcer's limited amount of description for sports. Another type of television sports broadcasting is a simulcast. Doing a simulcast is when the announcer broadcasts the sport for the radio and television audiences at the same time. It entails a complete description of the event by the announcer. When asked whether a simulcast was favorable or unfavorable, fifteen stations reported that it was unfavorable, eight said that it was favorable and eight either had no comment or had never tried it. Mr. Charles Tapley, sports

director of station WBRC-TV, said that they tried a simulcast only once and were practically ridden from town on a rail.

The opposite reaction was presented by station WOI-TV in Ames, Iowa. Mr. Dale Williams, sports director, reported that after doing the girls state basketball tournament, they asked how much description was wanted. The results were one thousand to zero in favor of the complete play-by-play. They said a simulcast was easier to follow in basketball and football.

Station WOW in Omaha, Nebraska, said that for one year they telecast the Nebraska University football games as an experiment and the radio play-by-play style was very successful. WTTV in Bloomington, Indiana thinks that a simulcast is very favorable. The only problems are the commercials. They are given easily over the radio but usually switch to the studios for the television commercials. Another favorable reaction is presented by WSAZ-TV in Huntington, West Virginia. They find it very successful because their play-by-play man is fast enough to accurately keep up with the action. Unless this is true the television audience will suffer.

Other stations commented that a simulcast was favorable, but added no further information. Most of the stations who did comment made it clear that to do a successful simulcast, the announcer must have the right technique. He must

be quick enough to stay on top of the play throughout the event. It is not possible for him to lag behind the action since the television audience is watching what happens too. This makes the telecaster's job even more difficult. The spotters must be on the job to keep the announcer supplied with the information that he needs.

It is interesting to note the differences in style and technique between radio broadcasting of sports and telecasting. It must be remembered that many of the sports telecasters did radio broadcasting before doing telecasting. This qualifies them to give a valuable judgment.

Charles Tapley, sports director of WBRC-TV, stresses the fact that in radio the announcer paints the pictures, and in television, he explains details of odd nature. Station WATV in Newark, New Jersey, says the cost is greater, more personnel is needed and different techniques in announcing are used. Many stations stress the fact that in television the announcer must be accurate, but he has more time to be sure of his facts. This is true because camera action keeps the program alive when there is no voice. In radio the announcer has little time to check on facts. He cannot pause to look something up and leave dead air. The voice is of prime importance in radio. When it isn't there, there is nothing. Television has sound and picture.

Stations report that there should be less descriptive

wordage in television and more pointing up of strategy. The approach is much more intimate since the telecaster and the viewer are both seeing the same event. The announcers feel that a sportscast must be accurate and factual. A viewer watching the game cannot be told that something he sees is something else. On radio exaggerating and coloring of the event can take place and often does. Another reason for the informality of the telecast is the fact that the viewer is comfortable and at ease in his living room. The telecaster must conform to this pattern.

The majority of the sportscasters also feel that they must be careful not to insult the intelligence of the person who is watching. In other words, the obvious must not be described!

Television announcers explain and interpret the action for the fan. Many stations have remarked that the announcer should not talk too much. If he does, it annoys rather than interests the person watching. The primary duty of the sportscaster, then, as given by the majority of the stations, is to only supplement the camera.

The various telecasters also made some interesting comments that would be valuable to a person who intends to go into the field of television sports. The importance was stressed of having a full knowledge of the sport that is to be telecast. Mr. Bernie Brecher of WTVS-TV emphasizes this

when he says:

> For a person entering telecasting of sports, it is understood that a thorough knowledge of sports is essential. Other than that I'd hope I had a good vocabulary and glib tongue (To me it's harder to speak infrequently as in TV, than to hold a running commentary as in radio.) A quick verbal response is mandatory--you have to stay ahead of the crowd and the picture.

Dick Gottlieb, sportscaster for station WFBC-TV says:

> Be friendly and engaging as if you were in the room with the viewer, but at the same time be authoritative...Keep a wary eye on the TV monitor. It should be possible to call a major portion of the game by just watching the set.

The sports director of station WOW, Jack Payne, thinks that the most important training for a sportscaster is theory courses in college on the different sports and actual participation in the sports.

Bob Swysgood of station WKY-TV emphasizes that:

> Sports fans are the most authoritative and critical viewers and listeners in the world. To televise baseball, you must know the game thoroughly. A skilled knowledge and avid enthusiasm for sports must be combined with quick reflexes and a learned sense of artistic production values. There is no short cut to being a director, for example. This is true especially in sports where an apprenticeship in the game and as a cameraman is best.

Probably the two points stressed most by the many stations were a thorough knowledge of the sports and for the sportscaster to give the true picture. Many commented that a phony can always be picked out. In television where the fan sees the game too, it can't be built up to be what it isn't.

Since the writer thought it would be valuable to have a list of the sports staffs from the various television stations, this list can be found in the Appendix of the study. They are listed alphabetically by station. To the writer's knowledge, no list of this sort has been made up.

Many important items were covered in this chapter. The importance of pre-game preparation was stressed, the subject and amount of reporting that the announcer does and other parts of the actual telecast were discussed. Also, comments were reported on the differences in technique between radio and television sports broadcasting and information valuable to a person hoping to go into the field of sports telecasting was listed.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this chapter is to summarize the findings of the study and to list the conclusions that can be reached.

Summary. In Chapter I it was noted that the word television originated when a French librarian was filing material on the electrical transmission of pictures. Three names were given to this process and the librarian invented "television" to cover all three. This was an unusual beginning for a word that has become so popular today.

Definitions by many of the writers on television were listed and discarded as being too elaborate. The definition then presented was: the transmission of active pictures electronically. This simple definition was felt to include enough for the purpose of this study.

Many of the important events in the history of television were given in Chapter I. Some of the outstanding ones will be reviewed now. Frictional electricity was discovered in 640 B. C. This opened a new field for scientists to investigate. After a great deal of theory work and experimentation, the first machine using this new type of energy was developed. The machine was the air pump invented by Otto von Guericke in 1650.

From 1650 until 1800 many discoveries were made in the science of electricity. Electrical transmission by hemp line and the voltaic cell were two of the most important discoveries. Many great scientists were born during this same period. Franklin, Volta, Morse, and Faraday were four of the most important.

In 1827 the first "microphone" was constructed by an Englishman, Charles Wheatstone. Its purpose was to amplify weak sounds. During this same period Morse began to experiment with the telegraph and in 1844 he began operating the first telegraph line.

As early as 1856 designs were sent by telegraph. The first transatlantic cable was used in 1858. Experimentation was started on the wireless in the 1860's, and Bell invented the telephone in 1875. Communication was progressing rapidly.

Directly related to television were the discovery of the properties of cathode rays by Crookes and the invention of the television scanning disc by Paul Nipkow. Both of these hastened the development of television.

Marconi startled the world in 1896 by sending and receiving the first wireless signals. During the next few years Marconi kept experimenting and improving the wireless until it crossed oceans and mountains and became one of the greatest safety devices on the sea. Fessenden, another

wireless experimenter, sent the first voice by this means and radio began. Marconi predicted that a "visible telephone" was possible, and Sarnoff outlined a system of public broadcasts using a "radio music box."

The first experimental radio station was operated by De Forest in 1916. The pioneer station of the world began broadcasting in 1919. This was station 8XK later to become KDKA in Pittsburgh. Many other stations opened, and the first network broadcast took place in 1922.

During all of this radio growth, television was growing too. In 1923 Dr. V. K. Zworykin had a complete television system working. He used a kinescope picture tube and the iconoscope pick-up tube. Baird and Jenkins in England were working on mechanical systems at the same time. These mechanical systems used variations of Nipkow's scanning disc. Farnsworth in America filed a patent for an electronic television system and the Bell Telephone Laboratories demonstrated wire television. The first transatlantic television took place when Baird's mechanical system televised Mrs. Mis Howe in London. She was seen in Hartsdale, New York.

Back in the United States station WGY started the first regular program schedule. Three days each week programs were sent from Schenectady, New York. In 1928 they telecast the first complete dramatic show.

The Bell Telephone Laboratories demonstrated a very

crude system of color television in 1929. The picture received was about the size of a postage stamp. Wires were used and the length was only from one end of a room to the other. This was a start for future developments, however.

Five experimental stations were telecasting by the end of 1931. Three of these were in New York City, one in Schenectady, New York, and the fifth in Los Angeles. All of these five stations used some variation of the mechanical scanning system and were off the air the next year due to the limitations of this system.

The British government suggested in 1935 that a short wave television system be established as a public service and the all-electronic system was used. In 1936 a regular schedule began from Alexandra Palace in London.

More development was taking place in the United States. The first coaxial cable between New York and Philadelphia was opened for tests. Different sized screens and different pick-ups were demonstrated. The Federal Communications Commission started hearings in 1936 on the future of television and ultra short waves. R. C. A. began million dollar tests from the top of the Empire State Building.

Two important steps were taken in 1937. First, Dr. Zworykin invented the electron projection gun for scanning and second, the N. B. C. mobile television unit appeared on the streets of New York City for the first time.

In 1938 David Sarnoff, President of the Radio Corporation of America, caused a great deal of interest when he announced the public sale of television sets at the New York World's Fair the next year. With this announcement came the real beginning of television in the United States. Regular schedules were started again in New York and Los Angeles. Zenith also started telecasting from Chicago with a regular schedule. Commercial television was approved in July, 1941, by the Federal Communications Commission. Twenty-one stations were licensed in the United States.

Television was now getting a good start. This start, however, was interrupted by World War Two. Materials and manpower became scarce and most of the stations discontinued service. The Radio Technical Planning Board was formed to help the industry in future planning. They submitted their findings to the F. C. C. in 1944. Cooperative telecasting was the result. One of the three New York stations telecast programs every night of the week for the rest of the war.

After the war, many new inventions and improvements on the equipment being used gave television a new growth. The scientists again went into the laboratories to work on color television. In the near future it is hoped this will become a reality.

Sports have been popular on both radio and television. Radio sports have a definite bearing upon television. Many

of the methods used in radio have been carried over either in part or whole to television sportscasting. Many of the radio play-by-play announcers have switched to television for either part or full time.

Some of the important events in radio sports were described in Chapter I. The first sport to be carried by radio was boxing. This was in 1921 by KDKA in Pittsburgh. The fight was between Johnny Ray and Johnny Dundee, and it was held in Pittsburgh's Motor Square Garden. Three months later station WJY broadcast the Dempsey-Carpentier bout from Jersey City in New Jersey.

A great deal of interest was shown in the first two sporting events on radio. This stimulated almost every starting station to do sports broadcasting. Tennis, baseball, and football were soon broadcast by many stations and enjoyed by the fans. The first network broadcast was the World Series in 1928.

Sports broadcasting has become a regular segment of the program schedules of stations across the country. The sports have built up radio listening and radio has helped the popularity of many sports.

The announcers in sports broadcasting have developed methods and techniques that were not previously used. At first only the quality to ad lib seemed necessary. Announcers then realized that other qualities were necessary.

Spotters were used to help the broadcaster follow the action. Spotters are people who inform the sportscaster of action and statistics. Spotting boards were used to get information quickly. These are mechanical devices to keep information easily and to see this information quickly. The importance of pre-game preparation was stressed. This is the gathering of information and statistics for use in the broadcast. The best collection of principles was listed by Bergstein. They are important enough to rephrase:

1. The broadcaster must speak quickly enough to keep up with the action.
2. The broadcaster must know the words, expression, and terms of the sport.
3. The broadcaster must know all of the rules of the sport.
4. The broadcaster must understand the importance of good relations with school officials, coaches, and game officials.
5. As much time as possible must be devoted to pre-broadcast preparation.
6. The broadcaster must realize the importance of broadcasting conditions.
7. No comments should be made on decisions of the officials.[1]

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[1] Milton Jerome Bergstein, "A Study of the Techniques and Principles of Radio Broadcasting of Sports," (Unpublished Master's Thesis, The Pennsylvania State College, State College, 1950), p. 89.

Other points that the writer feels necessary for the

sportscaster to remember were:

1. Be vital.
2. Don't let the interest lag.
3. Be peppy and full of enthusiasm.
4. Be specific.
5. Give a true picture of the action.

Sports have become a big business in the twentieth century. Almost every station has broadcast some sport and special networks have been set up for a lot of the sports.

One of the top television programs is sports. In October, 1950, sports held third place on television evening program schedules. Twenty and three-tenths per cent of the time was spent on sports.[2] Only twenty days after the

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[2] Broadcasting Telecasting, 1951 Yearbook Number, p. 30.

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opening of regular television service in 1939, the first sport was telecast. It was a baseball game between Columbia and Princeton. Only one camera was used. The announcer saved the program by doing a good job of description. One camera was not enough to produce a good telecast. The six day bicycle race from Madison Square Garden was telecast three days later.

In 1939 Great Britian also started telecasting sports. Their first sport was the English Derby, and it was sent to theatres in London. It was very successful. They next did

tennis and boat races and sports were included in their regular schedule within a short time.

Boxing was tried in the United States with one camera and was accepted, but the sportscasters realized that two or more cameras were needed. Baseball in the major leagues was telecast using two cameras and an improved lens. The audience received a very intimate picture of the event. It was highly successful.

Football, hockey and basketball were well received by the television viewers in late 1939 and early 1940. These too were listed on the future schedules. Track and wrestling were started with wrestling becoming one of the most popular television shows. People began to flock to the wrestling arenas to see these stars of television. The area and lighting for wrestling made it an ideal sport for television. There is close contact almost throughout the complete match. This makes it easier for the cameras to follow.

Television sports suffered along with all of television with the coming of World War Two. However, sports were popular enough to be sure of a place in post war television. This can be seen today with fifteen of the sixteen major league baseball teams being televised. Many college football games can be seen on video while wrestling, boxing, and other sports are very popular also. The 1950 World Series had an estimated television audience of thirty-eight million viewers.

Most of the telecasts of any sporting event are handled by the mobile crew. This was described in Chapter I. The first regular telecast from the Worlds Fair in 1939 was handled by the mobile unit. In those days, the unit was carried by two large trucks. One truck held the pick-up and control equipment and the other the transmitting equipment. At first it was necessary to find a source of power supply but later they carried a portable supply with them. This type of equipment was used for about three years and then portable equipment replaced it. With this new equipment eight programs a week were averaged in 1939 by the remote men from N. B. C.

Approximately twenty-two people are necessary for a remote broadcast. The necessary personnel listed were; a director, supervising engineer, two video engineers, one audio engineer, three cameramen, three assistant cameramen, and two transmitter engineers. Two engineers were needed at the transmitter and four at the station.

Before the telecast the program producer and the supervising engineer must make a survey of the sport's location for camera position, placement of cables, location of the control room, location of the power supply and other such items.

The mobile unit crew today has the job of telecasting many of the major sports contests, news events, and public

interest events. Equipment is steadily improving and making their job easier.

Chapter I concludes by stating the problem of the study. Simplified, it is to set up a guide to aid the novice in sports telecasting. This guide will also help him to avoid some of the faults in beginning sportscasting.

The technique for research that was used in this study was the questionnaire. Following are several important steps which were taken in setting up the questionnaire:

1. The length of the questionnaire was determined.
2. The technical language of the subject was learned.
3. The material to be covered was decided upon.
4. The questionnaire was worded.
5. The questions were checked for definiteness.
6. Some of the questions were revised.
7. A mailing list was secured.
8. The questionnaires were mailed.
9. Follow-up questionnaires were sent.

Questionnaires were sent to the one hundred and seven stations telecasting in the United States. From the one hundred and seven, forty-three were returned. Thirty-one of the forty-three reported doing live telecasting of sports. It must be remembered that this live telecasting means originating from the unit station as contrasted with films and network shows.

Nineteen sports are being telecast at the present time. They are: football, baseball, basketball, boxing, wrestling, roller derby, golf, stock car races, hockey, harness racing, auto racing, boat racing, five hundred mile race, softball, track, bowling, horse racing, tennis, and lacrosse. The first five listed are done most often. Basketball is televised by twenty stations, football and baseball by nineteen, wrestling by seventeen, and boxing by fourteen stations. The rest of the sports are done by from one to four stations.

Two or three cameras were the average number used for telecasting any sport. This number gives a varied and interesting picture to the viewer at all times.

Before a person even attempts to do a sports telecast there are two important qualities that he must have. He must know the words, expressions, and terms of the particular sport he expects to telecast. He must also be familiar with the rules of the sport.

The preparation that the telecaster and the sports staff do just before the sportscast is important. This preparation ranges in time from fifteen minutes to thirty hours. The detailed number of hours preparation for each sport can be found in Table V.

Some of the important items covered in pre-game preparation by the sports staff are: practicing commercials, getting background on participants, memorizing players'

numbers, making out spotting charts and tags, spending time at practice and training, talking to players, reading newspapers, conferring with spotters, writing up pre-game material, investigating team and event history, and inspecting the field or gym.

Coaches and officials are interviewed by eighteen of the thirty-one stations. Many types of questions are asked. Some of these items can be included in pre-game preparation. A few of the important ones are: the condition of the team, coaching problems, injuries, ground rules, and special stories. It is especially important to keep good relations with coaches and officials. Their cooperation is necessary.

In sports telecasts most of the stations use a director other than the telecaster. The director helps the announcer by anticipating shots and calling the announcer's attention to something he might have missed. It is important that the director be as familiar with the sport as the sportscaster. Teamwork between these two is absolutely necessary.

Almost all of the stations interview participants of the particular sport being telecast. Most often this is before or after the event.

Twenty-three stations use spotters to help the announcer keep up on the action. Most of them also use spotting boards. The pin type board is most frequently used.

This type is explained in Chapter III.

The telecaster is shown to the viewer by thirty-one of the stations. Before, between and after events are the main times for this. Only six stations reported showing the telecaster during the event.

Most sportscasters talk at some time during the event. The amount of description varies with the event, but it usually only explains the picture to the audience or adds to it. The event is of prime importance not the announcer. When no action is taking place, the first subject of conversation is usually a commercial. The next frequent subject that the announcer uses is the background and color of the event. The game is sometimes recapitulated. During half time interviews and special festivities are the two main subjects by most of the stations. It is important for the sportscaster to have a wealth of information to talk about. He should have much more than he will ever use.

Eight stations do simulcasts of sporting events. For these the announcer must stay on top of the action at all times. He cannot lag since part of the audience sees the event too.

The main difference between doing sports on radio and television is, of course, that on television the fan can see what is happening. The main difference for the announcer is that in radio he must paint a picture, while in

television, he explains the picture that is already seen. The obvious is best not described. The primary duty of the telecaster is to supplement the camera.

The two main suggestions given to a person interested in the field of sports telecasting are to have a thorough knowledge of the sports and to give a true picture of what is happening.

Conclusions. A list of conclusions can be drawn from this study. This list includes the most important items to guide the person who expects to go into this field. They should help him to become a better sportscaster.

1. Two or three cameras are usually used for a successful sports telecast.

2. The sportscaster must be familiar with the vocabulary of the sports he expects to telecast.

3. The sportscaster must be familiar with the rules of every sport he expects to telecast.

4. Pre-game preparation is of prime importance.

5. Friendly relations with coaches and officials are necessary for their cooperation.

6. A system of teamwork between the director and the telecaster is a must.

7. The majority of the stations interview participants either before or after events.

8. The majority of the stations consider it essential to use spotters and spotting boards. The most common spotting board used is the pin type.

9. The telecast should explain or add to the picture. He should emphasize the event, not the announcer.

10. When no action is taking place the announcer usually talks about background material, commercials, recaps the event, or gives color descriptions.

11. During half time or between events the sportscaster usually has interviews or describes special festivities along with the four important items mentioned in Number 10.

12. It is necessary for the sportscaster to always have more information on hand than he will need.

13. The main duty of the announcer is to supplement the camera.

14. The announcer must have a thorough knowledge of every sport.

15. The sportscaster must always give a true picture of what is happening.

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APPENDIX

GLOSSARY OF IMPORTANT TELEVISION TERMS

Camera - The unit containing the eye of television or a light-sensitive pickup tube which transforms the image into electrical impulses.

Coaxial cable - Specially built cable used to transmit the television signal. It has a low loss of power at the video frequencies.

Field pickup - A transmission of any out-of-door event using a mobile or portable unit.

Frame - One complete picture. There are thirty of these a second.

Iconoscope - The camera pickup tube consisting mainly of an electron gun and photosensitive mosaic plate enclosed in a vacuum. This is used in the R. C. A. television system.

Image-orthicon - The supersensitive camera tube which is capable of picking up scenes in semi-darkness. It takes only about one-fourth as much light as the iconoscope.

Interlacing - The scanning of each 525 line picture in two sets of alternate lines with electrons. This is done to eliminate flicker.

Kinescope - A cathode-ray tube with a fluorescent screen used to reproduce the television picture in the monitor or receiving set.

Line - One scanning line across the television picture with high lights and shadows. Each picture now contains 525 lines.

Link transmitter - A radio relay transmitter which can be used to achieve a television network. It is also used as a booster for a remote pickup.

Mobile unit - Field equipment, either in trucks or portable, for remote television pickups.

Monitor screen - The control kinescope used by the director in television.

Remo - Any broadcast originating in a place other than the studios.

Orthicon - An extra-sensitive to light camera tube used for outdoor pickups.

Parabola - A direction microphone mounting used in picking up band music, crowd noise, cheering, et cetera.

Portable unit - Special field equipment usually packed in suitcases, or what are similar to suitcases only larger.

Reels - The reels used on mobile units to hold camera cables and other wires.

Ring mike - The microphone that is over the ring at boxing and wrestling to pick up ring sounds, such as referees instructions.

Simulcast - Radio and television at the same time, by the same men.

Special events - Any program of news interest such as sporting events, parades, et cetera.

Stand-by - Anything held in reserve to be used in case of an emergency.

Switch - Move from one camera to another or a change of camera angles.

Talk back - A phone circuit from the announcer to the director on outside broadcasts.

Wide-angle lens - Lens having a wide angle of view. It will pick up a very broad area.

SPORTS STAFFS AT TELEVISION STATIONS

KEYL	Jim Shelton
KMTV	Floyd Kalber
KPRC-TV	Bruce Layer Paul Boesch Dick Gottlieb
KRLD-TV	Charlie Boland Eddie Barker Vee Box
KSTP-TV	Keith Hoyt Dick Bray Bob Gilmore
KTTV	Robert Breckner Forrester Mahbbir
WAAM	Nick Campofredo Paul Keno
WATV	Fred Sayles
WAVE-TV	Bernie Brecher
WBAL-TV	Jerre Wyatt Joe Boughen
WBAP-TV	Bud Sherman
WBRC-TV	Dave Overton Vic Batson Horace Pamelli Ted Rooks
WCBS-TV	Red Barber John Derr
WDAF-TV	Jay Berrington Randall Jessee
WFAA-TV	Larry Dupont Carl Nemn George White

WFBM-TV	Dick Pittenger
WFIL-TV	George Walsh
WHSN-TV	Dick Grossman
WJZ-TV	Harry Wismer Vic Batson Horace Pinelli Ted Rooks
WKY-TV	Bob Swyegood Bill Ryden Bill Fountain Bob Murphy
WLWC	Joe Hill
WMAR-TV	Chuck Thompson Bailey Goss Matt Thomas Ad Wienert
WMBR-TV	Harry Talbert Paul Acosto Bill Terry
WOI-TV	Dale Williams
WOR-TV	Roy Meredith John Horstmann Ralph Giffen
WSAZ-TV	Jack Bradley Bert Shimp Jack Hurst James Ferguson
WTCN-TV	Rollie Johnson Dick Sievert Merv Conn Jim Shelton
WTOP-TV	Jim Simpson Arch McDonald
WTTV	Max Skirvin Jack Noel Bob Young

WTPA-TV	Bob Evans
WXYZ-TV	Fred Wolf Don Fairfield Bob Murphy Chris Brinke
WOR	Bill McBride

MAILING LIST OF TELEVISION STATIONS

KDYL-TV	Salt Lake City, Utah	
KECA-TV	Los Angeles, California	
KEYL	San Antonio, Texas	XX**
KFI-TV	Los Angeles, California	
KFMB-TV	San Diego, California	
KGO-TV	San Francisco, California	
KING-TV	Seattle, Washington	
KLAC-TV	Los Angeles, California	
KMTV	Omaha, Nebraska	XX
KNBH	Los Angeles, California	
KOB-TV	Alburquerque, New Mexico	
KOTV	Tulsa, Oklahoma	X*
KPHO-TV	Phoenix, Arizona	
KPIX	San Francisco, California	
KPRC-TV	Houston, Texas	XX
KRLD-TV	Dallas, Texas	XX
KRON-TV	San Francisco, California	X
KSD-TV	St. Louis, Missouri	
KSL-TV	Salt Lake City, Utah	
KSTP-TV	St. Paul, Minnesota	XX
KTLA	Hollywood, California	
KTSL	Hollywood California	
KTTV	Los Angeles, California	XX
WAAM	Baltimore, Maryland	XX
WABD	New York City, New York	
WAFM-TV	Birmingham, Alabama	
WAGA-TV	Atlanta, Georgia	
WATV	Newark, New Jersey	XX
WAVE-TV	Louisville, Kentucky	XX
WBAL-TV	Baltimore, Maryland	XX
WBAP-TV	Fort Worth, Texas	XX
WBEN-TV	Buffalo, New York	
WBKB	Chicago, Illinois	
WBNS-TV	Columbus, Ohio	
WBRC-TV	Birmingham, Alabama	XX
WBT-TV	Charlotte, North Caroline	
WBZ-TV	Boston, Massachusetts	
WCAU-TV	Philadelphia, Pennsylvania	
WCBS-TV	New York City, New York	XX
WCPO-TV	Cincinnati, Ohio	XX
WDAF-TV	Kansas City, Missouri	XX
WDEL-TV	Wilmington, Delaware	

* X means questionnaire was returned.

** XX questionnaire reported doing live telecasting.

WDSU-TV	New Orleans, Louisiana	
WDTV	Pittsburgh, Pennsylvania	X
WEHR-TV	Chicago, Illinois	
WEWS	Cleveland, Ohio	X
WFAA-TV	Dallas, Texas	XX
WFBM-TV	Indianapolis, Indiana	XX
WFIL-TV	Philadelphia, Pennsylvania	XX
WFMY-TV	Greensboro, North Carolina	X
WGAL-TV	Lancaster, Pennsylvania	
WGN-TV	Chicago, Illinois	
WHAM-TV	Rochester, New York	X
WHAS-TV	Louisville, Kentucky	
WHBF-TV	Rock Island, Illinois	X
WHEN-TV	Syracuse, New York	XX
WHIO-TV	Dayton, Ohio	
WICU	Erie, Pennsylvania	
WJAC-TV	Johnstown, Pennsylvania	X
WJAR-TV	Providence, Rhode Island	
WJAX-TV	Jacksonville, Florida	
WJBK-TV	Detroit, Michigan	
WJIM-TV	Lansing, Michigan	
WJZ-TV	New York City, New York	XX
WKRC-TV	Cincinnati, Ohio	
WKTV	Utica, New York	
WKY-TV	Oklahoma City, Oklahoma	XX
WKZO-TV	Kalamazoo, Michigan	
WLAV-TV	Grand Rapids, Michigan	
WLWC	Columbus, Ohio	XX
WLWD	Dayton, Ohio	
WLWT	Cincinnati, Ohio	
WMAL-TV	Washington, D. C.	
WMAR-TV	Baltimore, Maryland	XX
WMBR-TV	Jacksonville, Florida	X
WMCT	Memphis, Tennessee	
WNAC-TV	Boston, Massachusetts	
WNBF	Binghamton, New York	
WNBK	Cleveland, Ohio	
WNBQ	Chicago, Illinois	
WNBT	New York City, New York	
WNBW	Washington, D. C.	
WNHC-TV	New Haven, Connecticut	
WOAI-TV	San Antonio, Texas	
WOC-TV	Davenport, Iowa	
WOI-TV	Ames, Iowa	XX
WOR-TV	New York City, New York	XX
WOW-TV	Omaha, Nebraska	X
WPIX	New York City, New York	
WPTZ	Philadelphia, Pennsylvania	
WRGB	Schenectady, New York	X

WSAZ-TV	Huntington, West Virginia	XX
WSB-TV	Atlanta, Georgia	
WSM-TV	Nashville, Tennessee	
WSPD-TV	Toledo, Ohio	XX
WSYR-TV	Syracuse, New York	
WTAR-TV	Norfolk, Virginia	
WTCN-TV	Minneapolis, Minnesota	
WTMJ-TV	Milwaukee, Wisconsin	
WTOP-TV	Washington, D. C.	
WTTG	Washington, D. C.	
WTTV	Bloomington, Indiana	XX
WTVJ	Miami, Florida	
WTVN	Columbus, Ohio	
WTVR	Richmond, Virginia	
WWJ-TV	Detroit, Michigan	
WXEL	Cleveland, Ohio	
WXYZ-TV	Detroit, Michigan	XX