



The Rise of Broadcasting

History of Information 103

Geoff Nunberg

April 1, 2014



The Ipana Troubadors

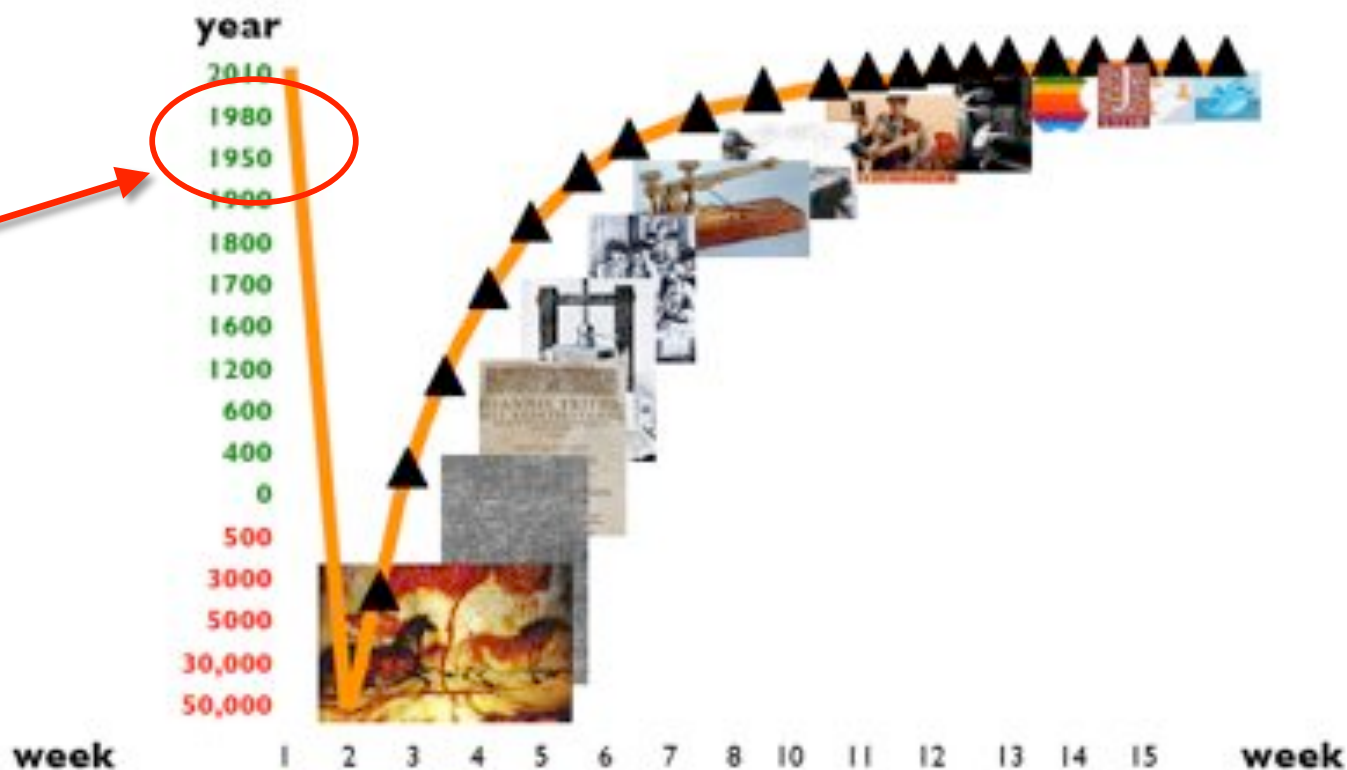




Where We Are



The broadcast age





Itinerary, April 1

Radio: technology, application, medium

Technological development of radio

Who controls radio?

Radio comes of age

Radio in public life

The arrival of television

Television as an information medium

The reinvention of radio



Establishing Remote Presence

Representing elsewhere symbolically or iconically

Writing, print, telegraphy, postal service etc.; also painting, engraving, etc.

Extending virtual presence:

Photography, telephony, cinema, radio, television



The range of radio



"radio"



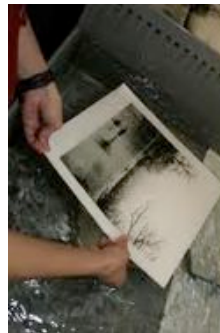
The range of radio





What makes for a "technology"?

How many technologies?

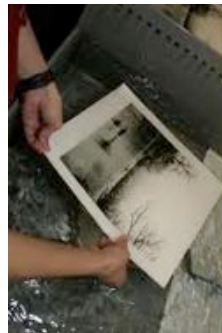




What makes a "technology"?

How many technologies?

telegraphy





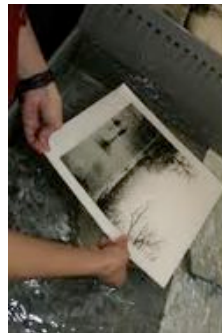
What makes a "technology"?

How many technologies?

telegraphy



broadcast





What makes a "technology"?

How many technologies?

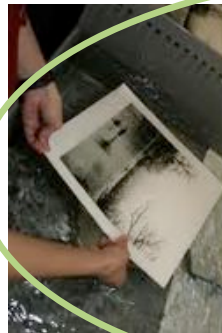
telegraphy



broadcast



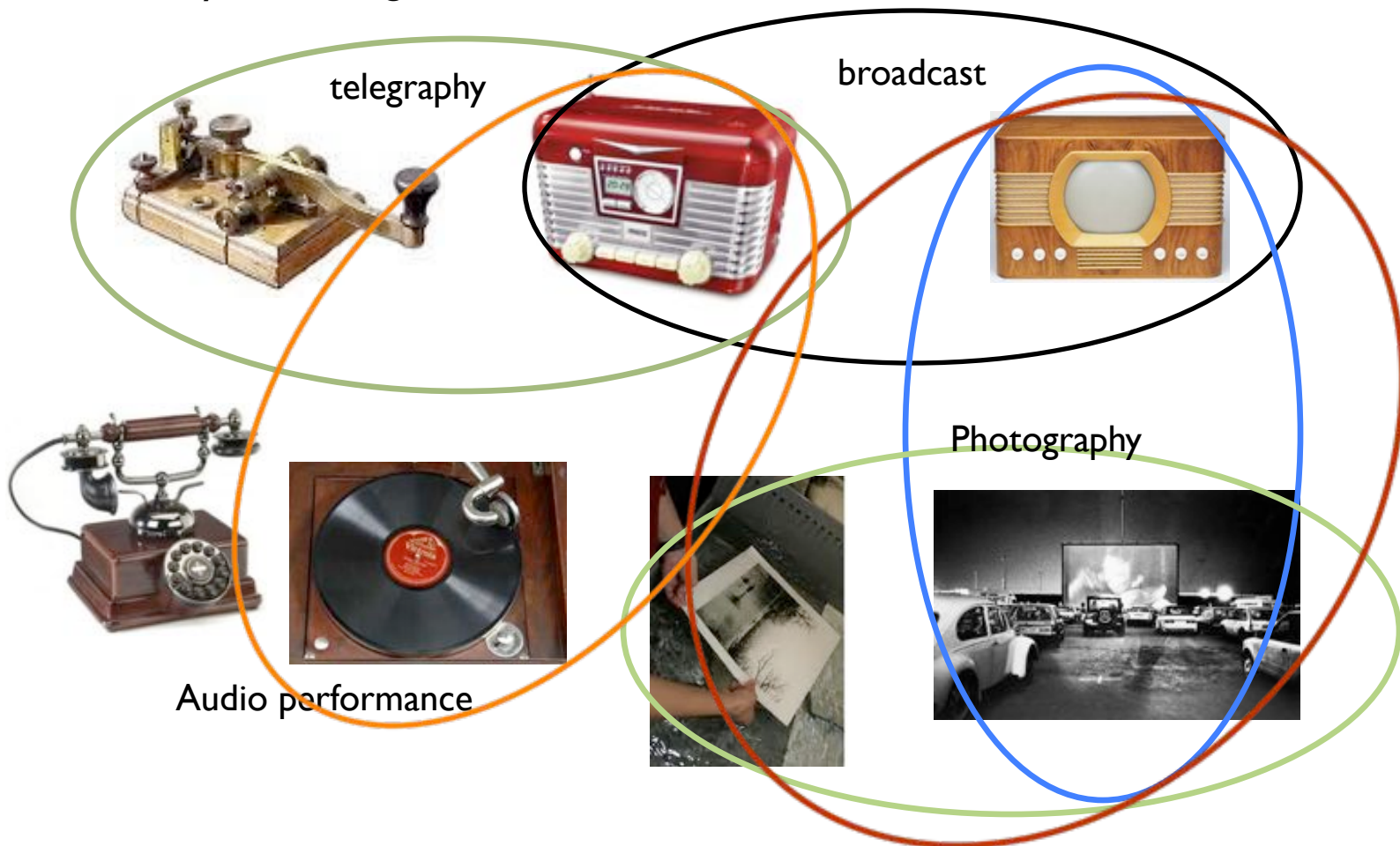
Photography





What makes a "technology"?

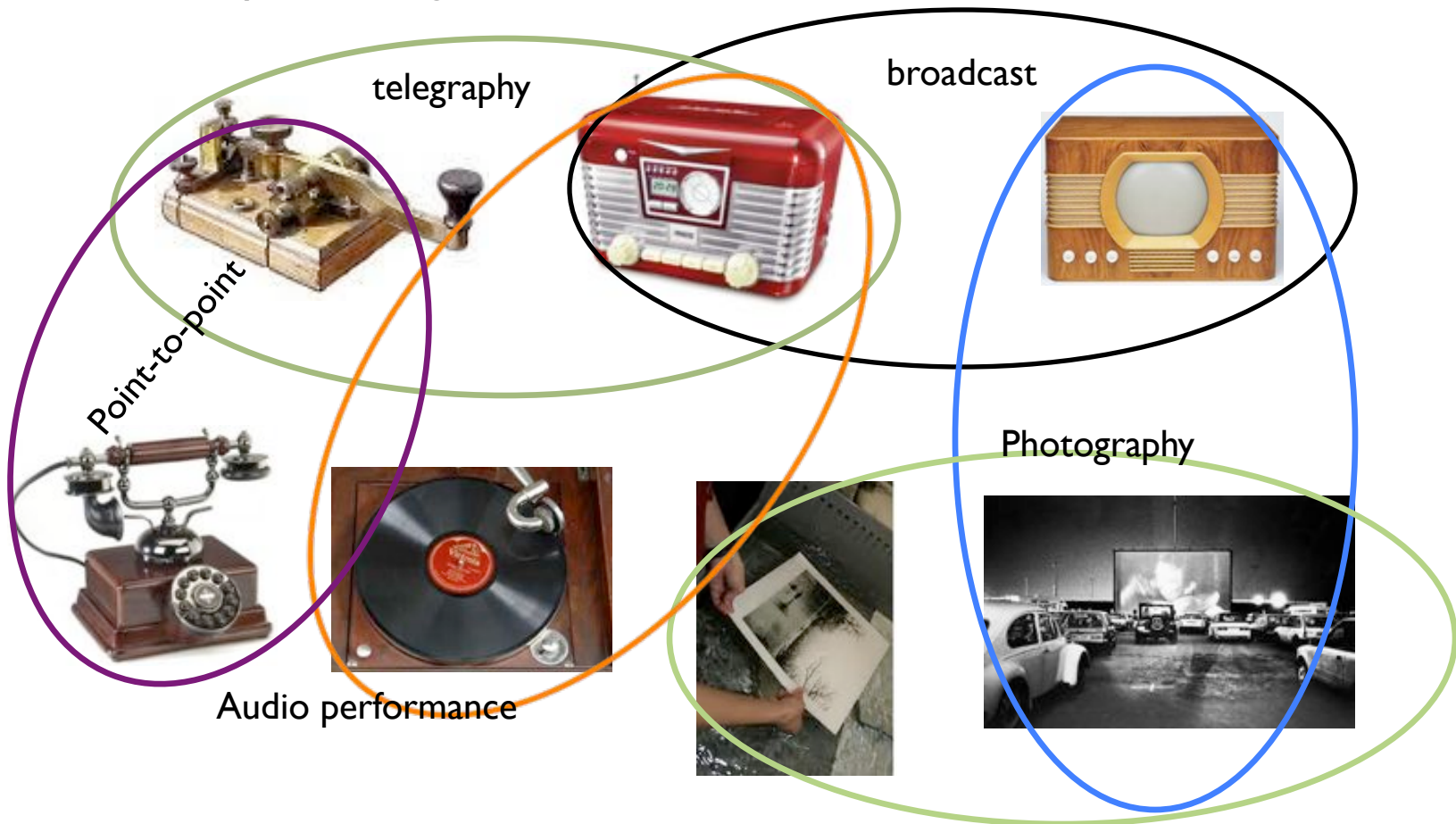
How many technologies?





What makes a "technology"?

How many technologies?





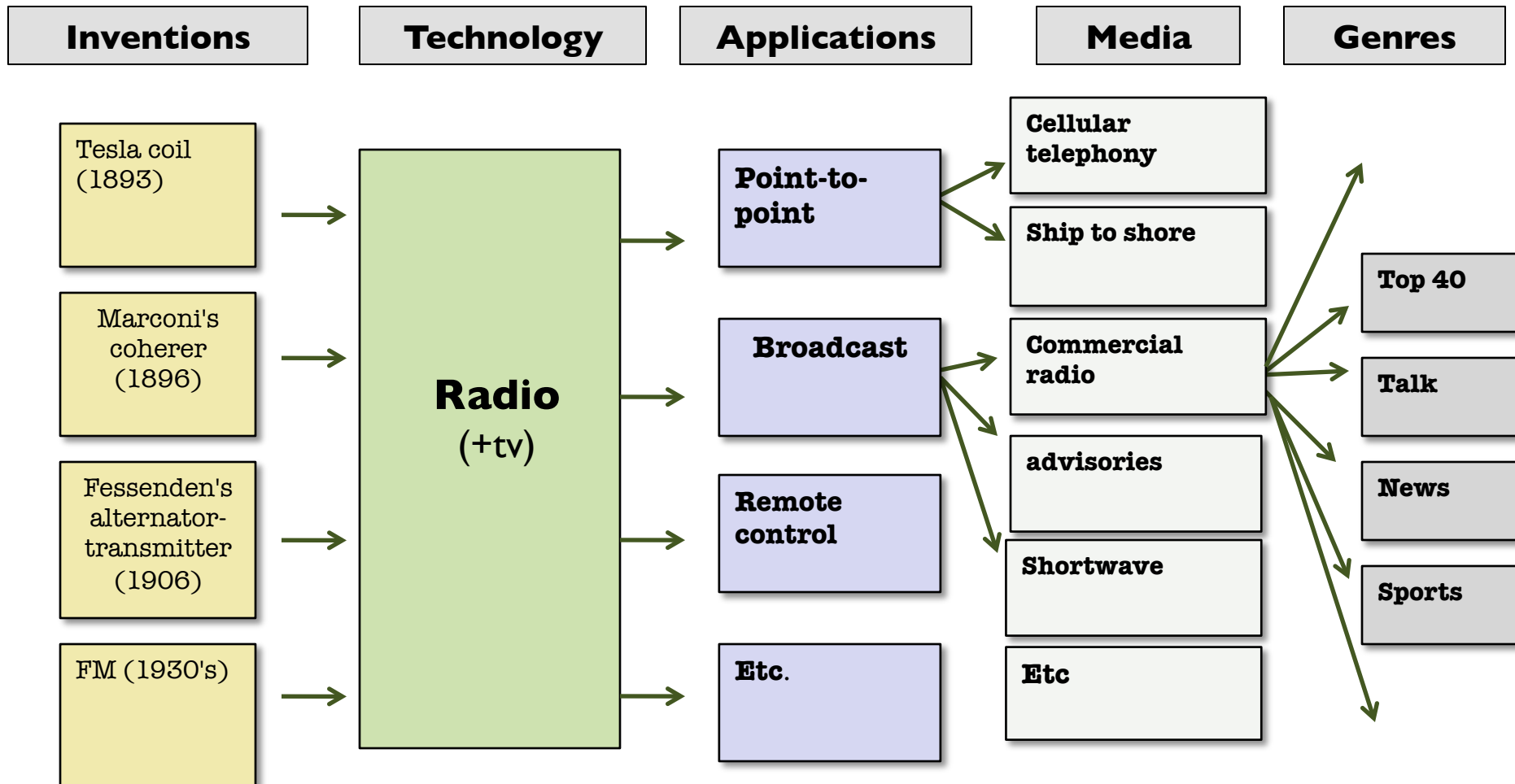
What makes a "technology"?

How many technologies?



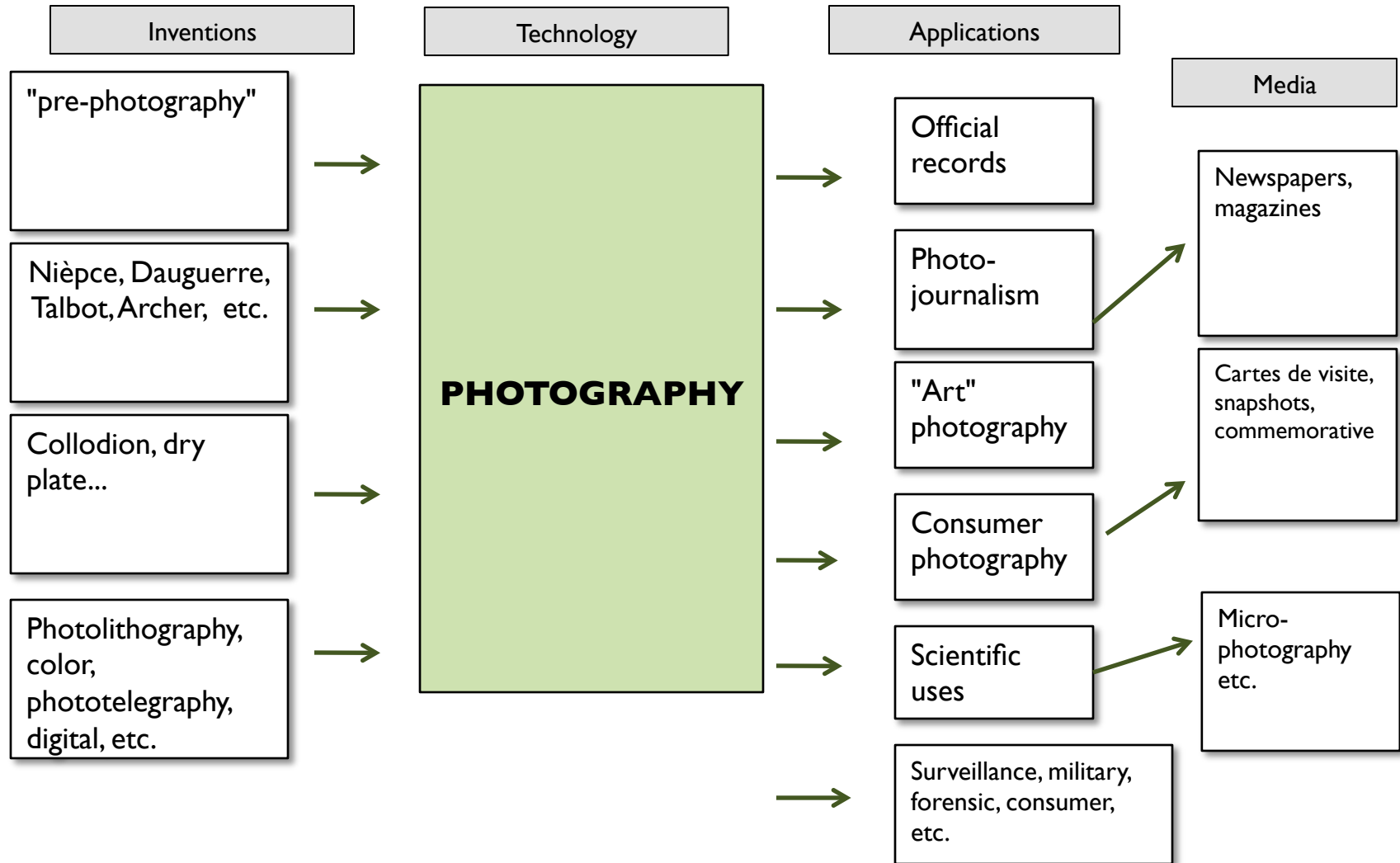


Inventions, Technologies, Applications, Media



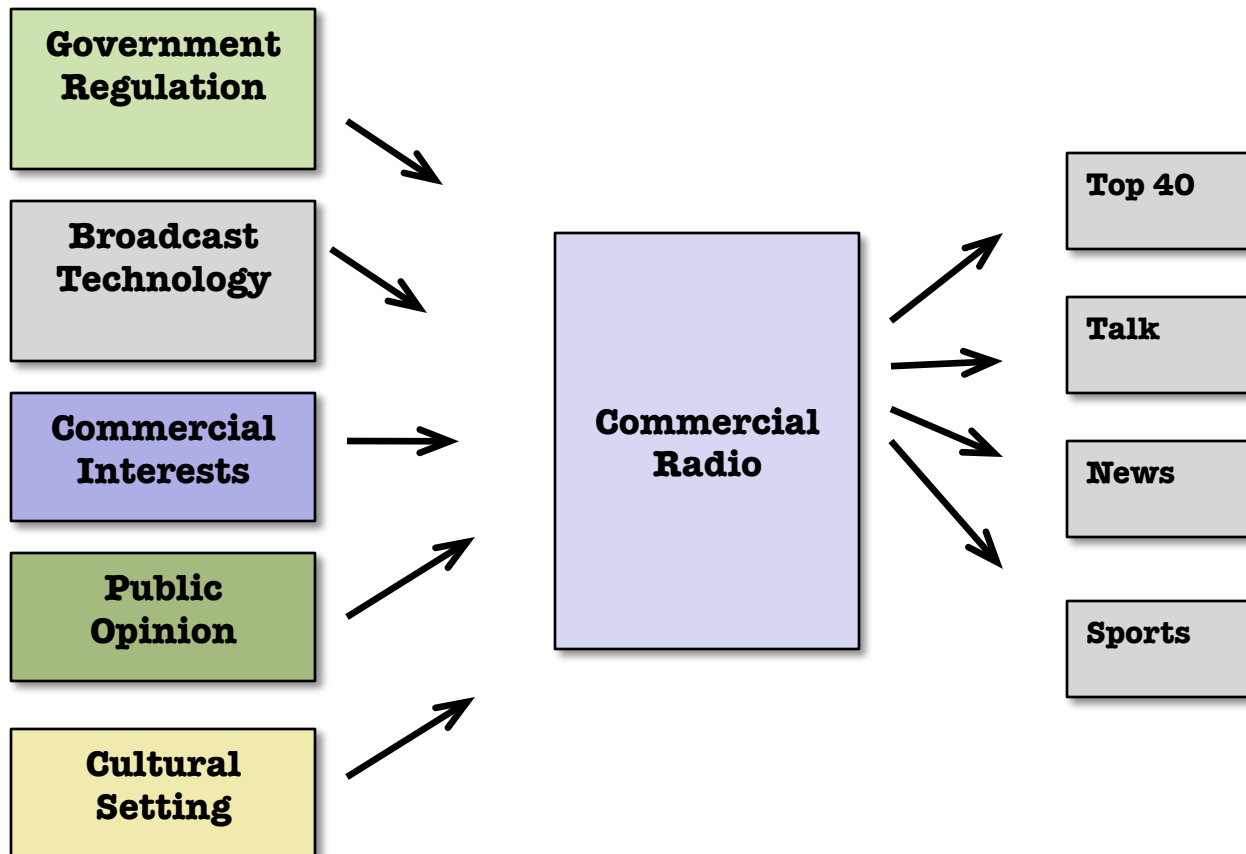


Inventions, Technologies, Applications, Media





Multiple Influences





Technological Development of Radio



Inventors of radio



Marconi



Heinrich Hertz



Bose

1861-1865: James **Maxwell** describes propagation of electromagnetic waves

1886: Heinrich **Hertz** demonstrates transmission & reception of radio waves at 20 m. distance

"It's of no use whatsoever[...] this is just an experiment that proves Maestro Maxwell was right - we just have these mysterious electromagnetic waves that we cannot see with the naked eye. But they are there."

1895: Nikola **Tesla** transmits radio waves from NY to West Point (50 mi.)

1894: Jagadish Chandra **Bose** uses radio waves in Calcutta to ignite gunpowder at a distance.

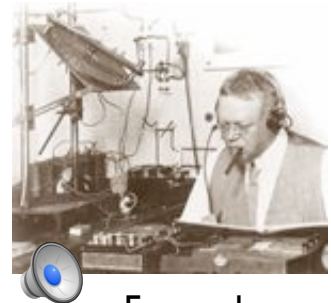
1895: Guglielmo **Marconi** transmits radio signals over a mile using coherer, basis of early radiotelegraphy

1901: Marconi claims to have transmitted radio signals from Poldhu (Cornwall) to Newfoundland

1906, Christmas eve: Reginald Fessenden makes first audio broadcast from Brant Rock, MA. Handel aria "Ombra mai fu" heard as far away as Norfolk, VA.



Tesla



Fessenden



Early Point-to-Point Applications of Radio



1905: Japanese use of radio helps in victory over Russian fleet at battle of Tsushima

1912: Titanic uses radio to signal for help, but a nearby ship misses signal; Congress passes Radio Act to allocate band frequencies, require licensed radio operators on ships.

1914-1918 British domination of wireless & cable technology gives it strategic advantages in WWI





Who Controls Radio?



Models of Control of Broadcasting

After WWI, debates over how to regulate radio, apportion spectrum. RCA, Westinghouse, ATT jostle with each other & Dep't. of the Navy for control.

Political-economic models:

- Broadcasting is subsidized by set-makers (early US)

- State-owned, politically controlled (many European nations)

- State establishes quasi-independent public corporation supported by tax on receivers (e.g. UK until recently)

- State licenses frequencies to commercial broadcasters, exerts some control over content; revenues derived from advertising (most US)



How to Pay for Radio?



Herbert Hoover

"[It would be] inconceivable that we should allow so great a possibility for service to be drowned in advertiser chatter"

Sec. of Commerce Herbert Hoover, 1924



Resolving the Control of Radio

1927: Radio Act establishes Federal Radio Commission

Authorizes FRC to grant broadcasting licenses & assign frequencies. Limits power of FRC to control programming, apart from banning "obscene or indecent" language

Requires stations to give equal time to political candidates.

Opens radio to wide use of advertising; advertisers assume increasing responsibility for creating content

FRC favors "clear channel" allocations (1 station per frequency), which gives most bandwidth to networks & commercial stations, on grounds of "public convenience"



Resolving the Control of Radio

1934: Communications Act replaces FRC with Fed. Communications Commission.

Rejects efforts to establish "hybrid" systems like those in Canada & Australia, which made provision for state-controlled public interest broadcasting alongside of commercial radio



Models of Broadcasting as Medium

How to think about broadcasting?

Broadcasting as common carrier (i.e., like phone service) with obligation to provide general access

Broadcasting as extension of press, exempt from control

Broadcasting as entertainment (like movies) subject to censorship/regulation

How do technologies influence these decisions?



Who Controls Radio?



Models of Control of Broadcasting

After WWI, debates over how to regulate radio, apportion spectrum. RCA, Westinghouse, ATT jostle with Dep't. of the Navy for control.

Several models:

- Broadcasting is subsidized by set-makers (early US)

- State-owned, politically controlled (many European nations)

- State establishes quasi-independent public corporation supported by tax on receivers (e.g. UK until recently)

- State licenses frequencies to commercial broadcasters, exerts some control over content; revenues derived from advertising (most US)



How to Pay for Radio?



Herbert Hoover

"[It would be] inconceivable that we should allow so great a possibility for service to be drowned in advertiser chatter"

Sec. of Commerce Herbert Hoover, 1924



Resolving the Control of Radio

1927: Radio Act establishes Federal Radio Commission

Authorizes FRC to grant broadcasting licenses & assign frequencies. Limits power of FRC to control programming, apart from banning "obscene or indecent" language

Requires stations to give equal time to political candidates.

Opens radio to wide use of advertising; advertisers assume increasing responsibility for creating content

1934: Communications Act replaces FRC with Fed. Communications Commission.

Rejects efforts to establish "hybrid" systems like those in Canada & Australia, which made provision for state-controlled public interest broadcasting alongside of commercial radio



Models of Broadcasting as Medium

How to think about broadcasting?

Broadcasting as common carrier (i.e., like phone service) with obligation to provide general access

Broadcasting as extension of press, exempt from control

Broadcasting as entertainment (like movies) subject to censorship/regulation

How do technologies influence these decisions?



Radio Comes of Age

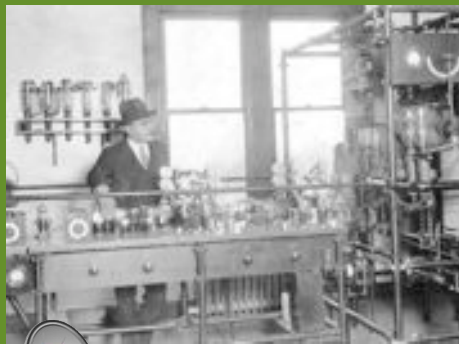


The Emergence of Broadcast

1920: Marconi Company sponsors first regular "public" broadcasts in UK, but Post Office bans further use until 1922

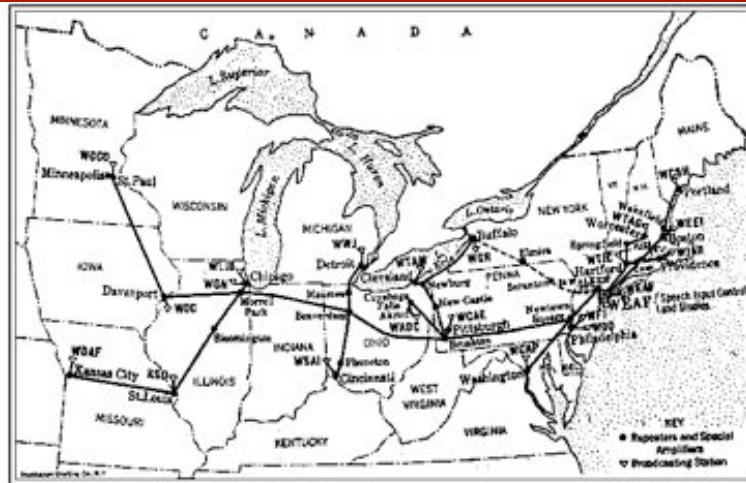
Nov. 2, 1920: KDKA Pittsburgh broadcasts results of presidential election; first station to schedule regular broadcasts.

1921: KDKA makes first broadcast of Major League baseball games





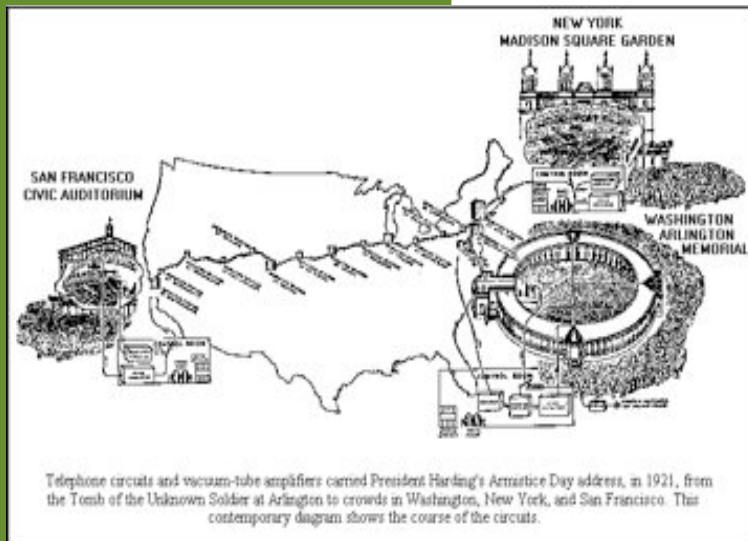
Beginnings of Networks



1921 ATT organizes first network, using phone lines

1921: Telephone circuits carry Harding's Armistice Day Address from Arlington Cemetery to NY and San Francisco

GE, RCA, & Westinghouse respond, using telegraph lines; networks merged in 1926 as Nat. Broadcasting Company





"Radio Mania"



1922: BBC begins broadcasting from the roof of Selfridges in London

1920-1925: "Broadcasting boom" leads to rapid increase in number of stations & receivers.

Household penetration is 24% in 1927; 46% in 1930; 65% in 1934

Av. Cost of radio set, 1930: \$78

1934: First FM licenses granted, but technology doesn't catch on for 25 years

The "dxing" cult





The Development of Programming



1925-1940 Emergence of radio-specific genres, with process dominated by advertisers: variety, music, drama, serials, quiz shows, etc.

1925: Grand Ole Opry first broadcast on WSM, Nashville

1928: "Amos n' Andy" originates at WMAQ Chicago

1930: WGN Chicago broadcasts "Painted Dreams," first radio soap opera about Irish widow & daughter



Freeman Gosden and Charles Correll



The Goldbergs



Jack Benny



Commercial Radio



Chiquita Banana

"American radio is the product of American business! It is just as much that kind of product as the vacuum cleaner, the washing machine, the automobile, and the airplane. . . . If the legend still persists that a radio station is some kind of art center, a technical museum, or a little piece of Hollywood transplanted strangely to your home town, then the first official act of the second quarter century should be to list it along with the local dairies, laundries, banks, restaurants, and filling stations."

J. Harold Ryan, president of Nat. Assoc. of Broadcasters, 1945, on the first quarter-century of radio



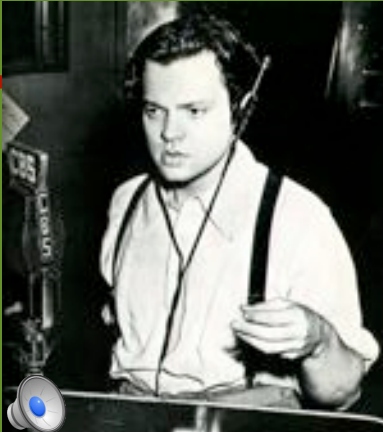
The Ipana Troubadors



Informing the public



The transparency of the medium



Oct. 30, 1938: Orson Welles Mercury Theater radio play of "War of the Worlds" creates some panic among listeners

"Transparency" of the information medium





Preachers, Politics & Propaganda



Father Charles
Coughlin, the "radio
priest"



Billy Sunday



FDR after "fireside chat"



The Advent of the Commentator

1927: H. V. Kaltenborn, broadcasting news, first heard on CBS



1932: Walter Winchell begins NBC (later ABC) broadcast on "Jergens Journal"





Radio Goes to War



1940: Edward R. Murrow's broadcasts from the London Blitz increase support for US intervention on Allied side;
Radio establishes "virtual presence" (R. Rothafel, 1925)



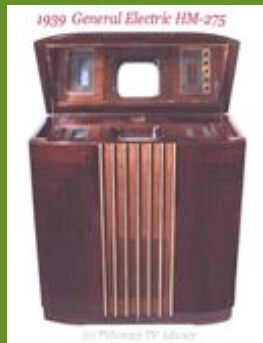


The Arrival of Television



The Invention of Television

"The First Invention to be achieved by committee" --Albert Abramson



1926 John Logie Baird demonstrates electromechanical television transmission

1934 Philo Farnsworth demonstrates all-electronic television transmission

1936 Experimental TV broadcasting in US, UK, France, Germany

1939: NBC inaugurates US broadcasting at NY World's Fair

1946 Regular network TV broadcasting begins in US





The Advent of Television



In postwar period, television rapidly gains national audiences in US and Europe

1946: “Hourglass,” first hour-long variety show, airs on 3 NBC stations; “Faraway Hills” becomes the first TV soap opera

June 19, 1946 Joe Louis-Billy Conn fight viewed by 1m people over 140k sets (many in bars)

1947: First telecast of World Series game (Yankees v Dodgers); Harry Truman addresses US over TV from White House; Debut of “Kraft Television Theater”

1948: 350k TV sets in use, half in NYC area; “Howdy Doody” debuts





The Advent of Television

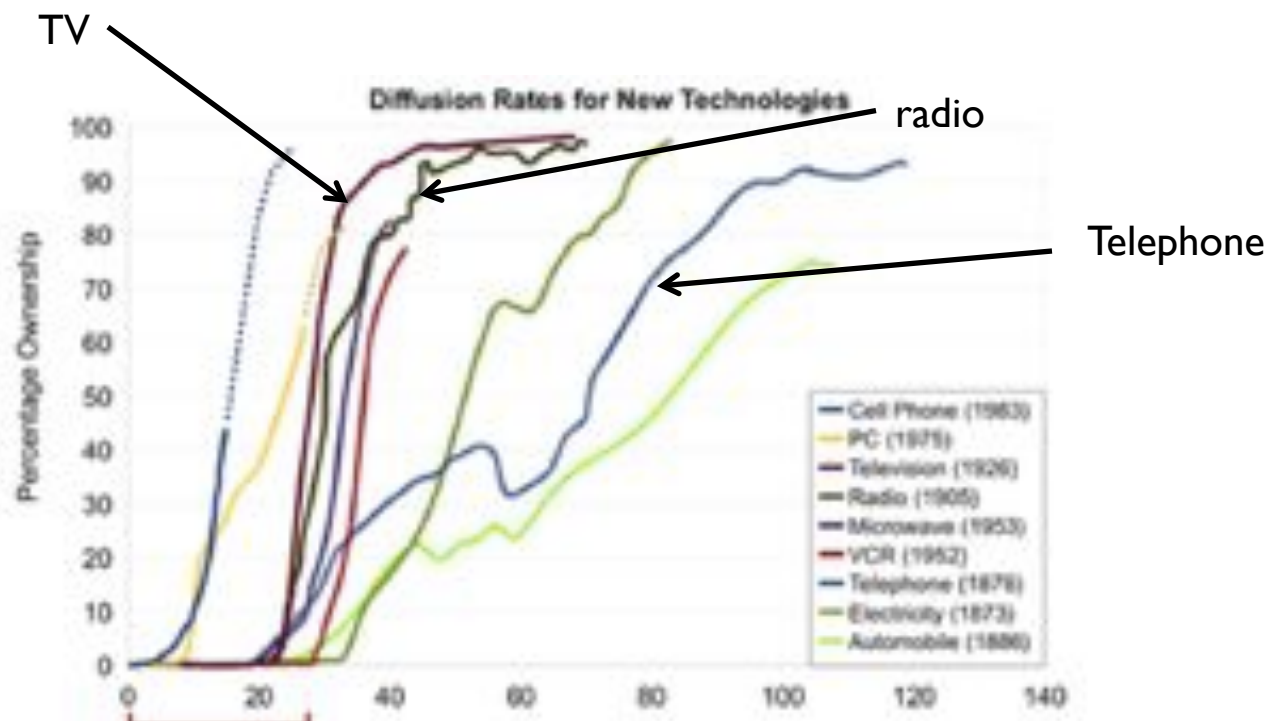


1949: 2m sets in US

1950: 5.3m sets in US,

1951: 13m sets in US; "I Love Lucy" premieres; Jan 1:

1953: TVs in 50% of American homes; Debut of "Today Show"





Television as an Information Medium

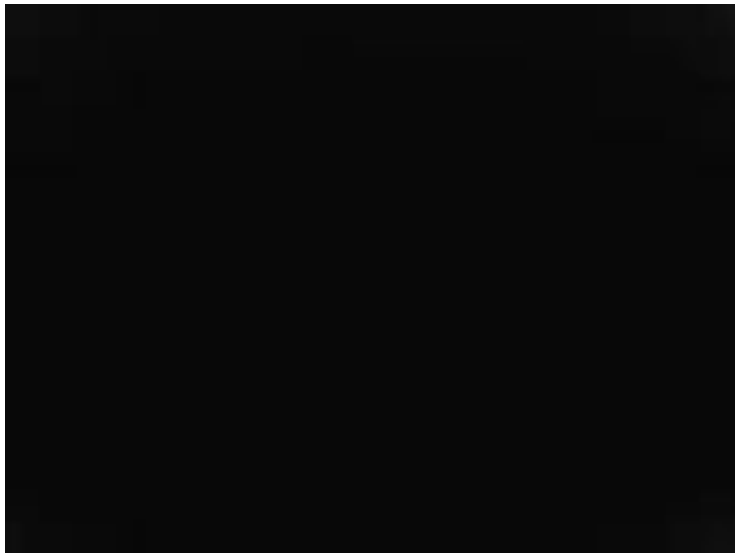


Television Replaces the Newsreels

1911: Charles Pathe introduces first weekly newsreel, for RKO theaters

1927: Fox Movietone presents first sound newsreel, of Charles Lindbergh's takeoff

1931: *Time* founder Henry Luce launches "March of Time" weekly movie magazine, ends in 1951



1924



1934



Harvest of Shame



1950: "See It Now" debuts on CBS, w/Edward R. Murrow, edited by Fred Friendly

1952: Murrow presents "Christmas in Korea" from front lines

1956: Murrow's program on Sen. Joseph McCarthy

1960: Murrow and Friendly produce "Harvest of Shame" for CBS Reports





The rise of TV news



1963 CBS extends evening news to 30 min.

1965- Nightly news runs daily coverage of Vietnam war – Morley Safer films US troops burning houses in Cam Ne

1967 CBS launches "60 Minutes"

1969 Spiro Agnew launches attacks on "effete corps of impudent snobs" in media

1973 Telecast of Watergate Hearings

1980 Ted Turner launches CNN

1991 Desert Storm bombing of Baghdad relayed live by CNN





The Spectacles of Political Life



Effects of televising on sporting events, political rituals, etc.

State of the Union address broadcast since Coolidge 1923, but until the 1970's retains form of address to Congress

Eisenhower, 1955: "It is expected that more than \$12 billion will be expended in 1955 for the development of land, water and other resources; control of floods, and navigation and harbor improvements; construction of roads, schools and municipal water supplies, and disposal of domestic and industrial wastes."



The Spectacles of Political Life

The "Lenny Skutnik" moment, 1982

Just just two weeks ago, in the midst of a terrible tragedy on the Potomac, we saw again the spirit of American heroism at its finest the heroism of dedicated rescue workers saving crash victims from icy waters. And we saw the heroism of one of our young Government employees, Lenny Skutnik, who, when he saw a woman lose her grip on the helicopter line, dived into the water and dragged her to safety.

Ronald Reagan, SOU speech, 1982

Cf similar changes in party conventions, debates, campaign speeches, etc.





The Creation of New Political Spectacles



Kennedy-Nixon debate, 9/26/60:
The convention as TV show





The Transformation of Radio



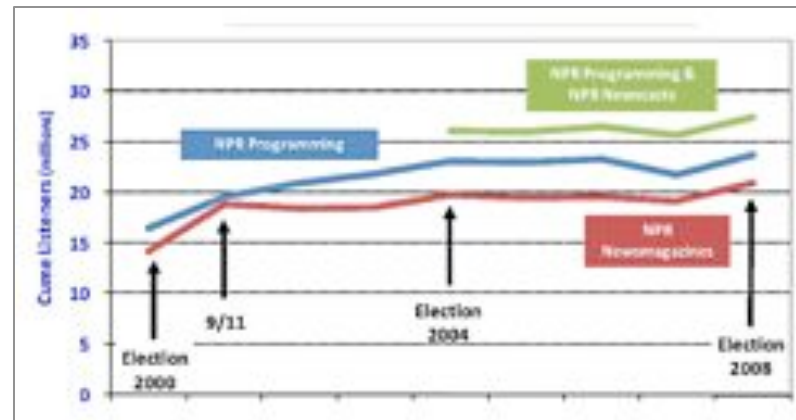
The Transformation of Radio



1950-1965 Radio retreats to all-news and "Top-40" formats; programming aimed at "drive time" audiences

1967: Public Broadcasting Act establishes Corporation for Public Broadcasting.

1970: NPR established, replacing earlier National Educational Radio Network; begins broadcasting in 1971 with coverage of Senate hearings on Vietnam. "All Things Considered" debuts 1 month later.





The Transformation of Radio, 2



Barry Gray

1945: On NYC's WMCA, DJ Barry Gray begins conversing with listeners live.

1960: KABC (LA) adopts first all-talk format

1987: FCC repeals "Fairness Doctrine," dating from 1949, which required radio stations to present issues in an "equal and balanced" manner. Cites large number of stations variety of media voices.

1988: Limbaugh moves to NYC.





The New World of Political Broadcasting

1996: Fox News launched, pioneers political cable talk-show. Quickly establishes lead in average hourly viewership, though remaining behind CNN in cumulative audience.

ca. 2006 MSNBC launches all-liberal programming.





Role of broadcast media in modern political language

The intimacy of modern public discourse





Pervasive Media

Only a visitor from an earlier century or an impoverished country could be startled by the fact that life is now played out against a shimmering multitude of images and sounds, emanating from television, videotapes, videodiscs, video games, VCRs, computer screens, digital displays of all sorts, always in flux, chosen partly at will, partly by whim, supplemented by words, numbers, symbols, phrases, fragments, all passing through screens that in a single minute can display more pictures than a prosperous seventeenth-century Dutch household contained over several lifetimes... Todd Gitlin



Vermeer, "The Concert"



Assignment for 4/3

Babbage, Charles. 1832. “Registering Operations” and “On the Division of Mental Labour,” chapters 8 & 19 in *On the Economy of Machinery and Manufactures*.

Campbell-Kelly, Martin & William Aspray. 1996. “Babbage’s Dream Comes True,” (pp. 53-104) in Martin Campbell-Kelly & William Aspray (eds.), *Computer: A History of the Information Machine*. New York: Basic Books.

Graham-Cumming, John. 2012 “The Greatest Machine Never Built,” *TEDx* (video). 29 April.

Reinhold, Robert. 1982. “Study Says Technology Could Transform Society,” *New York Times*. June 14.