

# History of Communications Media

Class 7

# History of Communications Media

- What We Will Cover Today
  - Finish Up Movies
    - What Television Did to the Movies
  - Radio
  - Phonograph
  - Television

# Movies and Television

- What Television Did to the Movies
  - While the Studios initially saw television as a mortal threat, independent movie producers saw TV as an opportunity
    - The independents began making films – mostly crime dramas, westerns, and comedies – for television
      - Among the most successful was Desilu Productions
    - The success of Disneyland with the theme park, TV programs, and movies mutually promoting each other led studios to see television as a potential ally

# Movies and Television

- What Television Did to the Movies
  - Movie studios began renting their archives of old productions to the networks
    - Feature films on television
    - Studios invest the archiving, preservation, and restoration of old feature films
    - Films made for television without exhibiting them in theaters beforehand

# Movies and Television

- What Television Did to the Movies
  - Television changed the economics of the movie business
    - Before television, box office revenues were the source of movie profits
    - After television, it is primarily video (initially VCR tape and now DVD) rentals and sales that are the source of profit, followed by box office revenue and sales of exhibition rights to free and pay television. In some cases, there is additional revenue from product tie-ins.

# Radio

- Origins of Radio
  - James Clerk Maxwell's theory had predicted the existence of electromagnetic waves that traveled through space at the speed of light
  - Heinrich Hertz in 1886 devised an experiment to detect such waves.
    - Hertz showed that radio waves conformed to Maxwell's theory and had many of the same properties as light except that the wave lengths were much longer than those of light – several meters as opposed to fractions of a millimeter.

# Radio

- Origins of Radio – 2
  - Guglielmo Marconi had attended lectures on Maxwell's theory and read an account of Hertz's experiments
  - Marconi replicated Hertz's experiments and then
    - Added to the smaller spark gap a Branly coherer (which acted as an amplifier), a battery, and a Morse printer.
    - As a result, created a wireless telegraph that recorded transmitted messages in the dots and dashes of Morse code

# Radio

## – What Marconi accomplished

- He devised a practical wireless telegraphy transmitter and receiver
- He also visualized a market for the device
  - Navies and shipping companies that wanted to be able to communicate with their ships at sea
- Marconi gradually improved his invention over time
  - In 1901 actually transmitted a message from Cornwall in England to Newfoundland
    - » This led to the discovery of the ionosphere since what Marconi accomplished was theoretically impossible if radio waves like light followed lines of sight.

# Radio

- What Reginald Fessenden accomplished:
  - Fessenden and Ernst Alexanderson of GE developed a high-frequency alternator that allowed continuous wave transmission
  - This made possible voice and music radio transmission
    - On December 24, 1906, Fessenden began transmitting voice and music from his experimental radio station in Plymouth MA.

# Radio

## – What Lee De Forest accomplished:

- Invented the audion tube, which permitted the detection and amplification of radio signals and sound
- Started radio broadcasting of lectures and phonograph music in 1915
  - In 1916, he broadcast the Harvard-Yale football game and the 1916 Presidential election results, including the incorrect report that Woodrow Wilson had been defeated
  - In 1917, with the declaration of war, all amateur broadcasting was shut down
- Invented the Phonophone sound-on-film method of recording talking pictures

# Radio

- Effects of World War I
  - Sparked a huge demand for both wireless equipment and trained radio operators
    - Trained thousands of radio operators and familiarized them with the latest developments in radio technology
    - Led many of these new radio operators to become postwar amateur radio operators or hams.
  - Wartime desire to intercept German radio communications inspired Edwin Armstrong in 1918 to invent the superheterodyne circuit
- WWI thus laid the groundwork for the 1920s boom in radio and radio broadcasting

# Radio

- Frank Conrad
  - Was an amateur radio operator who was head of Westinghouse's radio operations
  - Regularly broadcast music from his home radio station
  - Joseph Horne Department Store Ad ran an ad on September 20, 1920 saying that their sets could receive Conrad's transmissions
  - The ad triggered an epiphany in Westinghouse VP Harry Davis
    - Radio was a broadcast medium
    - There was money to be made in selling receiving sets

# Radio

- Davis got Conrad to build a radio station at Westinghouse – KDKA – to transmit the 1920 election returns.
- Result – A splurge of radio broadcasting
- One broadcast that helped fuel the radio surge was the broadcast of the Dempsey-Carpentier heavyweight championship fight on July 2, 1921

# Radio

- Radio Sets
  - 1920 – Most radios were homemade crystal sets with earphones
  - 1922 – RCA Radiola – 6 tubes, amplifiers, and a superheterodyne tuner that required no external antenna and was simple to operate, but required a battery
  - 1928 – Console radio, fitted into a large wooden cabinet and sold as furniture, with plug-in circuitry and loudspeakers
  - 1930 – Relatively inexpensive table model radios

# Radio

- Notes on Early Programming
  - Broadcasting of election returns, political party conventions, and major sports events
  - Music – both live performances and phonograph recordings – dominated programming
  - No regular news coverage
    - Newspapers refused to make wire service reports available to radio stations for broadcasting

# Radio

- A Note on Sports Broadcasting
  - The uncertainties of early radio required radio announcers who could fill airtime with a gift of gab if something went wrong
  - Since many radio announcers lacked an athletic background, the practice of having two or more announcers team up to report a game arose
    - One to describe the play-by-play action and the other to provide analysis, information on players, and ‘color’.
    - With football, there was three announcers – one for play-by-play description, one for color, and a spotter to identify the large and constantly shifting cast of players on the field.

# Radio

- In the 1920s, radio took on many of the characteristics that marked radio and later television during their heydays
  - Bandwidth allocations that favored well-heeled stations
  - Commercial advertising as a source of radio station revenue
  - Networks that provided programming to individual stations

# Radio

- Networks
  - The 1920s and early-1930s saw the emergence of four networks – NBC Red (1926), NBC Blue (1928), CBS (1927), & Mutual (1934)
    - In 1943, NBC-Blue was sold off and became ABC
  - Networks gave advertisers access to a large national audience
  - Networks provided programming to the affiliated local stations
  - Programming was produced by the networks, individual sponsors, and increasingly over time by advertising agencies.

# Radio

- Notes on Programming
  - Initially limited to the evening hours
  - By the late-1920s, broadcasters realized that the right daytime programming might attract housewives
    - Result: serial romantic dramas, such as “Ma Perkins” and “The Romance of Helen Trent”
      - Termed soap operas because these programs were most often sponsored by laundry soap manufacturers

# Radio

- Notes on Programming - 2
  - By the early 1930s, morning programming focused on weather reports, recorded music, and talk a la “Don McNeill’s Breakfast Club”
  - By 1930, evening programming focused on the radio genres with mass appeal
    - Domestic sitcoms
    - Crime, mystery, & detective shows
    - Comedy/Variety shows
    - Radio versions of plays and movies

# Radio

- Notes on programming – 3
  - By the late 1930s, most of the programs that would occupy the top broadcast ratings slots until television (i.e. the next ten years) had made their debut on the air.
  - Only in the mid-1930s did radio networks begin to broadcast regular news programs
    - Prior to that, radio lacked the resources and incentive to gather news on its own
    - Rising international tensions made news programs popular
      - What Saddam Hussein did for CNN during the Gulf War, Adolf Hitler did for NBC and CBS News

# Radio

- Radio quickly penetrated the American market
  - 1927 – 25% of all American households had a radio
  - 1929 - 1/3<sup>rd</sup> owned a radio
  - 1934 - 60% of all homes had a radio;
  - 1939 - 86% of all households owned at least one set. There were also 6.5 million radios in automobiles.

# Radio

- Notes About the Radio Medium
  - With radio, the speaker addressed an audience that was invisible and unknown
  - Radio allowed millions to hear the same program at the same time
    - It provided a speaker with an audience that dwarfed any audience that could fit in an auditorium or theater
    - Along with the phonograph, it gave any song, symphony, or opera more listeners than every heard the work in a theater or symphony hall

# Radio

- Notes About the Radio Medium
  - Radio leads people to create images in their mind to provide a picture background for the actions and dialog that they are hearing in the broadcast
  - Radio is a medium that allows people to do other things while they are listening
  - Radio fostered the creation of “imagined communities” of people who never met but of which we were a part – E.g. sports fans, Fred Allen fans, rock 'n' rollers, ham operators, Dittoheads

# Radio

- Notes About the Radio Medium
  - Before television, radio was a centralizing medium because of both its expense and its broadcasting nature
  - After television, radio became:
    - A narrowcasting medium that appealed to specific niches of listeners through specific types of content – specific forms of music, all news, conservative talk shows, etc., and/or
    - Audio wallpaper that served as background while doing other things at home or in the car

# Radio

- Additional Notes About the Impact of TV:
  - Radio networks broke down and local stations found themselves on their own
    - Rise of music format stations with disc jockeys
    - Later AM radio became dominated by all news and talk/call-in shows as music migrated to FM
  - Decline of advertising on radio
    - From a high of \$133 million in 1948, advertising time sales on network radio dropped to \$35 million in 1960.

# Radio

- FM Radio
  - In 1933, Edwin Armstrong patented Frequency Modulation radio
    - Superior to AM since it eliminated static, provided a wider range of sound, and used spectrum more efficiently
  - FM did not take off until the late-1960s due largely to opposition from RCA
    - RCA saw FM as a rival to television for investment capital and available spectrum
    - FM threatened to undermine the position of its NBC subsidiary

# Radio

- FM Radio
  - After the mid-1960s, FM radio took off. There were several reasons for this:
    - FM radio offered a more lucrative investment opportunity than network-dominated TV and the overcrowded AM band
    - The arrival of stereo and high fidelity
    - Increased advertising on FM as advertisers discovered the quality of its listening demographics
    - AM-FM radio sets become commonplace
    - An FCC decision in 1964 that AM and FM stations owned by the same company could not duplicate more than 50% of their programs on both bands simultaneously

# Radio

- Some Effects of the Radio
  - By broadcasting the same content to a vast audience at the same time for all, radio created a shared simultaneity and unity of experience
    - This led to both a standardization of culture and also of speech
  - It led people to focus on and become knowledgeable about what was happening at the national and international level as distinct from the local community level
    - Thanks to radio and later TV, we now have people who are well-informed about what is going on in Washington or in the Middle East, but who have no idea of who their local mayor or city council representative is

# Radio

- Some Effects of the Radio
  - Fostered the growth of several major corporations
    - RCA, NBC, CBS, ABC, Mutual, GE, Lonsdale Tube, Motorola
  - Created several new occupations
    - Electronics engineer
    - Radio repairmen
    - Radio announcers & actors
    - Sound effects men
    - Radio script writers

# Radio

- Some Effects of the Radio
  - Enabled Government leaders to speak to whole populations thus going over the head of local elites, existing bureaucracies, local political machines, and print media barons
    - This greatly increased the power of national government leaders vis-à-vis local leaders

# Radio

- Some Effects of the Radio
  - Along with the movies, led to the rise of a popular entertainment industry geared to the mass market
    - Reduced traditional forms of high art to elite ghettos of the well-to-do and the highly educated
    - Created a uniform mass popular culture
  - Radio made music a more integral, structuring part of everyday life and individual identity.
    - Fostered an interest in classical music – especially live performance due to the poor sound quality of early radio

# Radio

- Some Effects of the Radio
  - Along with the movies,
    - it reinforced ethnic and racial stereotypes
      - Italians were gangsters or immigrants (Life with Luigi)
      - Blacks were illiterate and stupid (Amos 'n' Andy)
      - Canadians were Royal Mounted Policemen (Sgt Preston and the Yukon)
    - It popularized various myths
      - Western cowboy, lawman, and outlaw
      - Hard-boiled cynical detective
      - The world as a battleground of “good” vs “evil” with “good” always winning out in the end

# Radio

- Some Effects of the Radio
  - The concept of the audience led to the concept of the average American
    - This provoked an interest in ratings, audience demographics, and the tastes and attitudes of the presumed average America
      - What was the average American listening to? Or buying? Who was listening to *Our Miss Brooks* or *The Shadow*?
  - Radio adversely affected the advertising revenues of newspapers and magazines

# Radio

- Some Effects of the Radio
  - The technical limitations of early radio:
    - Precluded use of very high or very low frequency musical instruments – cello, oboe, violin
    - Favored use of certain musical instruments - piano, clarinet, and saxophone
    - Led to the use of crooning as a singing technique
    - Favored broadcasting of jazz despite its frequent association with prohibition-era speakeasies and its black roots

# Radio

- Some Effects of the Radio
  - Fostered the evolution and popularization of country music
  - Radio and WWI led to code encryption and code breaking
  - Radio paved the way for radar, TV, homing devices, and cellular telephony
  - Radio made music an acceptable endeavor for men
  - Radio led people to match their personal schedules to the schedules of the broadcast day

# Phonograph

- Before the Phonograph, the piano
  - 1855 – The Steinway cast-iron frame piano
  - 1890s – Mass production and the upright made the piano generally affordable to the middle class
    - 1890 – 32,000 pianos produced
    - 1914 – 374,000 pianos produced
    - By 1920, about 25% of American homes had a piano
  - 1900s – Player piano

# Phonograph

- Invention of the Phonograph
  - Edison invented the phonograph because of concern that the high cost of telephones would limit their use
    - Edison had two concepts as to how the phonograph would be used
      - A person would record a spoken message and then take the record to a central station which it could be transmitted to an addressee over a telephone
      - A businessman would use it as either a dictating device to a secretary or as a device to record his phone conversations

# Phonograph

- Phonograph Developments
  - Mid-1880s – The flat master disc of Emile Berliner replaces the Edison wax cylinder
    - Simplified both the recording and reproduction process
  - Edison subsidiary develops the jukebox
    - Widely installed in neighborhood soda fountains and saloons
  - 1906 – the Victor Talking Machine Company creates the Victrola – a phonograph that is also a piece of stylish furniture

# Phonograph

- Phonograph Developments
  - Mid-1920s – Electrical recording using microphones and acetate records replaces acoustic recording
  - Radio initially has a depressing impact on phonograph sales but later serves to popularize records sales
    - Quality of radio music was superior to that of phonograph music
    - 78 rpm records could contain only 4 minutes of music

# Phonograph

- Phonograph Developments
  - 1948 - The 33-1/3 long-playing record (LP) and 45-rpm single were introduced
    - Unlike the earlier 78 format, these were vinyl rather than glass or metal coated with shellac
    - This paved the way for both high fidelity recordings and
  - 1950s – High Fidelity recordings
    - Created the audiophile
  - 1958 - The first stereophonic phonograph discs made available to the general public in 1958.
  - 1961 - The FCC announces stereo FM technical standards

# Phonograph

- Phonograph Developments
  - 1961 - Licensed regular stereophonic FM radio broadcasting begins
  - 1960s – Dolby stereo recording
  - 1963 – Introduction of the audio cassette
  - 1971 – Quadraphonic sound
    - Led the way to the surround sound systems of today
  - 1982 – Dolby surround sound
  - 1985 – “Yellow Book” standard for CD-ROMs published
    - Meant that CD-ROMs could hold either music or data

# Phonograph

- Impact of the Phonograph
  - Along with radio, made music an major part of people's lives
    - Before the phonograph (and radio), hearing music required the presence of musicians, singers, or a player piano
    - Made listening to music a passive experience
  - Provided much of the broadcasting content for both early radio and current FM radio
  - Fostered the development of FM radio

# Phonograph

- Impact of the Phonograph
  - Gave rise to the juke-box (and the teenage hangout)
  - Fostered the development of portable music media
    - The record gave way to the 8-track, then the audio cassette, and finally the CD-ROM and iPod.
  - Provided through the sale of records (and related media) a major source of income for musicians, singers, opera companies, choruses, and others involved with music

# Phonograph

- Impact of the Phonograph
  - In the form of the audio cassette and its related player-recorder
    - It gave Third World peoples a relatively cheap and easy technology by which they could make audiotapes of whatever they wanted to hear -- their native music, stories, myths, chants, prayers, sermons, and speeches. Their impact has frequently been revolutionary.
    - It permitted the survival and even the renaissance of many forms of local music and stories that were in danger of dying out
    - It facilitated the cross-cultural dissemination of musical forms and styles

# Television

- Television is based on the discovery of photosensitivity in 1873
  - When certain metals (like selenium) are exposed to bright light, they emit an electrical current
  - This led to the concept of converting an optical image to an electric current and then converting the current back to an image
  - This led eventually to television, the wire photo, and the fax machine

# Television

- Early History

- 1875 - George R. Carey of Boston proposed the use of two matching banks of light-sensitive cells connected by a cable that had a separate transmission circuit for each picture element
- 1881 – Sheldon Bidwell described a facsimile scanner that moved a selenium element over an image area
- 1884 – Dr Paul Nipkow patented a scanner that rotated a disc bearing a spiral of small apertures over the image to be scanned

# Television

- Early History – 2
  - Two crucial discoveries
    - Cathode rays or beams of electrons – discovered by Sir William Crookes in 1878
    - Thermionic emission (the Edison Effect) was identified as the cause of the blackening of incandescent light bulbs in 1883
  - 1892 – Elster and Geitel devise the photoelectric cell

# Television

- Early History - 3
  - 1897 – Karl F. Braun creates a tube that focuses and deflects Crookes' cathode rays
    - This was the basis of both the television picture tube and the modern cathode ray oscilloscope.
  - 1906 – Max Dieckmann and G. Glage, using Braun's tube, devise a facsimile system
  - 1906 – Lee De Forest invents the 3-element audion tube
    - This permits amplification not only of voice signals but also of the weak signals obtainable from image scanning systems

# Television

- Early History - 4
  - December 29, 1923 – Vladimir Zworykin filed for a patent for an all-electronic television system employing an electronically scanned camera pickup tube and a cathode ray display tube
  - 1925 – John Logie Baird and C. Francis Jenkins succeeded in transmitting silhouette still picture images via radio
  - January 13, 1926 – Baird succeeds in transmitting moving images in which the gradations in tone scale make it possible to recognize facial features and expressions

# Television

- Early History – 5
  - 1927 – Dr Ernst Alexanderson at GE begins experimental television transmissions over W2XAD in Schenectady, NY
  - 1934 – NBC began transmitting electronically scanned 343-line 30 frame/sec interlaced TV
  - September 10, 1938 – The RMA Standards Committee submits its proposed standards to the FCC

# Television

- Early History – 6
  - The FCC, however, delayed approval of the proposed RMA standards
    - Dumont & Philco did not agree with them
    - CBS was working on a mechanical-electrical color TV system (which was incompatible with the RMA system) and wanted color taken into account
    - FCC felt that premature approval of standards would discourage R & D and thereby forestall the development of higher technical standards

# Television

- Early History - 7
  - 1938 – To force FCC action, RCA announced that it would start regular TV broadcasts using the 441-line scanning standard
  - April 30, 1939 – RCA begins daily broadcasting
    - The initial broadcast featured the speech of President Franklin D. Roosevelt as he opened the 1939 New York World's Fair
  - May 1940 – An FCC report stated that when the radio-television engineers agreed on a standard, the FCC would authorize full commercial broadcasts
    - This led the RMA to establish the National Technical Standards Committee (NTSC) on July 31, 1940

# Television

- Early History – 8
  - March 8, 1941 – The NTSC and the television industry approve of set of 22 standards that cover all technical phases of black & white television
    - This included increasing the number of scan lines from 441 to 525
  - May 1941 – The FCC approves and adopts the NTSC standards and authorized the transmission of commercial television programs, starting on and after July 1, 1941

# Television

- Impact of World War II
  - Shut down television broadcasting and production of television sets
  - Diverted engineering talent and resources into radar, VHF-UHF-microwave band transmissions, ordnance direction, and scanning technology
    - Out of this came the image orthicon camera which produced a much sharper TV image with greater depth of field than the iconoscope

# Television – Homes with Sets

Year	1948	1950	1952	1955	1956	1960	1965
% Homes with sets	3%	10%	34%	67%	81%	87%	94%

# Television

- Network TV Production
  - Demand for programming led the networks into TV production
    - All three networks set up television production studios first in New York City and then in Hollywood
      - 1949 – ABC purchased the old Vitagraph studio property in Hollywood and converted it to TV production
      - 1952 – CBS inaugurated program service from CBS Television City in Hollywood
      - 1952 – NBC started operations at NBC Television Center in Burbank CA

# Television

- Independent TV Production
  - As noted in the discussion of the movies, the Studios initially saw television as a mortal threat, but independent movie producers saw TV as an opportunity
  - The independents began making films – mostly crime dramas, westerns, and comedies – for television
  - Among the most successful was Desilu Productions
    - The success of Disneyland with the theme park, TV programs, and movies mutually promoting each other led studios to see television as a potential ally

# Television

- Color Television
  - In the late 1940s, CBS developed a 405 scan line 24 fps color system that could be transmitted in the established 6-MHz television channel
  - In 1949, CBS petitioned the FCC to establish standards for color television
    - At this time, there were 3 competing systems
      - CBS – Field sequential system
      - RCA – Dot sequential system
      - Color Television, Inc – Line sequential system

# Television

- Color Television - 2
  - October 10, 1950 – the FCC found in favor of the CBS system
    - This led to a long court fight with RCA, but the Supreme Court in May 1951 decided in favor of CBS
  - June 25, 1951 – CBS began color TV broadcasting
    - Problem was that the CBS color system was incompatible with the NTSC black & white system
    - On October 22, 1951, manufacture of TV sets capable of receiving CBS color broadcasts was halted at the request of the Office of Defense Mobilization.

# Television

- Color Television – 3
  - 1950 - The disputes over color television led the television industry to form a second NTSC to devise a color TV system that would be compatible with the existing black & white NTSC system and acceptable to the industry
  - July 21, 1953 – The NTSC presented its proposals to the FCC
  - December 17, 1953 – The FCC approved the NTSC proposals, reversed its previous approval of the CBS system, and authorized color service to the public under the NTSC standards

# Television

- Color Television – 3
  - January 1, 1954 – NBC began color broadcasting with the Tournament of Roses parade in Pasadena CA
  - 1954 – Networks open color TV studios, which include telecine facilities for broadcasting color movies using a 3-tube vidicon camera for scanning the film
  - 1955 – First color broadcast of the World Series

# Color Television

<b>Year</b>	<b>% of TV Homes with Color TV</b>
1964	3.1%
1968	9.6%
1968	24.2%
1970	39.3%
1971	45.2%
1972	52.6%
1973	60.1%

<b>Year</b>	<b>% of TV Homes with Color TV</b>
1974	67.3%
1975	70.8%
1980	83.0%
1985	91.0%
1990	98.0%
1995	99.0%

# Television

- Film, Videotape, and Television
  - Prior to 1948, almost all TV programming was either live or programs produced from motion picture film
    - Kinescopes (35mm film recordings of TV broadcasts from the face of the picture tube) were a common way of distributing and preserving programs
  - By 1956, AMPEX had developed a 2” quad videotape recorder which it exhibited to CBS executives

# Television

- Film, Videotape, and Television
  - April 14, 1956 – The AMPEX videotape recorder was unveiled at the National Association of Radio and Television Broadcasters convention in Chicago
    - It was a big hit and the backlog of orders exceeded a year of production
  - Videotape was used initially for time zone delay broadcasts and then later for pre-recording of complete television programs, recording of taped inserts for programs, and production recording of commercials

# Television

- Film, Videotape, and Television
  - As time went on, helical scan formats were introduced – these permitted easier editing, still frame, slow motion, and reverse play. They also allowed tape size and videocamera size to decline, making the videocamera easily portable
  - Given the cost of videotape, many TV stations normally reused videotape, so that early TV programming, unless it was filmed or kinescoped, was not preserved.

# Television

- Cable TV
  - Began in 1949 in Astoria OR
  - Had its origin in the fact that many communities lacked television service because they were either in or beyond the fringe reception area or signals were blocked by mountains, hills, or tall buildings
  - Cable operators soon found that they could put their own or other locally-originated programs on unused cable channels
    - This made cable and the channels they carried (like TNT and CNN) competitors to the broadcast channels

# Television

- Cable TV
  - Cable operators also found that they could sell their cable services in cities by supplying ghost-free images and providing additional channels and programs
    - This led to the use of pay channels who provided closed-circuit programming of either sporting events or first-run motion pictures on either cable channels (such as HBO or Cinemax) or theater showings (as in the case of Heavyweight championship fights)

# Cable Television

<b>Year</b>	<b>No. Subscribers (millions)</b>	<b>% of TV houses</b>
1960	0.65	1.4%
1965	1.275	2.4%
1970	2.49	7.6%
1975	3.45	15.5%
1977	12.168	16.6%
1979	14.814	19.4%
1980	17.671	22.6%
1981	23.219	28.3%
1982	29.340	35.0%

<b>Year</b>	<b>No. Subscribers</b>	<b>% of TV houses</b>
1983	34.113	40.5%
1984	37.290	43.7%
1985	39.872	46.2%
1987	44.970	50.5%
1988	48.636	53.8%
1989	52.564	57.1%
1990	54.871	59.0%
1995	62.956	65.7%
1999	67.592	68.0%

# Television

- Notes about Television
  - TV has several genres
    - Many of these originated with radio or the movies – news, sports, adventure program, mystery-detective program, situation comedy, Western, soap opera, variety show, talk show, and game show
    - One genre originated by TV was the media event
      - Unlike other events, it is live, out-of-the-ordinary, pre-planned, organized by some public body, usually attracts a large audience, and is often ceremonial
      - The real event is the one experienced by the TV audience, not by those physically present at the event