

# History of Communications Media

Class 7

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## What We Will Cover Today

- Television
  - Origins
  - Early History
  - Color
  - From Kinescopes to Video
  - Cable & Satellite
  - Notes about the TV medium
  - The Impact of TV

# Television

- Definition
  - an electronic system of transmitting transient images of fixed or moving objects together with sound over a wire or through space by an apparatus that converts light and sound into electrical waves and reconverts them into visible light rays and audible sound

## Scientific Basis of 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
  - Led to the concept of converting an optical image to an electric current and then converting the current back to an image
  - Eventually led to television, the wire photo, and the fax machine

**Photosensitivity** – The concept of photosensitivity was based on the discovery that certain metal (like selenium) when exposed to bright light gave off an electrical current. This led to the idea of converting an optical image to a matching electrical pattern at a transmitting site and then converting the pattern at a receiving site back to an optical image.

## Early History of Television

- 1875 - George R. Carey of Boston proposed a system that would transmit and receive moving visual images electrically.
- 1878 – Constantin Senlecq, suggested physically moving a selenium element over an image area to create a facsimile for image transmission
- 1884 – Dr Paul Nipkow patented a scanner that rotated a disc bearing a spiral of small apertures over the image to be scanned

**Carey** – Carey’s system involved the use of a bank of light-sensitive cells at the transmitting end and a matching set of light-sensitive cells at the receiving end with both connected by a cable that had a separate transmission circuit for each picture element. A modern version of Carey’s system is presently used in animated advertising signs.

**Senlecq & Nipkow** – Out of Senlecq’s idea and Nipkow’s scanner eventually came the fax machine

## Early History of Television - 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

**Cathode rays** – Out of the discovery of cathode rays or beams of electrons came not only electronic scanning via beams of electrons but also the CRT picture tube with its interlaced scanning.

**Edison Effect** - Edison had over a thousand patents, but made only one scientific discovery – the Edison Effect. This effect was to be a key concept behind many future innovations in electronics, but Edison, himself, did not see the technological possibilities or consequences inherent in his discovery. One use of the Edison Effect was in the Fleming valve of 1904 to detect wireless radio signals. Another was in Lee De Forest's vacuum tube to amplify the weak signals inherent in all of the scanning systems that existed.

**Photoelectric cell** – This was originally devised to measure light intensity and found its first widespread application in the photographic light meters used to determine the proper f-stop/shutter speed exposure for the given combination of film speed and ambient light conditions. Later, photoelectric cell technology was applied to television.

## Early History of Television - 3

- 1897 – Karl F. Braun creates a tube that focused and deflected Crookes' cathode rays.
- 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

**Braun** – Braun's innovation made possible both the CRT television picture tube that constituted the TV picture tube until the invention of liquid crystal diode (LCD) and plasma TV picture tube technologies.

## Early History of Television - 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

**Zworykin & CRT** - Both Vladimir Zworykin and Philo T. Farnsworth believed that a cathode ray tube (CRT) -- a tube with an emitter filament at one end and the other end painted with a fluorescent chemical -- could, when a current is applied to the filament, display on the fluorescent surface of the tube the pattern made by a stream of electrons. Both also believed that if that pattern could be controlled -- could be made to correspond to a generating image -- a transmitting CRT could translate photographs into electricity and a receiving CRT could convert the electrical signal back into an image.

**Baird** - Baird's system was a mechanical-electronic system that used a mechanical scanner; Zworykin's was all electronic system. By 1929, Zworykin had improved his system to the point where he was able to impress the Institute of Radio Engineers that his system was workable.



## Early History of Television - 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

Two things that hampered the development of television in the 1920s and 1930s were 1) the existence of incompatible mechanical-electrical television and electronic television systems; and 2) the absence of either government or industry transmission standards. By 1933, it was evident that all electronic television systems offered picture quality superior to that of mechanical-electrical systems. Each experimental television station, however, was free to choose its own standards. By 1935, it was clear that uniform transmission standards were essential if the development of television were to proceed. If receivers for the general public were to be produced, they must match the characteristics used in the transmission system and all transmissions must be compatible. This led the Radio Manufacturers' Association (RMA) to set up a standards committee to develop a set of transmission standards and to win approval of those standards from the radio industry.

## Early History of Television - 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

**FCC** - The FCC's concern about technical standards was justified. Its refusal to approve the initial proposed standards resulted in eventual development of those proposed by the National Television Systems Committee (NTSC), a committee of 168 specialists from the entire radio-television industry which resulted in picture quality superior to that of initial RMA-proposed standards. But the fact that the FCC and the television industry could not agree on standards until 1941 meant that Europe did not adopt the American standards. Instead, Germany (where television was under the control of the government) began experimental television broadcasting in March 1935 and in 1936 distributed television broadcasts of the 1936 Olympics to selected sites in the German capital. In the late-1930s, the BBC began regular television broadcasts.

**Color** – On August 28, 1940, CBS made the first experimental broadcast of high definition color pictures transmitted from motion picture film using a mechanical field-sequential color system developed by a CBS team led by Dr Peter C. Goldmark. Live studio broadcasts followed on December 2, 1940.

## Early History of Television - 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

## Early of Television - 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

The fact that the FCC approved the proposed NTSC standards in 1941 (and later declared that any color television transmission system must be compatible with existing black & white television) meant that U.S. television would have technical standards and TV picture quality that was lower than the European PAL and SECAM standards that were developed later.

## 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

As of the start of U.S. involvement in WWII in 1941 and the end of the war in 1945, there were fewer than 7,000 TV sets in the whole U.S. and only 9 TV broadcasting stations – 3 in New York City, 2 in Chicago, 2 in Hollywood, 1 in Philadelphia, and 1 in Schenectady NY.

## Television – Homes with Sets

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

Data from [http://www.tvhistory.tv/Annual\\_TV\\_Households\\_50\\_78.jpg](http://www.tvhistory.tv/Annual_TV_Households_50_78.jpg)

## 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

TV networks had a voracious need for programming to fill their broadcast schedules. The attractiveness of the southern California climate and the existence of a large pool of actors, directors, screenwriters, set designers, and other Hollywood-related talent, attracted the TV networks, especially when the major movie studios were letting people go as a consequence of the drop in revenues from declining movie theater ticket sales.

## Independent Producers

- 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

**Independents** – The independents realized that *filmed drama could earn for its producers more money than live programming ever could. Under a practice known as syndication, a producer would sell rerun rights to the network and to groups of local stations.*” From the late 1940s on, independent producers began setting up shop on lower Sunset Boulevard in Hollywood and started cranking out cut-rate price films (mostly crime dramas & westerns) for television. *Tempted by the huge profits that could be made, many Hollywood producers made the switch to independent television production. Among them were two former RKO contract players -- Lucille Ball and Desi Arnaz -- who formed Desilu Productions.* By 1955, they were turning out hundreds of hours of programming every year, including *I Love Lucy*.



## 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

While the CBS system had excellent color quality, it was not compatible with the large number of NTSC black-and-white sets that were in use.

## 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
- October 22, 1951 - manufacture of TV sets capable of receiving CBS color broadcasts was halted at the request of the Office of Defense Mobilization.

None of the millions of existing black & white TV sets could receive the CBS color telecasts, nor could sets capable of receiving the CBS color broadcasts receive any black & white NTSC television signals. Thus, few sets could receive CBS color broadcasts.

**Korean War** – The Office of Defense Mobilization made its request during the Korean War in order to conserve scarce electronic materials for military use. In effect, this doomed the CBS color system since by the time the Korean War ended, a rival NTSC standard, based on RCA technology that was compatible with existing black-and-white technology, was before the FCC.

## Color Television - 3

- 1950 - A second NTSC formed 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

The disputes over color television led the television industry to form a second National Television Systems Committee (NTSC) to devise a color TV system that was compatible with the existing black & white NTSC system and acceptable to the industry.

## Color Television - 4

- 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

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

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

## 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

## Film, Videotape, and Television - 2

- 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

While earlier videotape systems had been developed, what differentiated the AMPEX 2" quad system from earlier videotape recorded developed by the Bing Crosby Enterprises labs was that instead of recording video in audio-style longitudinal tracks (which required 7,000 feet reel of tape for a 15-minute recording, the AMPEX system used a single track transverse scanning across the width of the tape which was done by four recording heads mounted on a rapidly-rotating drum, each head successively scanning across the tape. This method reduced the lineal speed from the 20 ft/sec required by longitudinal recording to the 15 in/sec, so that much less videotape was required.

## Film, Videotape, and Television - 3

- 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.



## Cable Television

- Began in 1949 in Astoria OR
- Had its origin in the fact that many communities could not receive TV signals because they were outside the reception area
- 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

TV signals were line-of-sight signals that, because of the curvature of the earth, could not be received beyond 40 miles. In many cases, TV signals were blocked by mountains, hills, or tall buildings.

## Cable Television - 2

- 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
    - These pay channels were either cable channels (such as HBO or Cinemax) or special event theater showings (as in the case of Heavyweight championship fights)

# Cable Television

Year	No. Subscribers (millions)	% of TV houses
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%

Year	No. Subscribers	% of TV houses
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%

## Satellite Television

- Enabled cable companies to create national (such as TBS) or even international (such as CNN) networks
  - Beamed programs from one location to cable systems all over the world
  - Permitted transmission from hundreds of cable channels since cable TV and satellites were not limited to the 12 VHF or 70 UHF channels
  - Radically cut the cost of transmission, making special interest channels carrying niche programming financially feasible.

Starting in 1965, communications satellites went into orbit and that changed both the technology and the potential of cable TV. Communications satellites contain transponders [Radio or radar transmitter-receivers activated for transmission by reception of a predetermined signal] that amplify and transmit electromagnetic signals. Because communications satellites are in geo-synchronous orbits, they can receive signals from and transmit signals to virtually anyplace on the surface of the globe -- connecting a transmitting production studio in Atlanta with a receiving antenna in Alaska.

Communication satellites did the following:

- Made it possible for cable companies to stop paying AT&T for use of phone lines
- Made it possible for some of the cable companies to create national (such as TBS) or even international (such as CNN) networks -- beaming programs from one location to cable systems all over the world.
- Permitted the transmission of signals from hundreds of cable channels since cable TV and satellites were not limited to the 12 VHF or 70 UHF channels the FCC had assigned to broadcast TV stations since cable-satellite transmissions were directed upwards rather than outwards and so did not interfere with other transmissions.
- Radically cut the cost of transmission, thus making special interest channels carrying 'niche' programming financially feasible. !! Hence, a proliferation of channels that appealed to small audiences -- cartoon channels for children, instructional channels for schools, religious channels, history channels for history buffs, science channels for scientists, music channels for teenagers, plus movie and shopping channels.

## Impact of Cable & Satellite TV

- The multiplicity of channels changed TV from a broadcasting medium to a narrowcasting medium
  - Instead of three major networks offering similar-type programming, there were dozens of specialized channels that focus on topics that appeal to small audiences
- All-news channels (like CNN, MSNBC, Fox News) did to network news departments what TV did to newspapers and news magazines
  - It ended their reign as news sources and led the networks to focus on entertaining features, news analysis, and news commentary

**Narrowcasting** – Thus, along with (and increasingly instead of) network channels that appealed to a mass audience, there were dozens of niche channels -- cartoon channels for children, instructional channels for schools, religious channels, history channels for history buffs, science channels for scientists, music channels for teenagers, plus movie and shopping channels.

**All News Channels** - CNN and MSNBC have done to network news departments what TV did to newspapers and news magazines like Time, Newsweek, and U.S. News & World Report -- it ended their reign as news sources and led them to focus on entertaining features, news analysis, and commentary

## Notes about Television

- Early conceptions of television linked two concepts
  - Visual motion imagery of spatially distant scenes
  - Simultaneity - what people saw was seen live in real-time

Inspired by the telephone, early notions of the televisual assumed that moving pictures would be seen *simultaneously* with their production, that is, that the medium would serve as something like an electronic camera obscura or telescope, bringing spatially distant scenes into direct visual proximity with the viewer. From 1876 onwards, an articulated notion of television as a "live" moving picture medium offered a counterpart to the "stored" moving images seen, for example, with Edison's Kinetoscope, and eventually with what we today celebrate as projected moving pictures (1895). The difference between these two basic approaches to moving picture technology was in some senses the same as that between the telephone and the gramophone. Both mediated the grain of the voice from sender/recorder to receiver, and both created an illusion of presence and even liveness. But only the telephone, like the period's sense of television, linked subject and object in real time. The gramophone like the film medium was by definition temporally disjunctive.

## Notes about Television - 2

- TV has several genres
  - Many 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

**TV genres** - Producers and audiences alike routinely assume the existence of television genres. Broadcasters and TV listings in newspapers regularly classify programs by type: news, documentary, sports, action, adventure, Western, situation comedy, soap opera, variety show, game show, talk show, and children's cartoon.

**Media events** - Typically, media events are ceremonial events. !! In such events, the media rarely intrudes -- it interrupts only to identify the music being played or the names of the lesser participating dignitaries. The media upholds the definition of the event by the organizers, explains the meaning of the symbols used on the occasion, and only rarely intervenes with analysis and almost never with criticism. If the event originates in a particular location, that location is turned into a Hollywood set. Sometimes the original event is inaccessible to live audiences because the event is taking place far away. Some media events have no original anywhere because the broadcast is a montage originating in several different locations simultaneously. E.g. Prince Charles at the church while Lady Diana's carriage is drawn through the streets of London. Media events are not just televised events because those physically present at the site of (or one of the sites of) the media event will not see all that is seen by the television audience. *Thus, those near the Capitol steps to watch a Presidential Inauguration will not see, as television viewers do, the President-elect and outgoing President riding down*

## Notes about Television - 3

- The TV screen occupies about 15% of the viewer's visual field; the movie screen in a theater occupies about 70%.
  - The size of the movie screen and the darkness of the theater make the actor and his every action 'larger than life.'
  - The television screen, however, is smaller than life. It is not set in a darkened theater, but in the viewer's own home.

This helps explain why people perceive movie stars and TV stars differently. We ask what is a movie star really like in person but feel we know what a television actor's personality is like.



## Notes about Television - 4

- Television does not communicate a sense of either the past or the future.
  - It is a present-centered, speed-of-light medium.
  - Everything we see on television is experienced as happening *now*.
- The visual & audio world of TV makes an emotional appeal rather than a logical appeal
  - TV stresses emotion-generating pictorial images over logical and abstract argument.

## Notes about Television - 5

- TV has been a mutating medium, changing in both its capabilities and its relations to viewers over time. i.e. There were distinct TV eras
  - TV has had 4 distinct media eras
    - Over-the-air broadcast TV
    - Satellite- and Cable- TV
    - The VCR-DVD era of TV
    - High Definition Digital TV

Television has from its start been in a state of transformation, mutating and redefining its capacities and its relations to viewers and other media, while inhabiting a dynamic media landscape. Thus, TV went through 4 distinct media eras:

1. Over-the-air broadcast TV – The era of rooftop and rabbit ears antennas. Transmission was limited first to 13 VHF channels and later 81 VHF/UHF channels. Typically, a viewer could receive no more than a few channels.
2. Satellite & Cable TV – The era of niche interest channels. Marked by the relative decline of the networks
3. VCR-DVD Era – The era of time-shifting. Viewing of pre-recorded movies and homemade recordings cut into broadcast viewing.
4. High Definition Digital TV – TV begins to approach the image quality of movies.

## Notes about Television - 6

- Over-the-air broadcast TV era
  - Limited number of channels due to limited spectrum
  - Dominance of the major networks
  - Broadcasters seek a mass audience
- Satellite- and Cable-TV era
  - Potentially hundreds of available channels
  - Narrowcasting and niche broadcasting
  - Fragmented audiences

## Notes about Television - 7

- VCR- and DVD-era
  - Timeshifting
  - Permit watching of user-chosen content over broadcast content
    - Users can now see rental movies, music videos, documentary productions, or their own recorded video along with or instead of broadcast programs
- High Definition Digital TV era
  - Has more in common with the traditional movie than NTSC television
  - Permits merger of the computer and the TV

## Impact of Television - 1

- Created a 'global village' in which boundaries that formerly isolated cultures had been broken down
  - Hollywood films and American television programs were now viewed throughout the world.
  - Led to the large-scale Americanization of World Popular Culture
- Decreased cultural diversity between societies and increased cultural diversity within societies.

**Americanization of world popular culture** - Starting in the 1950s, when the first government-controlled television channels were established, European station managers always required more programs than local producers could provide. Demands for programming intensified in the 1980s and 1990s with deregulation, privatization, and the multiplication of commercial and cable channels. In addition, the European television industry lacked the funds, production skills, and the artistic talent to create programs comparable in quality to those produced in America. In addition, it was cheaper for European TV networks, particularly those in smaller countries, to buy American shows rather than make their own.

Hence, by the 1990s, 75% of the airtime in Great Britain and Western Europe was filled with programs made in the United States.

**Cultural diversity** - The concept of cultural diversity has multiple meanings. !! There is a distinction between diversity within societies and diversity between societies. These two kinds of diversity often move in opposite directions. When one society trades a new artwork to another society, diversity within society goes up (art consumers have greater choice), but diversity across the two societies goes down (the two societies become more alike). Globalization and

## Impact of Television - 2

- Changed radio from a broadcasting medium to a narrowcasting medium
  - Radio survived because it could target specific demographic groups (Blacks, teenagers, farmers, and ethnic minorities) that Network television tended to ignore
- Caused the most popular radio programs and stars to migrate to TV
- Changed the prime listening hours of radio from the evening to the commuting hours
  - This turned radio from an entertainment medium into an information medium

**Narrowcasting** - Radio managed to survive and thrive in the television era through its ability to target specific demographic groups -- teenagers (looking for acne remedies), blacks (looking for stores that would serve them and were near their neighborhoods), and farmers (looking for fertilizer and tractors) -- for advertisers through 'narrow casting.'!! Thus, local radio stations began broadcasting rock 'n' roll for teenagers, rhythm & blues for blacks, and country music for farmers and classical music for the well-educated.

**Migration of programs to TV** – Among the popular radio programs that migrated to TV were *Dragnet*, *Gunsmoke*, *The Jack Benny Show*, *Amos 'n' Andy*, *The Lone Ranger*, *Superman*, *Abbott & Costello*, *The Milton Berle Show*, *You Bet Your Life*, *The Cisco Kid*, and *Tom Corbett Space Cadet*

**Radio as intelligence system** – In the words of Marshall McLuhan, television changed radio from an entertainment medium into a kind of nervous information system. News bulletins, time signals, traffic data, and, above all, weather reports now serve to !! enhance the native power of radio to involve people in one another.

## Impact of Television - 3

- Like radio in its initial phases, it created a top-down uniform mass popular culture
  - In some respects, this led to high-quality programming, especially news programming
- People's social environment expanded from people they met face-to-face to also include a whole host of media celebrities
  - Communications researchers have discovered that, for most people, these celebrities are socially real
- TV assumed many of the socializing-values inculcating functions formerly performed by the family, church, and school

**Top-down uniform culture** – Due to limited spectrum (particularly in early television where only VHF channels were available), the number of television stations in any given metropolitan area was limited to 4 or 5 maximum in order to prevent interference. With three of these stations affiliated with one of the major networks – NBC, CBS, and ABC – it meant that network corporate heads determined what the American populace would see on TV. To use Washington DC as an example, there were four channels – 4, 5, 7, and 9 – 4 was NBC, 7 was ABC, and 9 CBS. Even Channel 5 was originally affiliated with the Dumont network which folded in December 1954

**High-quality news programming** - With a small number of firms or networks, collusion about product quality or composition can be easily facilitated. One could view news directors from the broadcast networks in the 1960s as fairly confident that their competitors would provide nightly news programming with high public affairs content. The FCC at the time required local broadcast stations to report on their public affairs coverage, so regulatory pressures reinforced the focus on hard news. The networks were owned by, or identified with, individuals willing to trade-off some profits for the psychic rewards of being identified as good corporate citizens. The industry trade association, the National Association of Broadcasters, helped facilitate quality restrictions through broadcaster codes. As cable technology and changes in spectrum allocation generated more competitors in the television marketplace, however, it became harder to maintain informal restrictions on the type of information products offered. Collusion about quality, even if it has positive externalities for society, is harder to maintain as the number of potential stations that might defect and offer a more popular programming genre increases. This yields a version of a race to the bottom. As the number of competitors increases, it becomes more likely a station will offer soft news as a programming alternative.

**Expanded social environment** - In the words of David T. Courtwright in his *Violent Land. Single men and social disorder from the frontier to the inner city*, "In an electronic age, the social environment has come to mean more than flesh-and-blood people. It includes a

## Impact of Television - 4

- Changed our conception of what is a fact
  - Facts reach us, not in the form of personal perception, not as something we ourselves have seen or heard, but in the form of communications, as something we have only heard or seen on TV
- Altered the significance of physical presence at events
  - Experiencing an event no longer required physical presence

**What is a fact?** – In the words of William Donnelly in *The Confetti Generation. How the new communications technology is fragmenting America*, “We have come to rely on television for our knowledge about the world, and if we haven't ‘seen it on television,’ it isn't real—it's as if the event has not really occurred.”

**Altered concept of presence** - As one perceptive scholar has observed, television and electronic media in general have radically altered the significance of physical presence in the experience of social events. Once upon a time, we assumed that physical presence and proximity were prerequisites for firsthand experience. Television has radically diminished the importance of physical presence at events of various sorts. It has become easy and convenient to view all kinds of performances without actually being there. In sum, the electronic media are seen as affecting social behavior not through the power of their messages but by reconfiguring the settings in which people do or do not interact and by weakening the customary bond between cultural events and specific physical sites.



## Impact of Television - 5

- There is evidence to suggest that TV has decreased our attention spans and contributed to Attention Deficit Disorder
- Television has become ubiquitous in a whole host of public spaces
  - Large screens broadcasting any number of images and advertisements can be found in most sports arenas, restaurants, airports, and shopping malls, even concert halls

**Short Attention Spans** - Most Americans consume moving images through the media of television and movies (and, to a lesser degree, through the Internet and video games). In recent years, in what many observers have called “the MTV effect,” those moving images have become more nimble and less demanding of our attention. Jumping quickly from image to image in hastily edited segments (in some cases as quickly as one image every one-thirtieth of a second), television and, to a lesser extent, movies offer us a constant stream of visual candy. As *New York Times* television critic Alessandra Stanley noted, there have recently emerged many techniques “designed to hold short attention spans,” including a “progress bar” at the bottom of the screen that counts down how much time is left for a video segment. A study published in 2004 in the journal *Pediatrics*, for example, found a clear link between early television viewing and later problems such as attention deficit/hyperactivity disorder, and recent research has suggested troubling, near-term effects on behavior for young players of violent video games. Morris Berman in *Dark Ages America. The final phases of empire* noted “Television programs of twenty-five years ago seem sluggish to us now, and if we look back fifty years we see that in terms of action, movies were much slower, and that magazine articles were much longer and more complex.” Berman also noted that sound bites from presidential candidates aired on television newscasts shrank in length from an average of 42.3 seconds in 1968 to 7.8 seconds in 2000. A survey of the top ten best-selling novels taken from the *NewYorkTimes* between

## Impact of Television - 6

- Television glued us to our homes, isolating us from other human beings.
  - Except for teenagers and college students, people no longer went out at night to patronize the cafes, bars, theaters, amusement parks, concerts, or dance halls that pre-TV generations patronized
  - Depending on the methodology, the average American family watches 4 to 5 hours of TV a day.

Joel Swerdlow in a *National Geographic* article on the “Information Revolution” noted that the decline of human-to-human contact is apparent around the world. Throughout the Middle East, cafe life—where people used to tell stories over a cup of tea—is disappearing. Bistros are going out of business in Paris; many close earlier in the day. Henri Miquel, owner of Le Dufrenoy, shuts down at 8 p.m. instead of midnight. Where do patrons go? "They rush off to watch television," he says.

## Impact of Television - 7

- Fame and Celebrity
  - Changed the concept of celebrity
    - Celebrities are persons who are both well-known and visible via the mass media
    - Prior to the 20<sup>th</sup> century, people were celebrities because they were famous – they either occupied high office or had excelled in some field that made them known to the public – e.g. business, performing arts, sports, or writing

## Impact of Television - 8

- Fame and Celebrity
  - Changed the concept of celebrity – 2
    - With the invention of public relations and television, people become celebrities because they are visible in the media
      - Celebrities are known for their well-knownness
    - Because celebrity status reflects media (especially television) attention, celebrity status no longer is necessarily a result of fame or accomplishment
      - People now become celebrities simply by either media exposure or through some sort of link to a celebrity or celebrities

It might be added that celebrity status can be conferred on a person or a place, simply by having some sort of connection to a celebrity. Thus owners of restaurants frequented by Hollywood stars, hairdressers who have stars as customers, and divorce lawyers who have them as clients have become celebrities. Charles Manson became a celebrity by simply murdering such celebrities as actress Sharon Tate and Folger's Coffee heiress Abigail Folger. Monica Lewinsky became a celebrity simply by her illicit relationship with Bill Clinton. One guarantee of financial success for an Italian restaurant in New York City lies in having it publicly known that a Mafia godfather frequents that restaurant – it is even better publicity if a Mafia celebrity was gunned down in that restaurant. Umberto's Clam House in New York was on the verge of bankruptcy until mobster Joey Gallo was killed there; since then, it has done a land office business.

## Television & News

- Merged entertainment with news
  - The economics of TV production required a mass audience – this means they must be entertaining
  - TV was a visual medium with an affinity for action and suspense entertainment that had many hours to fill
  - News coverage increasingly focused on the dramatic as opposed to the intrinsically important
- Created the “pseudo-event”
  - An event concocted for the purpose of gaining media attention

**TV economics** – Like the movies, television production is very costly with almost all the expenses being front-end loaded and the revenues from the sale of commercial time slots coming subsequently. In terms of production costs, there are no economies of scale. Program costs are the same whether everyone watches it or no one watches it, but the revenues from the sale of time slots to advertisers are very ratings sensitive. i.e. highly-watched programs command top dollar advertising – think of what the network can charge for a super bowl ad – while low ratings programs generate little ad revenue. Thus the imperative is that programs, even news programs, get high ratings. To do this, they must be entertaining as well as informative.

**News as entertainment** - Television, like the movies, was a visual medium with an affinity for sensational entertainment. But because in its early years it was live and because it had so many hours to fill, it also had an affinity for news. These affinities quickly meshed: a form of entertainment found the best means for its expression. Like film and the tabloids, television loved action and suspense, and it didn't matter whether this was provided by conventional entertainment or by reality.

**Dramatic vs Important** – As Neil Postman in his *Conscientious Objections. Stirring up trouble about language, technology, and education* notes, “Certain stories show up because they offer dramatic pictures. A plane crash makes a perfect television news story since cameras can record both the wreckage and the anguish and grief of the families of the victims. On the other hand, Congressional approval of a budget, while much more far-reaching in its effects, is much less dramatic and provides few visuals. If it makes the news, its more important provisions will be quickly summarized in a voice-over or splashed on the screen while a visual shows a telephone-sized book being brought to the White House.”

**Pseudo-event** “If the primary effect of the media in the late 20<sup>th</sup> century was to turn nearly everything that passed across their screens into entertainment, the secondary and ultimately more significant effect was to force nearly everything to turn itself into entertainment in order to attract media attention.” I.e. Events that ordinarily would not have happened were concocted by public relations practitioners and the publicity-conscious merely to get media attention -- e.g. movie premiers, press conferences,

## Television & Politics - 1

- Changed the nature of political campaigns -1
  - TV enabled candidates to reach the voters directly without the need to use intermediaries
    - Before television (and radio), candidates had to resort to mediators such as political parties and newspapers to reach the electorate
  - TV reduced political campaigns to rival television commercials, often in the form of attack ads

**Political mediators** – Before television, candidates became known to the electorate by speaking to the party and party constituency group leaders and faithful who then via campaign literature and word-of-mouth informed the electorate and persuaded them to go out and vote. With television, candidates (including maverick politicians not linked to or beholden to political party leaders) could reach the electorate directly with political commercials.

**Campaigns as TV commercials** - Political campaigns are now conducted largely in the form of television commercials. Candidates forgo precision, complexity, and substance for the arts of show business: music, imagery, celebrities, theatrics. Indeed, political figures have become so good at doing commercials that they now do television commercials when they are not campaigning -- e.g. William Miller and Robert Dole for American Express, Robert Dole for Viagra, Geraldine Ferraro for Diet Pepsi, Tip O’Neill for Tourister Luggage. Political figures also now appear on variety shows, soap operas, and sitcoms -- George McGovern and Jesse Jackson have hosted *Saturday Night Live*, Gerald Ford did cameo roles on *Dynasty*, Tip O’Neill and Michael Dukakis have appeared on *Cheers*. Bill Clinton played the sax on *The Johnny Carson Show*.

## Television & Politics - 2

- Changed the nature of political campaigns – 2
  - TV changed political conventions from decision-making entities that actually chose the presidential nominees to coronations of a nominee chosen long beforehand
  - TV made debates a key element in the political campaign
  - TV led the media to portray campaigns as horse races

**Conventions as coronations** – Before television, it was often not known who would emerge from the convention as the nominee. Conventions (or the bosses thereof) actually selected nominees and often chose dark horses as compromise candidates. Since television, with few exceptions, everyone knew who the convention was going to nominate with the only suspense being who the nominee would select as his running mate. As a result, the political convention became simply a venue for showcasing the nominee and publicizing his virtues and accomplishments.

**Debates** – Television made debates virtually mandatory. Media coverage of the debates focused less on what the debates revealed about the personalities and positions on issues of the candidates and more on who won or lost or whether the candidates did what they had to do to shift the momentum of the campaign in their favor.

**Campaigns** – In the TV era, political campaigns focused less upon the policy differences between candidates and what the implications of these differences would be in terms of governance and more on the horse race aspects – who is winning and who is losing – which certainly is more dramatic than policy differences unless the policy differences are over “hot-button” emotional issues.

## Television & Politics - 3

- Brought celebrity culture into the political realm
  - Led entertainment and sports celebrities to go into politics and embrace political causes
  - Treated politicians in the same way they treated entertainment celebrities – “tabloid politics”
  - Focused policy discussions less on how a proposed policy or policy change would affect the public and more on its effect on poll numbers or re-election chances

**Entertainers as politicians** – Since television, many entertainment and sports celebrities have often gone into politics as candidates -- Shirley Temple Black, Ronald Reagan, George Murphy, Sony Bono, Arnold Schwarzenegger, Jim Bunning (AL pitcher) , Bill Bradley (NBA), Fred Gandy (Gopher on “The Love Boat”), Heath Shuler (Washington Redskin QB), Al Franken, and Lynn Swann (Pittsburgh Steeler Hall of Fame receiver who was a candidate for Governor of PA). Others have embraced various causes, ranging from aid to Darfur to action on global warming.

**Tabloidization of politics** – With television, the media started treating politicians exactly the way they treated entertainment celebrities. Supermarket tabloids (and “Tabloid TV” programs) began covering Washington with the same salacious zeal with which they had covered Hollywood. After Watergate, coverage of the presidency focused on personal fallibility as politicians (and their families) were expected either to star in an elaborate *film noir* of either corruption or sex scandal or to provide a manageably small cast for a national sitcom, soap opera, or docudrama.

**Policy discussions** - the media (along with politicians and political commentators) focused discussions of policy not on their effects upon the world or the American public, which was boring, but on their effects upon the President’s (and his party’s) poll numbers or re-election chances. This gave governance the drama of an on-going



## Television & Sports - 1

- Increased the audience for sports by enabling those not present in the stadium or sports arena to see the sport and develop an interest in it
- Created interest in previously unknown or little-known sports
  - Popularized many little-known Olympic sports

Televising of the Olympics popularized many little-known sports and made sports celebrities of Olympic winners in these sports. Among the sports popularized by the Olympics (and the televising of them) were figure skating, speed skating, decathlon, beach volleyball, water polo, and Marathon running.

## Television & Sports - 2

- Greatly popularized football
  - Television made football easier to watch
    - With its close-ups and slow-motion replay, it enabled the audience to more closely view the action
    - At stadiums with jumbotron screens, people characteristically watch the jumbotron rather than the field
  - The once a week frequency of football synchronized very easily with the once a week frequency of most TV programming.
    - This made football both a weekly habit and a special event – enough so that each game was important and an event to look forward to

**Making football actions visible** – As Michael Mandelbaum in *The Meaning of Sports* notes: ““If football is, more than the other two team sports, made for television, television is also made for football. It makes the game easier to watch than it is in person. Because most of the action takes place far from where they are sitting, in the tangle of bodies that many plays produce, it is difficult for the spectator at the game to make out exactly what is happening. Television, with its close-up pictures and its slow-motion replays, can dissect the action and present each slice of it in a way that the naked eye cannot see. Some football stadiums include large mounted screens that show the audience at the game what the people viewing at home can see -- a tribute to the benefits that television confers on football. For this reason, and because many games are held outdoors in cold weather, football is the major American team game in which the advantages of watching on television are most pronounced. It is also the one in which attendance at the actual game has most to do with rituals in which the spectators participate—socializing with friends, taking part in organized cheers, drinking—as distinct from the manifest purpose of attendance which is to watch the play on the field.”

**TV and the NFL** - The first professional football game to be televised was played on October 22, 1939. In 1953, the NFL signed a contract with the DuMont television network to broadcast a set number of its games. In 1962, the team owners made the momentous decision to sell the rights to televise their games as a single package and to share the proceeds equally among themselves. This strengthened their bargaining position with the television networks and avoided the extreme disparity in revenues among the teams that produced many of the problems that came to plague major league baseball. From the early 1960s the Sunday telecasts of professional football grew in popularity (as did the proportion of American homes with color TV). Watching games became a regular ritual across the United States. By the 1990s, the national audience for football comprised 100 million people.

**Once a week events** - Because it takes time for players to recover from sixty minutes of collisions, a football team, unlike a baseball or basketball team, plays only once a week—the same frequency, as it happens, with which the programs in television comedy and drama series appear. This weekly spacing has made football both a habit and a special event, something that happens often enough to sustain interest and provide continuity but infrequently enough so that each game is important and an event to which the audience looks forward during the week

## Television & Sports - 3

- Contributed to the decline in the popularity of baseball
  - Baseball is a one-thing-at-a-time game with the focus on the duel between pitcher and batter.
    - Thus, baseball was well adapted to radio, where the announcer's verbal account and the listener's imagination could convey what was happening
    - Baseball did not come across as well on TV since its relative lack of action made the game seem boring and tedious
  - Baseball is a statistician's game & television is not a medium that conveys statistics very well

**Television, Radio & Baseball** - Television is superior to radio in portraying football. This is not the case with baseball. The reason is that in football many things happen at once and must be apprehended visually, whereas in baseball things happen sequentially and so the action can be conveyed orally.

**Nature of Baseball** - The characteristic mode of the baseball game is that it features one-thing-at-a-time – action is sequential. Timing and waiting are of the essence, with the entire field in suspense waiting upon the performance of a single player. By contrast, football, basketball, and ice hockey are games in which many events occur simultaneously, with the entire team involved at the same time. With the advent of TV, such isolation of the individual performance as occurs in baseball became unacceptable. Interest in baseball declined. Baseball, like the movies, is a hot medium featuring individual virtuosity and stellar performers.

**Baseball – the statistician's game** - The real ball fan is a store of statistical information about previous performances of batters and pitchers in numerous games. It is a game of scorecards and statistics on individual performance – wins, losses, saves, earned run averages, hits, runs, RBIs, home runs, batting averages, and fielding percentages. Unlike, football, basketball, and ice hockey, it is a game when one player's statistical performance is not dependent upon the performance of other players on the team. In contrast, a football quarterback's statistical performance is highly dependent on whether his offensive line can pass block and whether his receivers can separate from the pass defenders and catch the ball.

## Television & Advertising - 1

- Continued and intensified the revolution in advertising that radio began
  - Like Radio, TV enabled the advertiser to reach into the home
  - Like Radio, TV used celebrity product endorsers
  - Even more than radio. TV enabled sponsors to identify their products with certain lifestyles and demographic groups

Identifying products with specific lifestyles and demographic groups was done by sponsoring programs that appealed to a specific demographic or was identified with a particular lifestyle and/or by showing people who exemplified the desired demographic in their ads.

## Television & Advertising - 2

- Substituted images of products for claims about products
  - Imagery of handsome people happily or ecstatically buying or using the product largely replace claims about what the product can do or why it is better than a competitor's product
  - Imagery that focuses on the fears, dreams, and hopes of those who buy the product largely replace factual information about what the product does

The Bell Telephone commercial “Reach Out and Touch Someone” is instructive. The someone is a relative who used to be a member of the family but now lives far away. The aim of the message is not to provide any information about Bell or its telephone service but to bring out from the broken ties of millions of lives a feeling of restored connection that focuses on the telephone. Also instructive is the change in automobile commercials over time. Pre-TV automobile commercials in print and radio focused on what the car could do, how it performed, what new features it had in terms of comfort or safety. Now, car commercials often focus on showing the car in an idyllic rural or Western setting, subtly implying that if you buy the car, you too can enjoy the desert scenery or the California beaches. In the words of Neil Postman, “Television commercials are less about the product or service being advertised and more about how one ought to live one's life.”

## Television & Advertising - 3

- Turned sex into a form of advertising
  - Use of young, attractive, (and often scantily-clad) women in commercials
  - Use of suggestive commercials
    - E.g. the Noxzema shaving cream ad, the Swedish bikini team, & the Paris Hilton Carl's Hamburger Ad
  - Commercials that strongly imply that use of the product will get you the girl
    - E.g. the Just for Men commercial

**Paris Hilton** - Paris Hilton, a socialite-turned-actress, whose current 30-second appearance in a Carl's Jr. "That's Hot" Spicy BBQ burger campaign is turning heads. Scantily clad in a sexy and [revealing swimsuit](#), Paris seductively washes a black Bentley automobile with wild, soapy abandon. In between sudsing the car and herself, Paris pulls out a hefty Carl's Jr. hamburger which she sensuously devours on camera for an intended target audience of adolescent male (and assorted lesbian) consumers.

**Noxzema Shaving Cream** - This 1960s ad was the "Paris Hilton" ad of its time. While the 2005 Paris Hilton ad has the beautiful blonde-haired hotel heiress slathering suds all over the surface of a motor vehicle, the Noxzema spot starred attractive eighteen-year-old Swedish-born blond model Gunilla Knutson who teasingly urged men to use Noxzema Medicated Instant Shave Cream as they scraped off their facial hair in neat, clean rows to David Rose's rousing pop hit melody "The Stripper." By commercial's end, Gunilla lovingly caresses the cheeks of the now clean-shaven man as well as the canister of Noxzema shaving cream lotion. The ad's suggestive catchphrase "Take it off, take it all off" prompted Rhode Island Senator John Pastore, chairman of the Senate Subcommittee

## Television & Childhood - 1

- Just as printing brought about the emergence of childhood as a separate social category, TV erased the distinction between childhood and adulthood
  - TV requires no instruction on how to watch it and it communicates the same information to everyone watching
  - TV erodes the idea that there are certain things that are not considered suitable for children to know until they reach a suitable level of maturity

Television erases the dividing line between childhood and adulthood in two ways. First, it requires no instruction to grasp its form, and it does not segregate its audience. It communicates the same information to everyone watching, regardless of sex, age, race, level of education, or social class.

In the words of Neil Postman, “One might say that the main difference between an adult and a child is that the adult knows about certain facets of life -- its mysteries, its contradictions, its violence, its tragedies -- that are not considered suitable for children to know. As children move to adulthood, we reveal these secrets to them in ways we believe they are prepared to manage. That is why there is such a thing as children’s literature.” Television makes the above arrangement impossible. It reveals all adult secrets -- social, sexual, physical, and the like. “Television forces the entire culture to come out of the closet; taps every existing taboo. Incest, divorce, promiscuity, corruption, adultery, sadism -- each is now merely a theme for a television show. And, of course, in the process, each loses its role as an exclusively adult secret. ... Television is relentless in both revealing and trivializing all things private and shameful. *The subject matter of the confessional box and the psychiatrist’s office is now in the public domain. ... [commercials] contribute toward opening to youth all the secrets that once were the province of adults, everything from vaginal sprays to life insurance to the causes of marital conflict. ... [news shows] daily provide the young with vivid images of adult failure and even madness.*”

## Television & Childhood - 2

- The result is that we are reverting to the medieval notion of seeing children as simply young adults
  - Dress distinctions that used to differentiate children from adults have largely vanished
  - There is an increasing tendency to try juvenile offenders in adult courts
  - The use of four-letter words in front of and by children is increasingly common

Postman goes on to say, ““However you wish to describe the transformation taking place, it is clear that the behavior, attitudes, desires, and even the physical appearance of adults and children are becoming indistinguishable” There no longer exists what we unambiguously recognize as children’s clothing. Eleven-year olds wear three-piece suits or high heels to birthday parties; Fifty-two year olds wear jeans and sneakers to birthday parties. Little League baseball and Peewee football take on the organizational characteristics and emotional intensity of big-league sports. Junk food, one suited only for the indiscriminating palates and iron stomachs of the young, is now common fare for adults. The idea that there may be words that adults ought not to use in the presence of children now seems faintly ridiculous.” As information technology moves us away from print, less information is kept private. Children experience sex and violence vicariously on TV and in their day to day lives. The age of sexual awareness is being lowered. At the same time need for increased education and life long has pushed up the age of student learning. Both trends are blurring the distinction between adult and child. Childhood is disappearing. Like before the press, children are beginning to be seen as small adults. Evidence of