



The Rise of Broadcast

History of Information 103

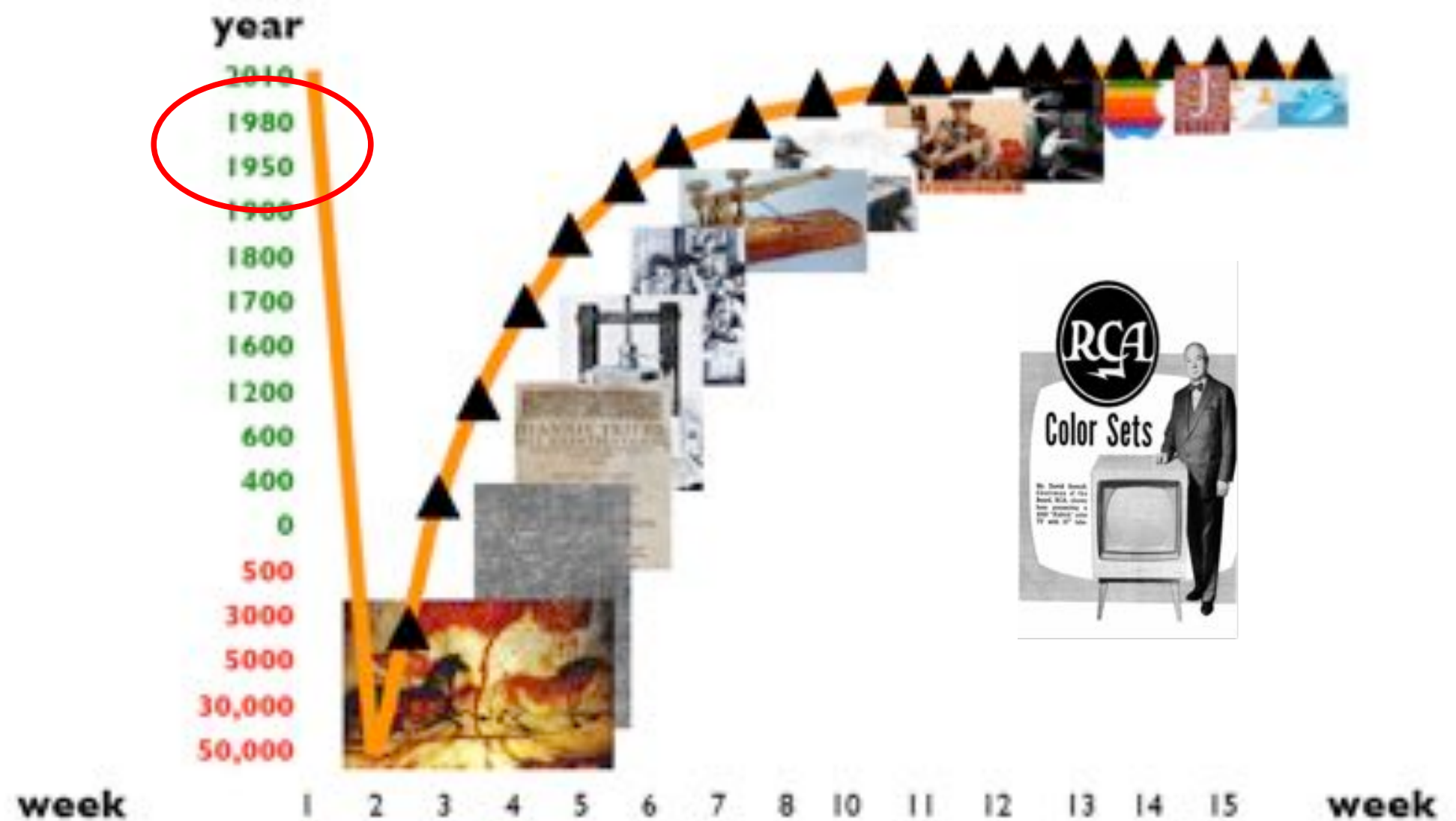
Geoff Nunberg

April 4, 2017





The Age of Broadcast



Itinerary, April 4

Radio: technology, application, medium

Technological development of radio

Radio comes of age/Assignments

Informing the public

Who controls radio?

The TV age

Television as an information medium

The reinvention of radio

Assignments: Allan S., Hannah C., Sidney D., Charmaine C., Alexandra C.



Tennyson reads “Charge of the
Light Brigade” 1890



Establishing Remote Presence



The “lovers’ telephone”

Representing presence symbolically or iconically
writing, print, telegraphy, postal service etc.; also
painting, engraving, etc.

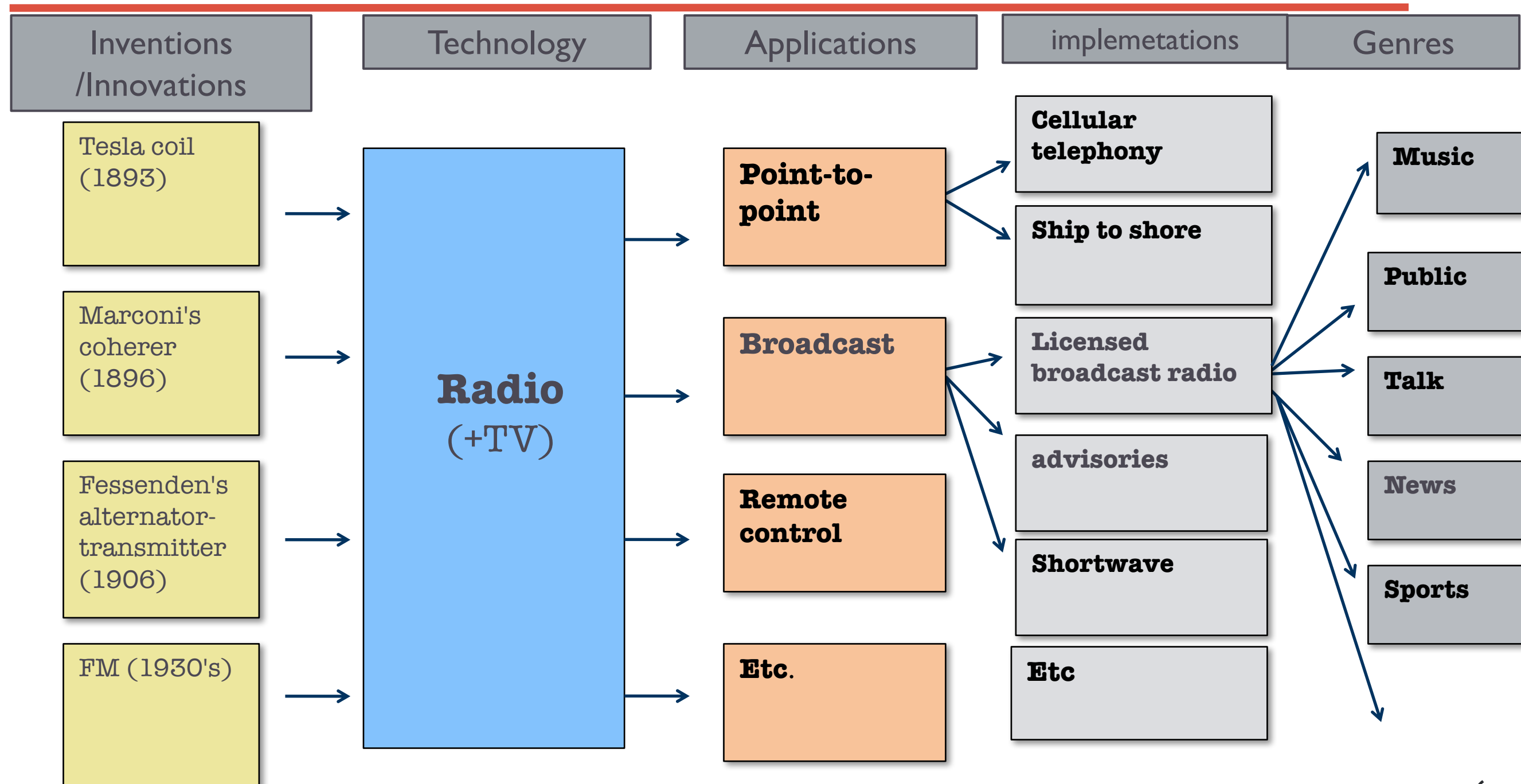
Extending presence:

photography, telephony, voice recording, cinema,
radio, television...

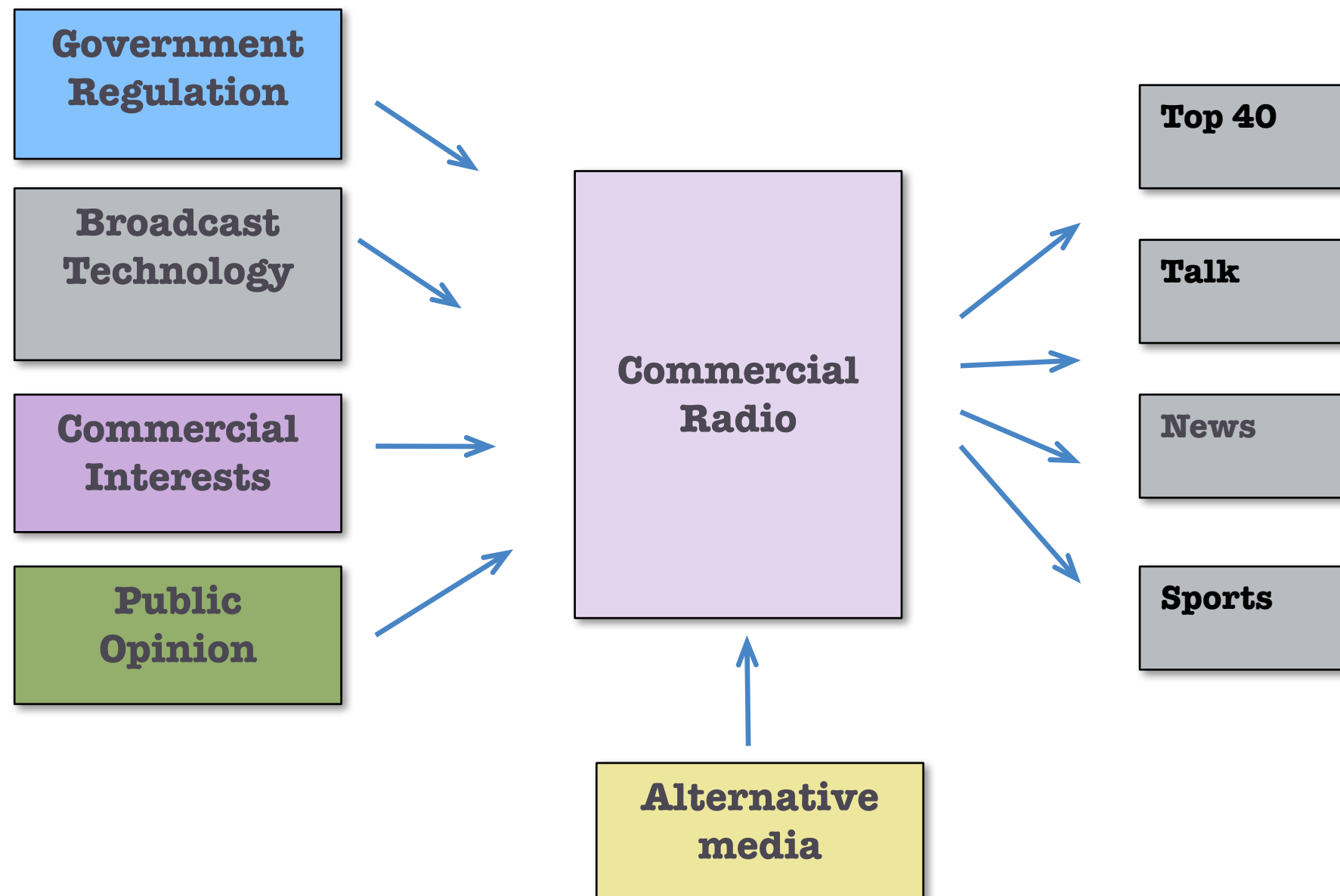
The range of radio



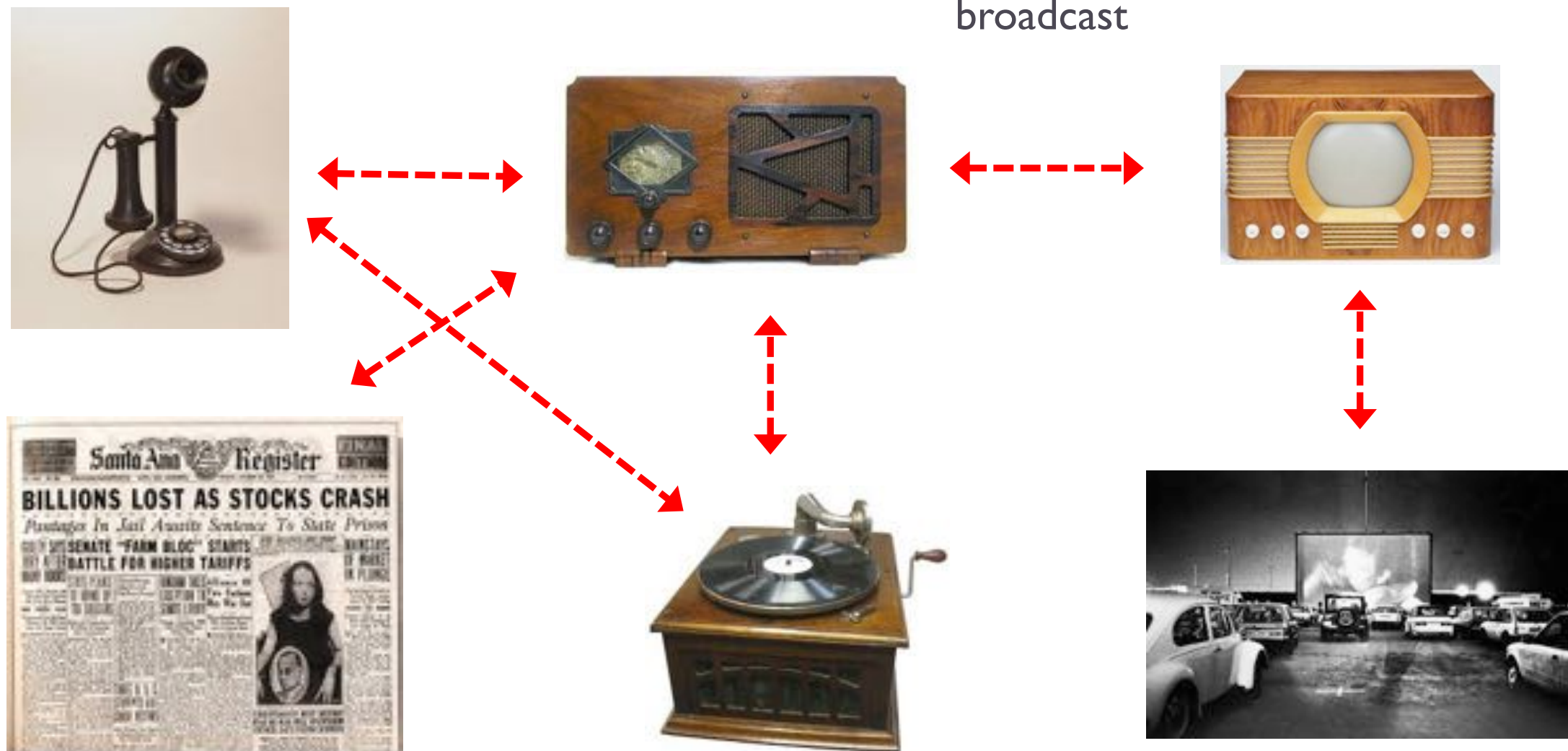
Inventions, Technologies, Applications, Media



Multiple Influences



Competition among technologies



Competition among media

When does the photograph trump the graphic depiction, and vice-versa?



Jacob Riis, photograph from
How the Other Half Lives

Lithograph prepared
from Riis photo



Tina Barney

Competition among media

When does the photograph trump the graphic depiction, and vice-versa?



Julia Cameron,
Lancelot and
Guinevere, 1875



Illustration in Henry James'
The Golden Bowl, 1904



Illustration for Thackeray's Vanity Fair, 1848



Fotonovelas

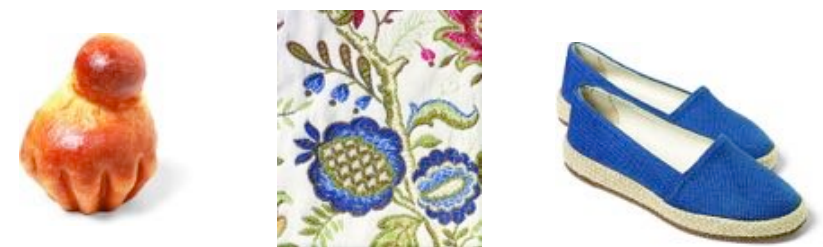
Competition among media

When does the photograph trump the graphic depiction, and vice-versa?

Photographs are **necessarily** of unidealized individual things, whether zebras, geese, or medieval churches [whereas] drawings may represent a composite distillation.” Sydney Landau, *Dictionaries*



Merriam-Webster illustrations for *rampant*, *skunk*, *skeleton*, etc.



American Heritage illustrations for *brioche*, *brocade*, *espadrille*.

Technological development of radio



Guglielmo Marconi



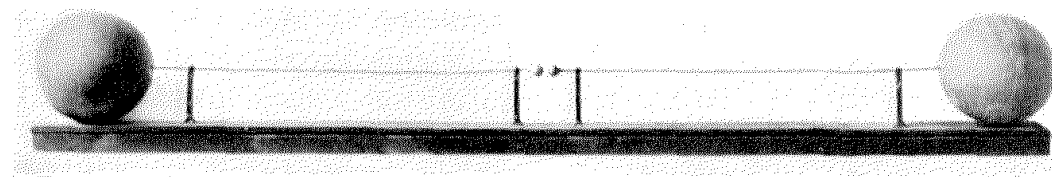
Technological Development of Radio



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.



Hertz's first transmitter

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



Heinrich Hertz



Alexander Popov



Tesla

Development of Radio

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

Adrisya Alok(Invisible Light), "The invisible light can easily pass through brick walls, buildings etc. Therefore, messages can be transmitted by means of it without the mediation of wires."

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

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.

1909: Marconi awarded Nobel Prize.



Fessenden



Bose



Brant Rock transmitter

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



Titanic's Marconi room

Radio Comes of Age

Models of Control of Radio, I

“America built a national communications system through a creative resistance to centralized power.”
Paul Starr

After WWI, debates over how to regulate radio, apportion spectrum.

RCA, Westinghouse, ATT jostle with Dep't. of the Navy for control.

Still regarded as tool for wireless telegraphy & telephony

Nation rejects state control of radio; instead authority is distributed among Navy and “radio trust” of RCA, Westinghouse, and ATT.

1922: Amateur (“ham”) radio enthusiasts consigned to “useless” short-wave bandwidths

But then...

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

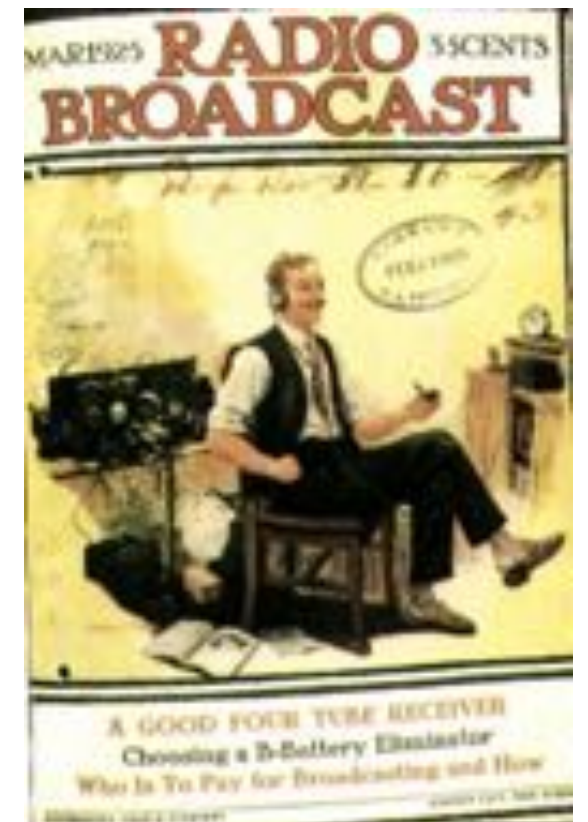
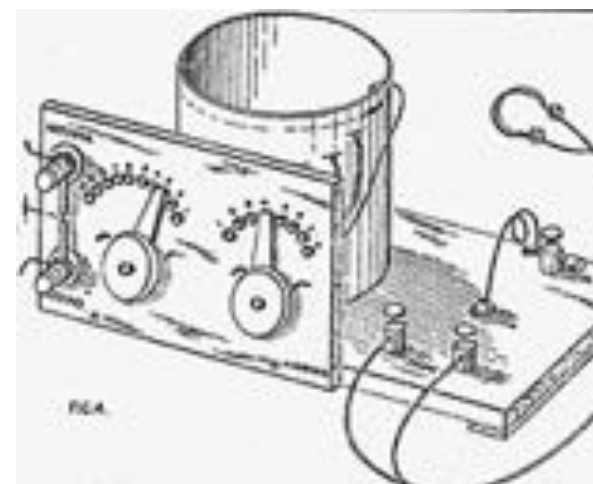
“The only means of instantaneous collective communication ever devised” – Westinghouse executive, 1920.

The "dxing" cult

"Radio Mania": 1920-

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



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

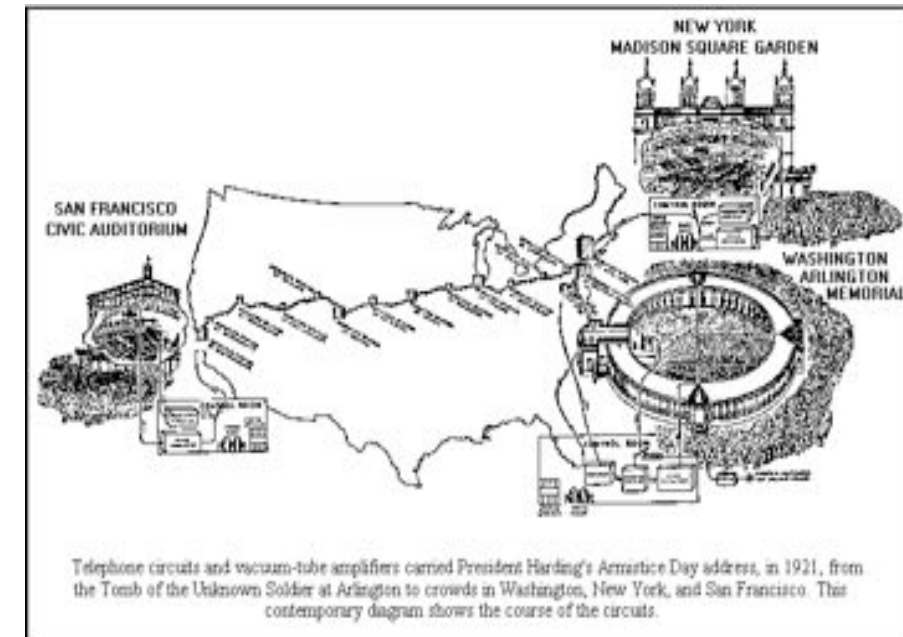
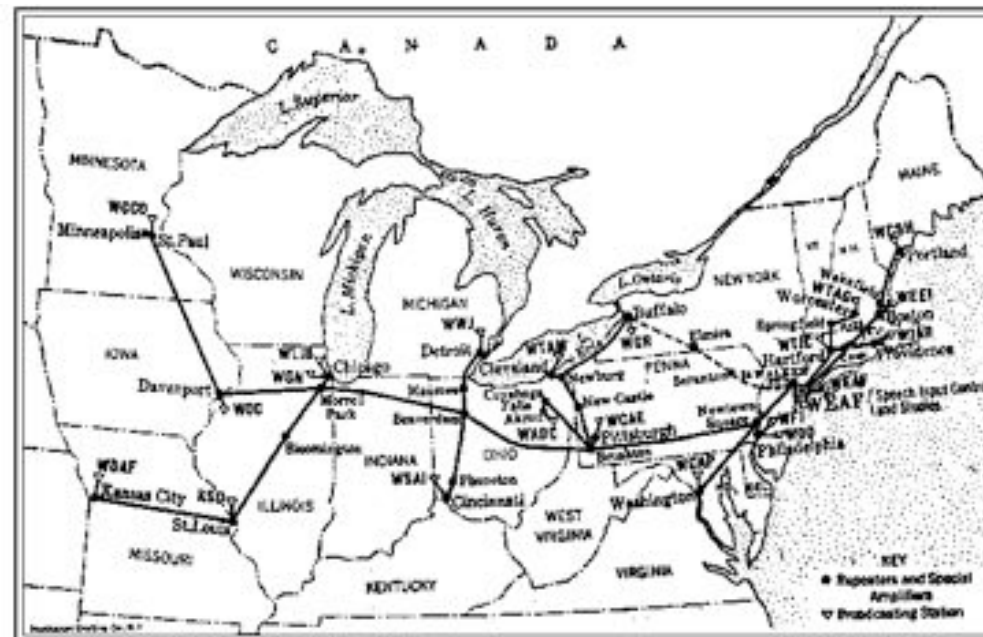


1922

**Radio Phone Installed
In Harding's Study**

**President to Listen In From
White House on Aerial
Gossip and News**

From The Tribune's Washington Bureau





Sears Ad for Radio Sets



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

Jack Benny



Amos n' Andy





Competition between media

Record sales go from 128 m. in 1926 to 6m in 1932



Phonograph ad ca. 1922



Ads for Radio Sets, 1920s



General Electric
"Kenotron"
vacuum tube



Shellac record
1925



Competition between media



1907



1914



Assignment

Writing in 1924, Bruce Bliven makes a number of predictions about the future of radio, some negative and some positive, and adds some others from engineers who are enthusiastic about the possibilities for the medium. Some of these are similar to the predictions that people have made for the Internet. Answer TWO of the following:

- a. Pick one prediction that did not come true for radio (including broadcast television) but that in your opinion will be (or has been) realized for the Internet.
- b. Pick one prediction that was realized for radio but is unlikely to be realized for the Internet. How do you account for the differences?
- c. Pick one prediction that is unlikely to be realized for either medium.

Allan S.

...Bliven states that “radio will not take the place of newspapers and magazines” (Bliven, 86). However, the prime sources of information – print media – were indeed replaced by radio news, according to the 1939 Fortune poll Czitrom cites. True, newspapers and magazines didn’t disappear from the media landscape entirely, but the majority of Americans relied on radio news as “more accurate than supplied by the press” (Czitrom, 86). The Internet has brought this full circle – news audiences now rely on web news services sent directly to their mobile devices, often by the same press services radio originally displaced.

Hannah C.

Czitrom writes that the government once made efforts to control the transmitting of messages with the Roosevelt board in the early stages of World War 2 and Bliven predicted that the radio should be controlled/monitored by the government to avoid monopolization. In fact, Bliven even states that the government should “buy out” the industry to avoid such an outcome. However, like the radio and television, the government was unable to control these entities and the internet, radio and television continue to be owned by large companies (ABC, NBC, Facebook, Google). While these companies do have to follow some government regulations, they are essentially large and private companies that have a significant influence/control over these technologies.

Sidney D.

Bliven predicted that “radio is not likely...to become an important factor in the education of the young,” and his prediction was realized in that radio never served as the education medium that early enthusiasts believed it would become [Bliven 86]. Early proponents of the radio believed that great universities would offer “radio courses in every conceivable subject,” but this inspired idea never came to be the case [Bliven 87]. Meanwhile, the internet is utilized today by institutions ranging from elementary schools to universities in the form of online tutoring and online courses such that degrees can be offered on the basis of an entirely online education. Therefore, Bliven’s prediction that the radio would fail as an education medium was not realized for the internet. Such differences may be accounted for by the fact that radio is a one-way broadcasting medium while the internet allows for two-way communication between teacher and student, thus providing a more interactive higher quality education....

Alexandra C.

Bliven predicted that radio "will do much to create a sense of national solidarity in all parts of the country, and particularly in remote settlements." Historically, this has arguably been realized for radio, particularly in relation to national politics in the early 1900s. However increased technology today and the dramatic increase of content and more open access to publishing of the internet has led to more niche stations. There are no longer a few anchors from the major broadcast stations that serve as a singular national "voice" for the nation. The 2016 presidential election and subsequent political and academic discussions are largely centered around this rise in niche media that does not disseminate information evenly, and create disparate ideological groups. ...

Charmaine C.

Given that there are still wars today, one prediction unlikely to be realised for either medium is that these media will help to facilitate world peace. This is because producers of content for both radio and internet have their own agendas, and these agendas are not necessarily to unite the world. For example, Czitrom notes that radio did not "fulfill utopian visions...but appropriated these urges for advertising interests" (88). Similarly, there are those who appropriate the internet for their own interests, like ISIS using Twitter to recruit.



Other predictions...



Dick Tracy's two-way (atom-powered) wrist radio (1946); upgraded to TV in 1964

“Transmitter-receivers that can be carried in the waistcoat pocket like one’s watch, so that every human being may have instantaneous communication with every other, wherever they are. The engineers seem to like this prospect, which fills me with nothing but horror.”

“One universal language (English or Esperanto) made inevitable by world-wide broadcasting.”

Who Controls Radio?

How to Pay for Radio?

"[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, 1922

1924: 400 of 526 radio stations permit no advertising.



Herbert Hoover

Models of Control of Radio, 2

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)

“Hybrid” systems: Canada, current UK...

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"

Commercial Radio

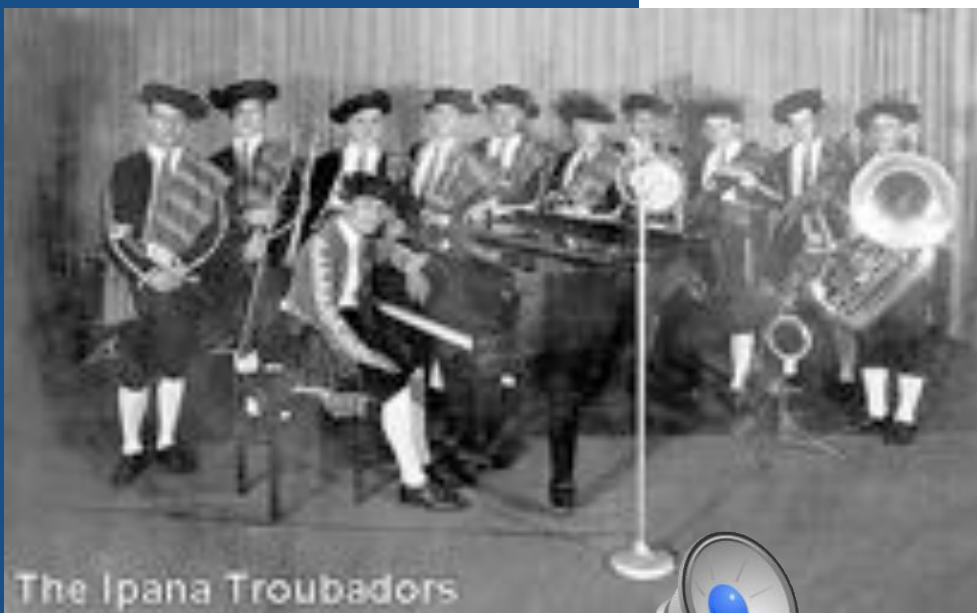


Chiquita Banana

"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

Radio advertising, utilizing the very air we breathe and with electricity as its vehicle entering the homes of the nation through doors and windows, no matter how tightly barred, and delivering its message audibly through the loudspeaker... NBC executive, 1927



The Ipana Troubadors

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?

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



The WAR of the WORLDS
By H. G. Wells
Author of "Under the Knife," "The Time Machine," etc.



The New York Times.

WEDNESDAY, OCTOBER 30, 1938

NEW YORK, MONDAY, OCTOBER 30, 1938

11

HEAD STANDS PAT
AS A NEW DEALER
IN BID FOR SENATE

Democrat's Campaign Success
Any Doubt Must Change in
Labor and Business Lines

**Radio Listeners in Panic,
Taking War Drama as Fact**

Many Flee Homes to Escape 'Gas Raid From
Mars'—Phone Calls Swamp Police at
Broadcast of Welles Fantasy

A WIDE-SCALE PANIC WAS SET OFF BY THE BROADCAST OF A FANTASY
Drama by Orson Welles and His Mercury Theater Company, Which Was
Broadcast on the Radio at 8 P. M. Today.

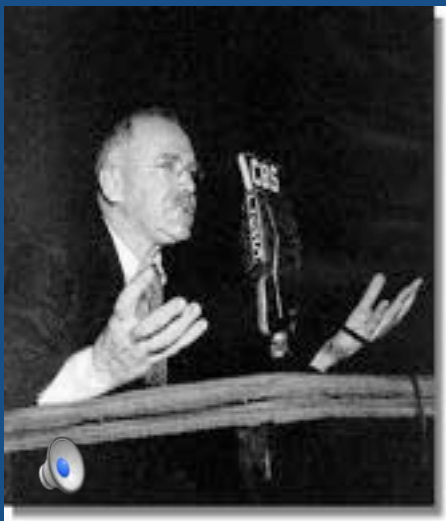
**LOUSED JEWS FIND
REFUGE IN POLAND
AFTER BORDER STAY**

Some 500 Jewish Refugees
Arrive in Camps, Helped by
Distribution Committee





News on the Radio



H.V. Kaltenborn, CBS (from 1927)



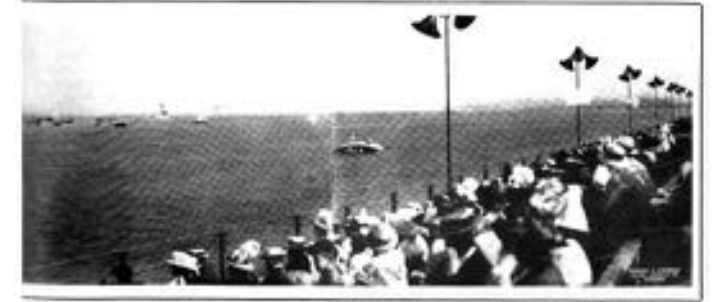
Walter Winchell NBC

Newspapers and wire services restricted news on radio (apart from local news); stations begin to create their own news operations

Audience for news grows with 1932 election, Lindbergh kidnapping, etc. Celebrity commentators include H. V. Kaltenborn, Walter Winchell.



Wm. Jennings Bryan "Cross of Gold" speech. 1896



Stalin stands with the installation of the Automatic Excavator and the Automatic Typewriter.

Preachers, Politics & Propaganda



Billy Sunday



Mussolini, Piazza Venezia, Rome



Father Charles Coughlin, the "radio priest"



Listening to Goebbels



Listening to Mussolini



Preachers, Politics & Propaganda



FDR after first "fireside chat", March 12, 1933

[Radio] cannot misrepresent or misquote. It is far reaching and simultaneous in releasing messages given it for transmission to the nation.... — Stephen Early, FDR press secretary, on the value of radio

The blight hadn't yet carried off the elms, and under them drivers had pulled over, parking bumper to bumper, and turned on their radios to hear Roosevelt. They had rolled down the windows and opened the car doors. Everywhere the same voice, its odd Eastern accent, which in anyone else would have irritated Midwesterners. You could follow without missing a single word as you strolled by. You felt joined to these unknown drivers, men and women smoking their cigarettes in silence, not so much considering the President's words as affirming the rightness of his tone and taking assurance from it." Saul Bellow



Radio Goes to War

1940: Edward R. Murrow's broadcasts from the London Blitz bolster support for US intervention on Allied side

Radio establishes "virtual presence" (R. Rothafel, 1925)



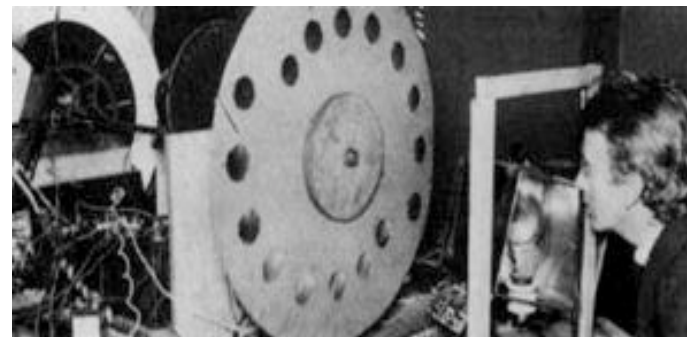
The TV Age

Inventing 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

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

1946 Regular network TV broadcasting begins in US

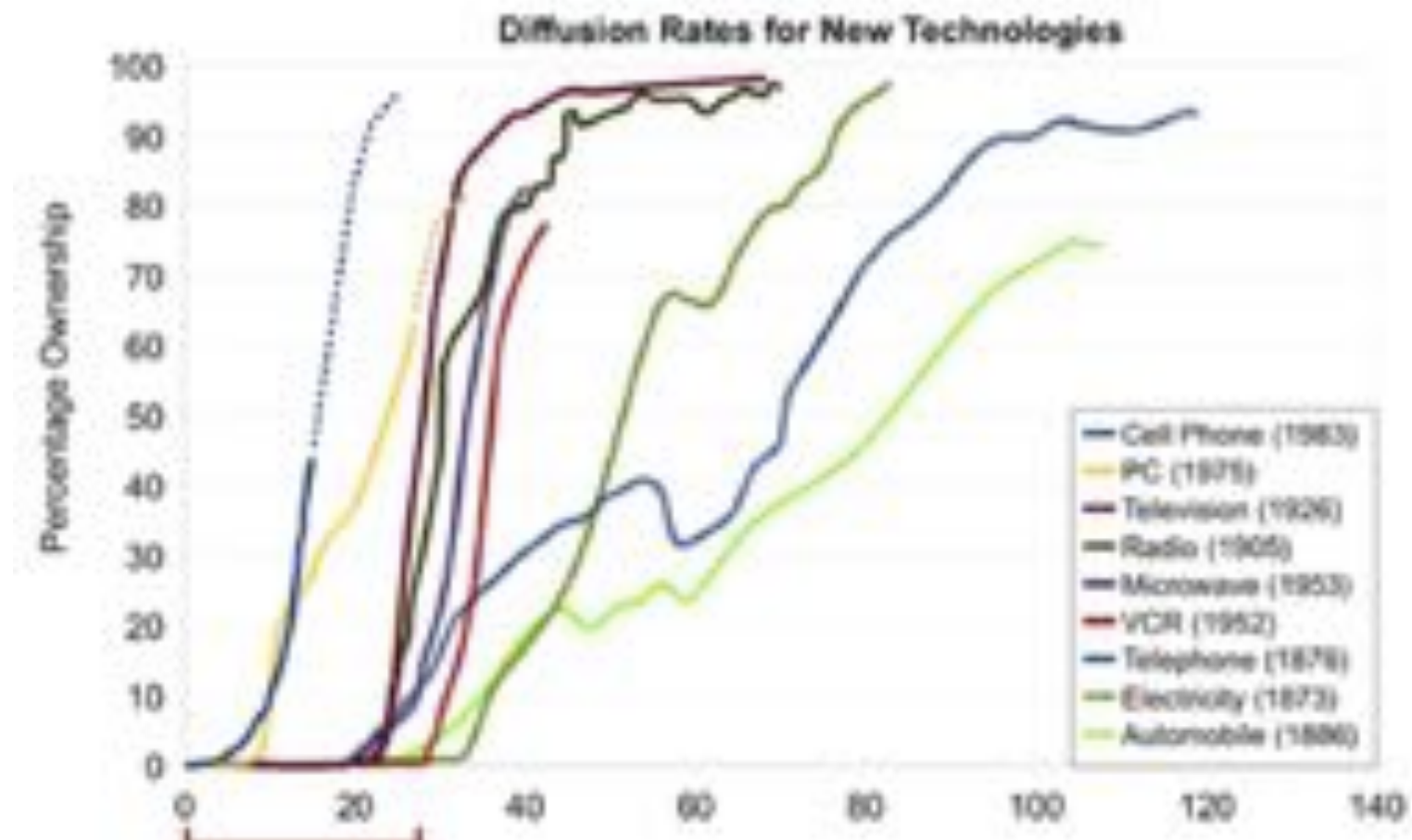
Inventions—the name by which we call devices that seem fundamentally new—are almost always born out of a process that is more like farming than magic. From a complex ecology...that includes the condition of the intellectual soil, the political climate, the state of technical competence... the suggestion of new possibilities arises. John Szarkowski, *Photography Until Now*



The Rise 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



1934

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

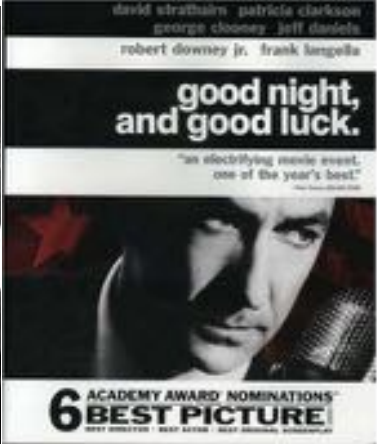
1927: Fox Movietone presents first sound newsreel, of Charles Lindbergh's takeoff

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

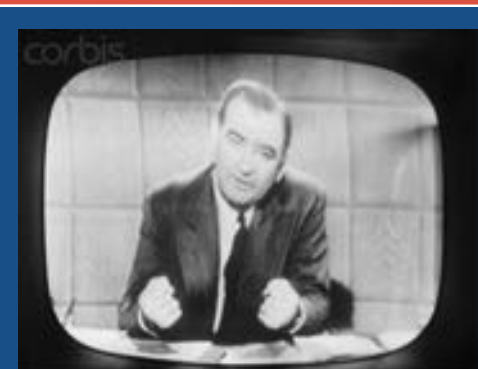


John Ford. The Battle of Midway, 1942





The TV Documentary



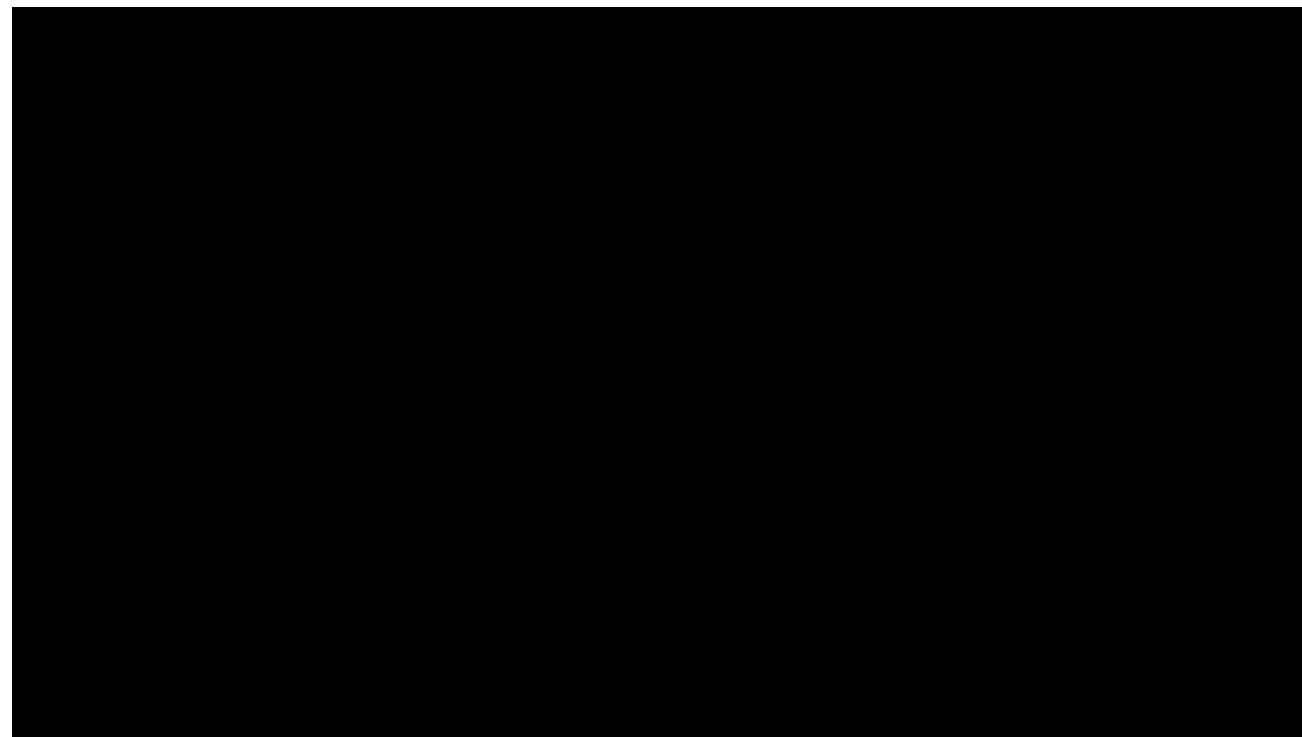
1950: "See It Now" debuts on CBS, w/Edward R. Murrow, edited by Fred Friendly

1956: Murrow's program on Sen. Joseph McCarthy

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



Edward R. Murrow



The people you have seen have the strength to harvest your fruit and vegetables. They do not have the strength to influence legislation. Maybe we do. Good night, and good luck.

The rise of TV news



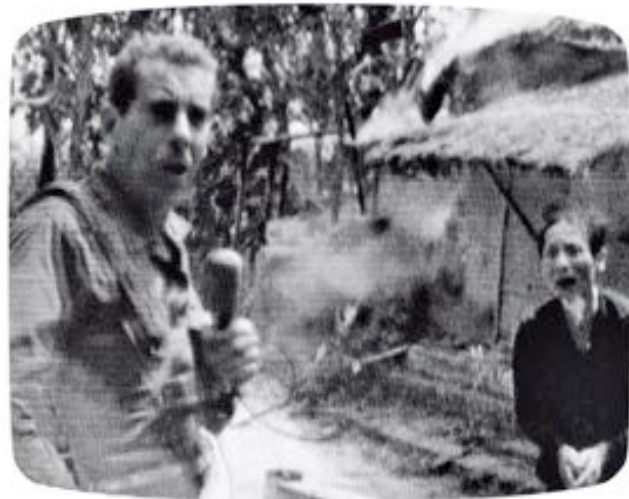
1963 CBS extends evening news to 30 min.

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

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

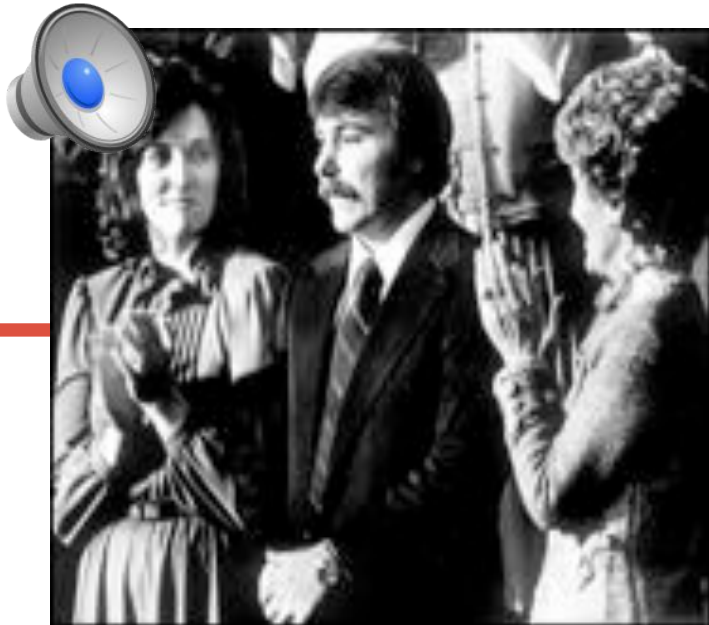
Effects of televising on sporting events, political rituals, etc.

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."



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

The party convention as TV spectacle



Kennedy-Nixon debate,
9/26/60



The era of cable news



Rachel Maddow MSNBC

1980 Ted Turner launches CNN

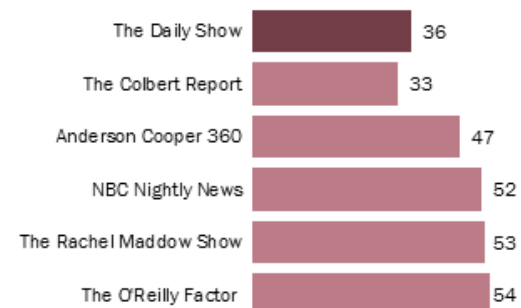
1996: Fox News launched, pioneers political cable talk-show. Quickly establishes lead in viewership. Despite older demographic, profits from “license fee” model

GE and Microsoft launch MSNBC; goes to (mostly) liberal format in 2008

1999: Comedy Central’s Daily Show and Colbert Report (from 2005) become important news sources for younger viewers

Median Age of The Daily Show Viewers Lower than Other TV News Programs

Median age of each show's audience



American Trends Panel (wave 1). Survey conducted March 19-April 29, 2014. Q22, Q23, Q24. Based on web respondents.

PEW RESEARCH CENTER



The Reinvention of Radio



The Reinvention of Radio



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

1961: First all-news AM station (WAVA)

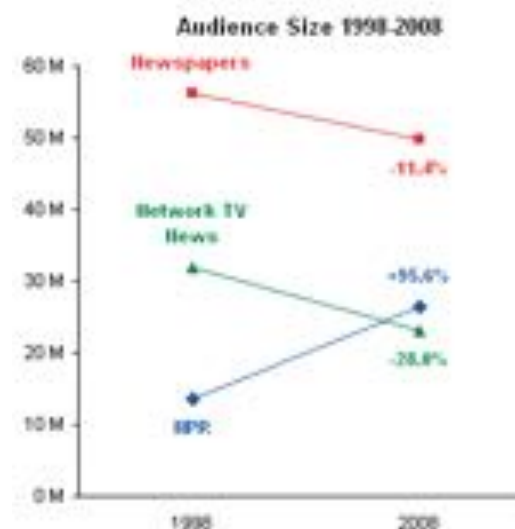
1967: Public Broadcasting Act establishes Corporation for Public Broadcasting.

1970: NPR established, begins broadcasting in 1971 with coverage of Senate hearings on Vietnam.

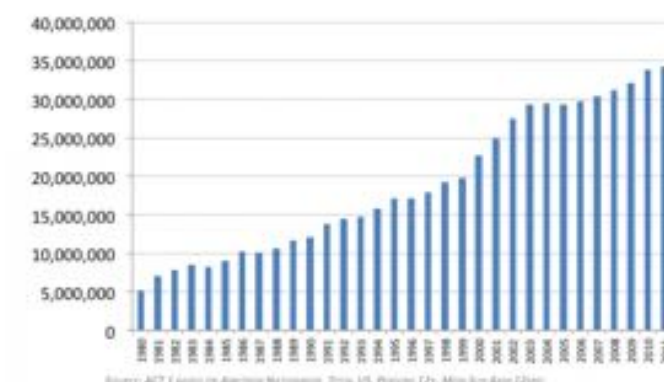
Currently 900 stations, 28m weekly listeners (up 60% since 2000)

Budget: 50% from station fees, 45% from underwriting, grants, endowment; 2% from gov't (via CPB)

But more gov't funding goes to local stations, particularly in rural areas



Weekly Audience for NPR Stations
Total US, Persons 12+, Spring surveys



The Reinvention of Radio



Barry Gray

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

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. Current weekly cume = 13.5 m, followed by Sean Hannity (12.5), Michael Savage (8.25), others. Highest-ranked liberal talker is Ed Schultz (2.25)



In sum

Radio (wireless) initially developed with govt support; seen as means of point-to-point communication

Popularity of broadcast leads to different models of control:

- run

- independent org. supported by tax on receivers (UK)

- state licenses frequencies to commercial broadcasters

- supported by advertising (US)

Radio/TV becomes important instrument for delivery of news, propaganda, entertainment; shapes forms of political spectacles.

Functions of radio/TV are shaped in competition with other media and technologies

Role of broadcast media in modern political language

The intimacy of modern public discourse



Pervasive Media



Vermeer, "The Concert"

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

Readings for April 6

Advent of the Internet

Required Reading

Berners-Lee, Tim. 2000. "info.cern.ch." Chapters 1-3 in *Weaving the Web*. New York City: HarperCollins. *Read*: pp. 1-34. *Source*: Course reader.

Morozov, Evgeny. 2012. "Making History (More than a Browser Menu)." Chapter 10 of *Net Delusion : The Dark Side of Internet Freedom*. Public Affairs. On ebrary.

Background reading:

Leiner, Barry M., Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts, Stephen Wolff, "A Brief History of the Internet," *The Internet Society*.