

# The Rise of Broadcasting



**History of Information 103**

**Geoff Nunberg**

**April 5, 2012**



# Where We Are



The broadcast age





# Itinerary, April 5

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Radio: technology, application, medium

Technological development of radio

Who controls radio?

Radio comes of age

(assignments)

Radio in public life

The arrival of television

Television as an information medium

The reinvention of radio



# Establishing Remote Presence

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Representing presence symbolically or iconically

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

Extending presence:

Photography, telephony, cinema, radio, television



# The range of radio



"radio"



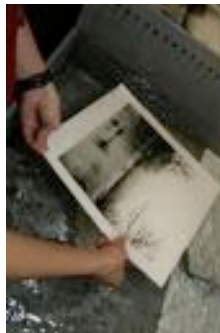
# The range of radio





# What makes for a "technology"?

How many technologies?

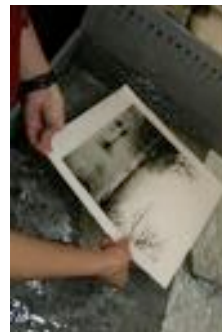
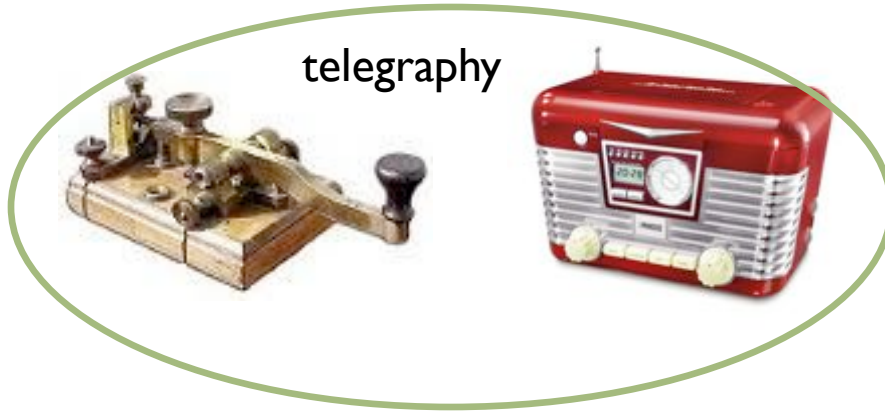






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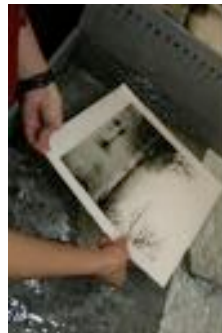
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How many technologies?

telegraphy



broadcast





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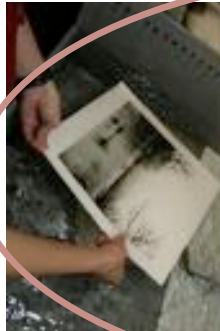
telegraphy



broadcast



Photography





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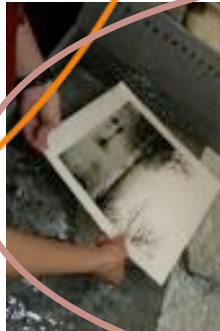
telegraphy



broadcast



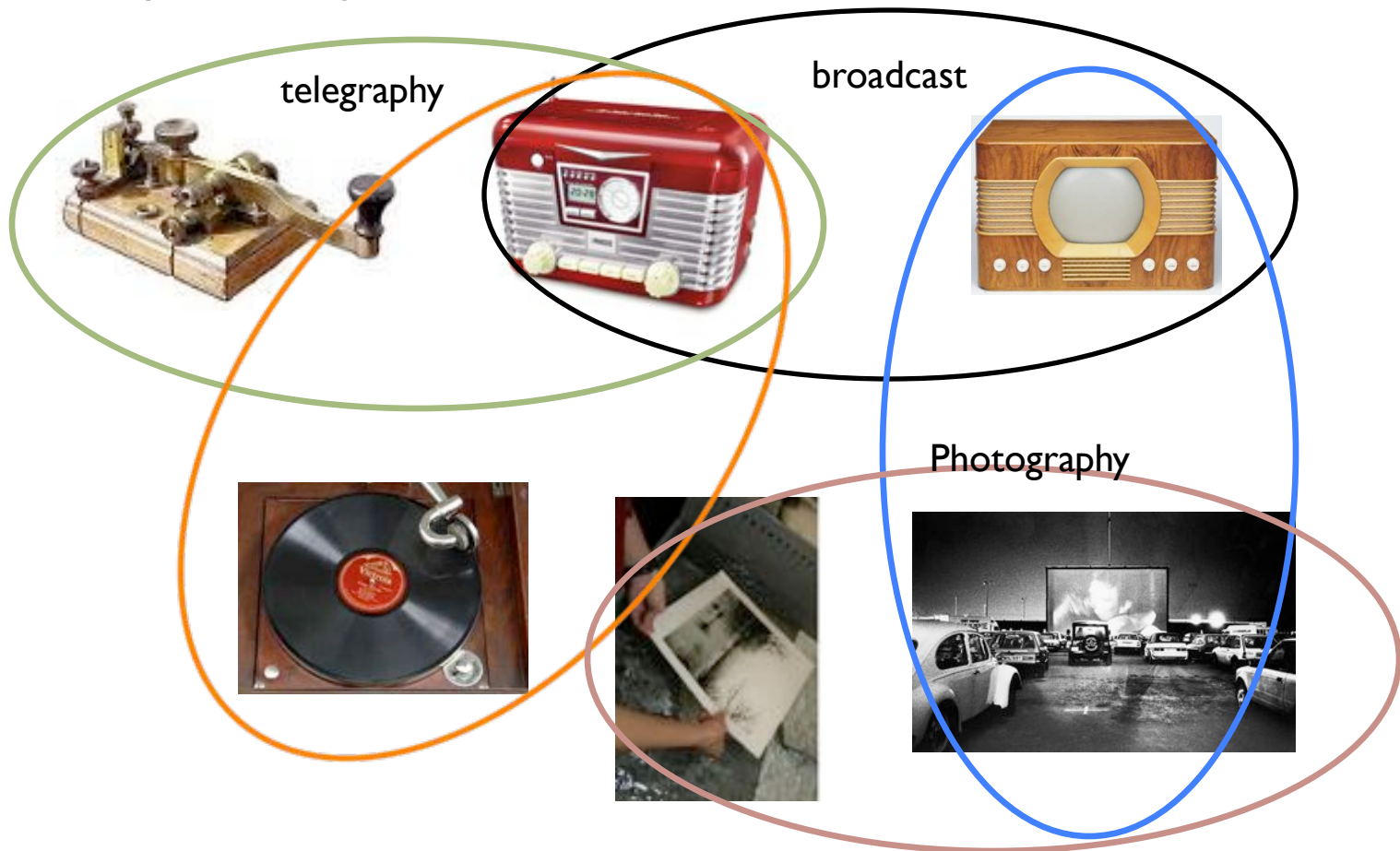
Photography





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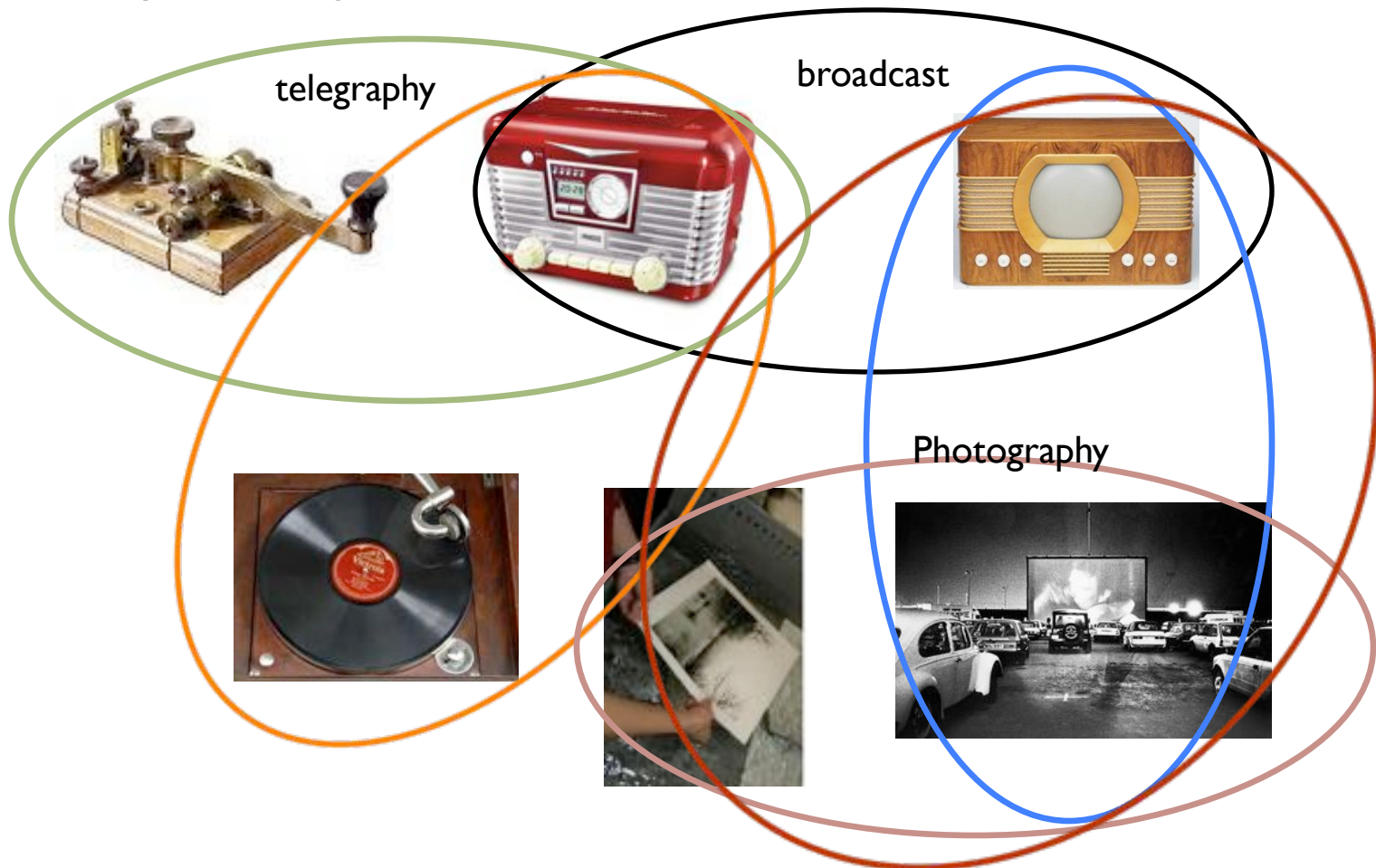
How many technologies?





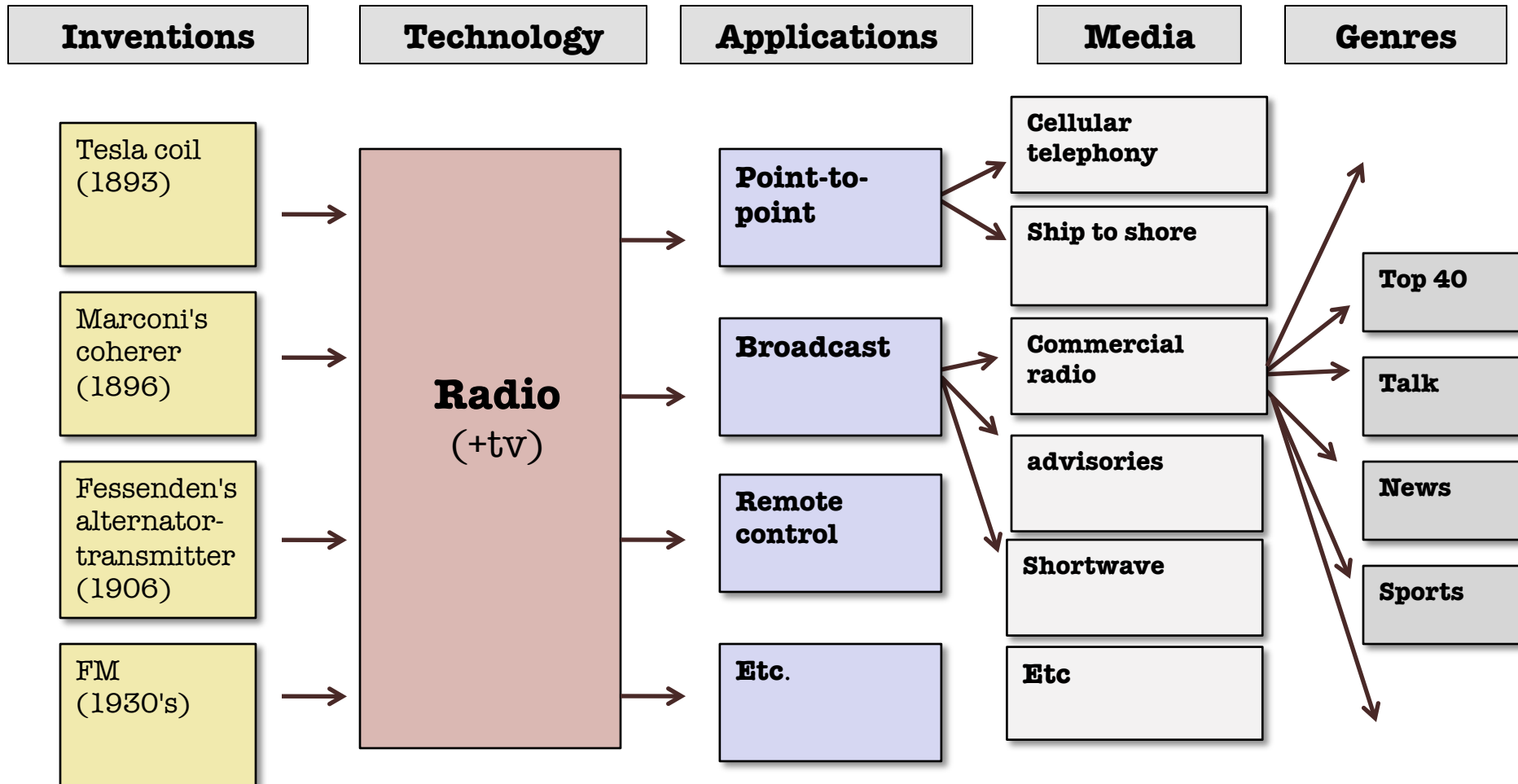
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How many technologies?





# Inventions, Technologies, Applications, Media, Genres

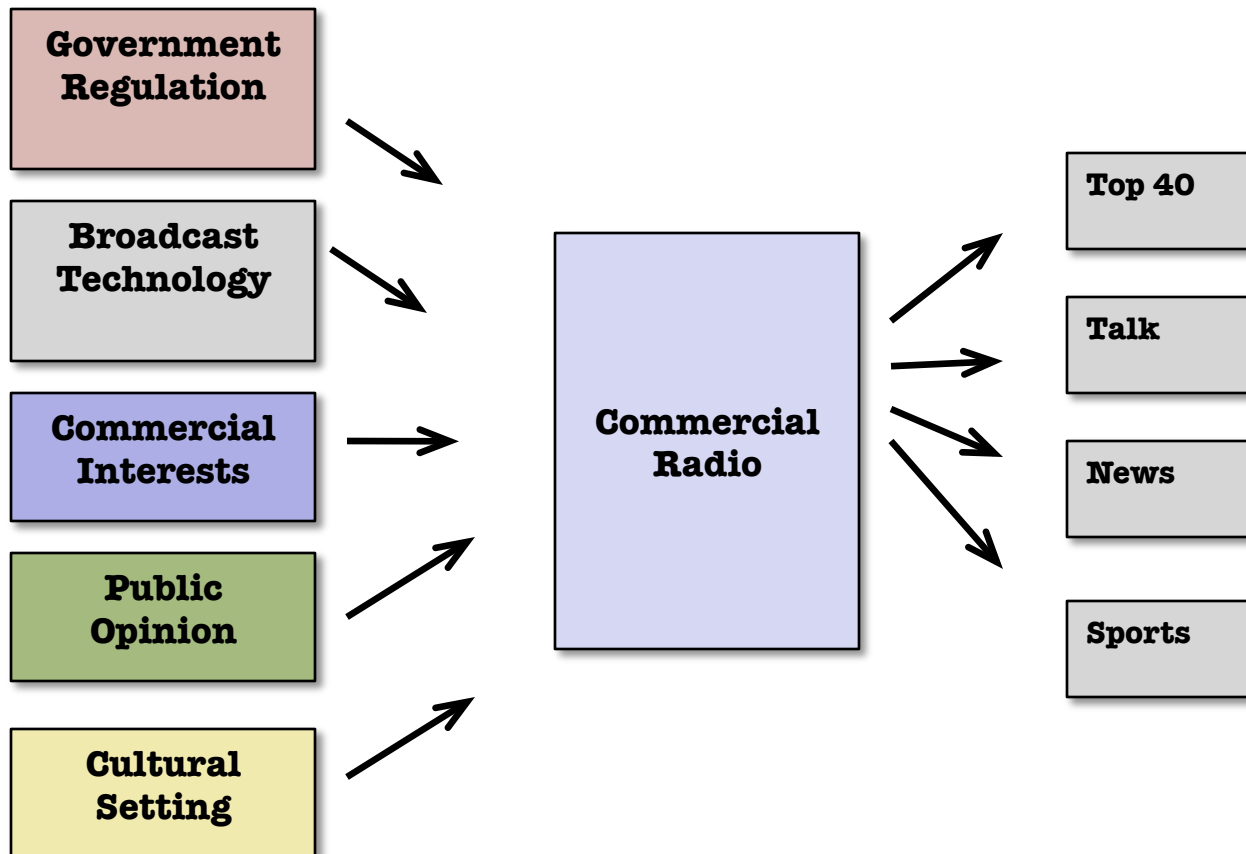






# Multiple Influences

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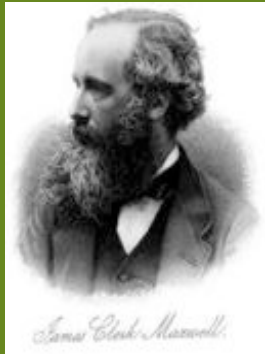


# Technological Development of Radio

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# 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."*



Heinrich  
Hertz

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

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

# Technological Development of Radio



Tesla



Marconi



Fessenden

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

1896: Marconi receives British patent for transmission & reception of "Herzian waves" (US patent 1896)

1900: Marconi patents tuning dial

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.



Brant Rock transmitter



Bose



# 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?

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# 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?

"[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



Herbert Hoover



# Resolving the Control of Radio

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## 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

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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

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# The Emergence of Broadcast

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

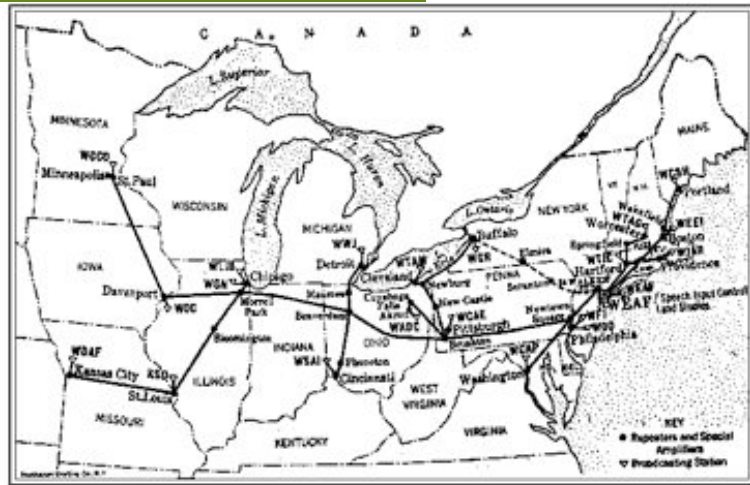
Nov. 2, 1920: KDKA Pittsburgh broadcasts results of presidential election; first station to schedule regular broadcasts.

1921: KDKA makes first broadcast of Major League baseball games





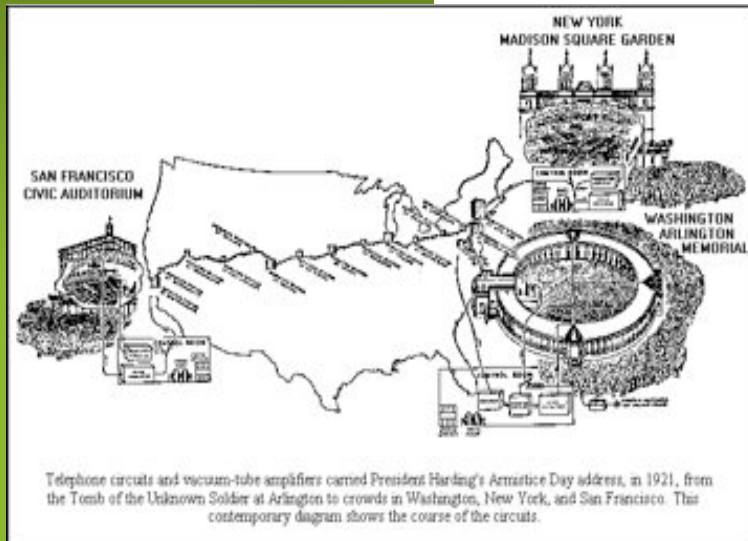
# Beginnings of Networks



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 Correl



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







# Assignment

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Czitrom writes on p. 88: Less than fifty years after the first wireless explorations, radio broadcasting stood at the very center of American society, an integral part of economic, political, and cultural processes. Radio succeeded not in filling the utopian visions first aroused by wireless technology but in appropriating those urges for commercial interests....

Seventy years after this date, would you say that this characterization still holds of broadcasting — including both radio and television? In specific terms, how similar is the content of modern broadcasting to that described by Czitrom for the 1930's and 1940's and how is it different? On the whole which are more striking — the similarities or the differences?



# Things are the same...

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## **Elizabeth Amato:**

... the primary elements of early broadcast--form, content, and commerce--remain the same now. The early scientific attitude of broadcast ("ether theory") accurately defines the "pervading" and "penetrating" nature of this communications system, and this concept of mass media invading peoples' intimate home environments is still characteristic of broadcast technologies ... the inherently unchanging strategy of broadcast has destined the endurance of almost identical content. ... The explanation for this entire system lies in broadcast technologies' impenetrable bond with advertising, which defines its relationship with commerce and audience. As mentioned before, both radio and television broadcast represent a certain "psychological burglar into the home", ... This goal of instilling within its audience "the ideology for consumption" has also remained the same ...



# Things are the same...

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## **Sean Dadashi:**

The similarities are much more striking than the differences. ...Czitrom mentions different types of shows that aired during the 1930s: news, music, sports, soap operas, variety shows, etc. -- all types of shows that still air to this day. Moreover, the censorship that Czitrom details is still highly prevalent in modern wireless communication. News channels, themselves being owned by large corporate conglomerates, need to please their corporate allies/sponsors; in doing so, the objective distribution of information is greatly compromised. Political figures that don't have corporate pull find it difficult to buy time on wireless communication mediums -- as they also did in Czitrom's time. Wireless communication is and has been dominated by commercial broadcasting interests from the beginning.





## ... but also different

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### **Mike Lim:**

Despite all its similarities, there are also striking differences in terms of the content that is available on radios and televisions today. A major difference is that there are a lot more segments on the air that addresses “leisure living”. ...Many networks feature sporting events that broadcasts the action live or even does recaps of events that occurred earlier in the day. There are also cooking networks or online shopping networks that are not essential to your livelihood as a human being but Americans indulge in these programs for “leisure living” ..... but most programs seem to still continue to engage the core American self—the consumer. And it’s this exact phenomena that is giving us the illusion that wireless technology has accomplished our utopian visions of the future...



## ... but also different

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### **Arla Rosenzweig:**

Czitrom focuses on two aspects of the radio--advertising versus news--describing the first as biased with commercial interests and the second, as in the quotation above, as "independent". However, in today's society, the two are not always separated. Broadcast news has become its own type of advertisement, using bias as its main tool to create beliefs within the public that may or may not be true. This evolution is especially striking because news is still regarded by the majority to be reliable even with all the network biases that exist. A parallel can be drawn between the news and the use of photographs as two mediums of information transmission that seem as though they ought to be completely trustworthy when in actuality, they can easily be manipulated into a false truth.



## ... but also different

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### **Jesse Yeh:**

One striking difference, however, is the notion of “broad.” As Czitrom pointed out, the commercial interest requires broadcasters to create least objectionable contents, lest the contents would offend one group within the national, heterogeneous audience. This has stopped being the case today. With the proliferation of channels and media, niche narrowcasting is the more prevalent model today. Advertisers, with extensive market research, identify their target consumers and broadcasters create programmings specifically designed to harvest those eyeballs for the advertisers. The underlying principle, that broadcasting exists to serve its funding, the advertisers, remains unchanged; the only difference is that we no longer have one public sphere as mediated by a broadcast medium, we have many fragmented pieces of reality, contingent upon one’s consumer demographic.



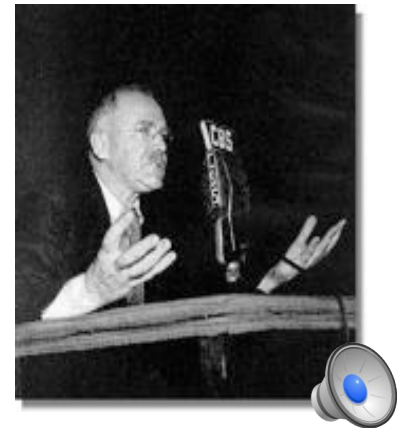
# Informing the public

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# 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"





# Preachers, Politics & Propaganda

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Father Charles Coughlin, the "radio priest"



Billy Sunday



FDR after "fireside chat"

1941: 90% of Americans listen to radio 4 hrs/day



# 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





# 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

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# The Invention of Television

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



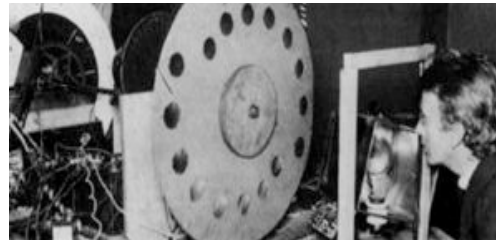
1926 John Logie Baird demonstrates electromechanical television transmission

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

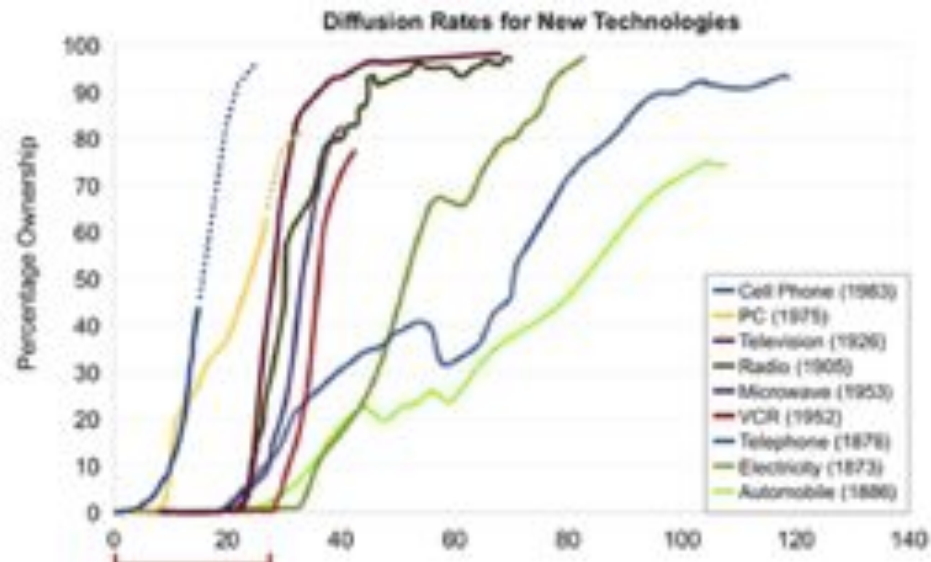


1949: 2m sets in US

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”





# Further Developments: Color



- 1929: Color television demonstrated in 1928 by Bell Labs
- 1965: NBC announces that all new programming would be in color (except for "I Dream of Jeannie.")
- 1968: Sony introduces single-gun Trinitron color
- 1972: Sales of color sets exceed B&W





# Further Developments

1948: "Community Antenna" television (CATV) systems introduced in rural areas of Oregon & Pennsylvania.

1972: Sterling Cable (NY) launches Home Box Office (later first service to use satellite distribution)

1980: Cable reaches 15m households

1952: Raytheon introduces first transistor radio at \$49.95

1956: Zenith introduces first remote control (connected to TV by cable). First wireless control (Zenith "Space Command") introduced shortly after.





# Television as an Information Medium

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# The TV Documentary



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



This scene is not taking place in the Congo. It has nothing to do with Johannesburg or Cape Town... This is Florida. These are citizens of the United States, 1960. This is a shape-up for migrant workers.... This is the way the humans who harvest the food for the best-fed people in the world get hired. One farmer looked at this and said, "We used to own our slaves; now we just rent them."





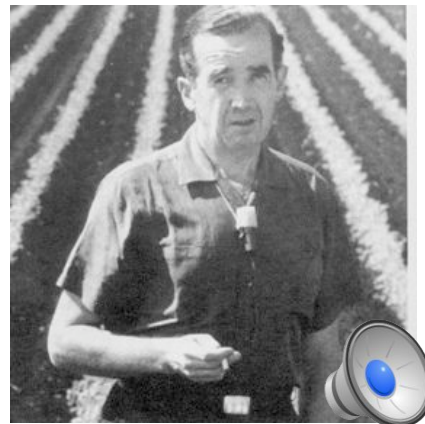
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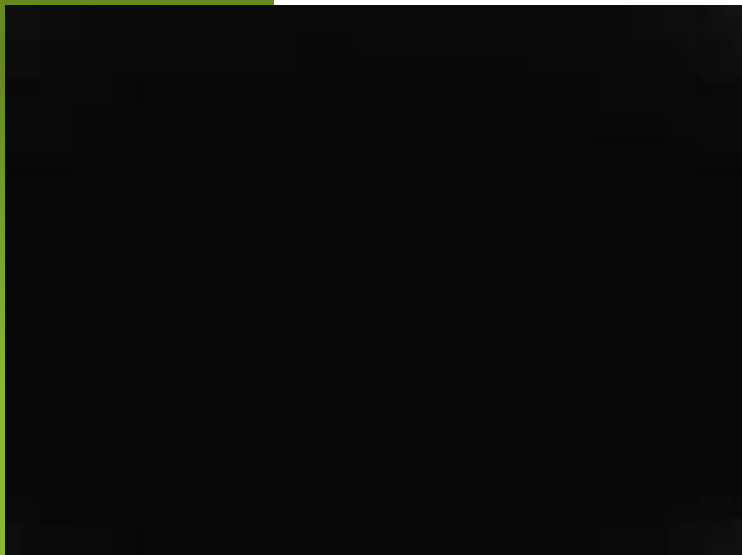


# Television Replaces the Newsreels

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



# 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

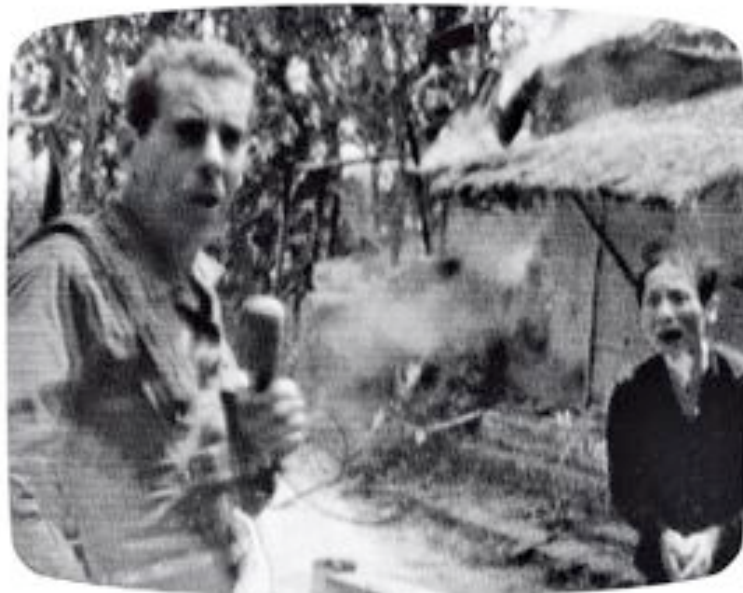
1967 CBS launches "60 Minutes"

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 Medium is the Message"



Television has become, so to speak, the background radiation of the social and intellectual universe... so thoroughly integrated with American culture that we no longer hear its faint hissing in the background or see the flickering grey light. Our culture's adjustment to the epistemology of television is by now almost complete; we have so thoroughly accepted its definitions of truth, knowledge and reality that irrelevance seems to us to be filled with import, and incoherence seems eminently sane.

Neil Postman, *Amusing Ourselves to Death*, 1986



# 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



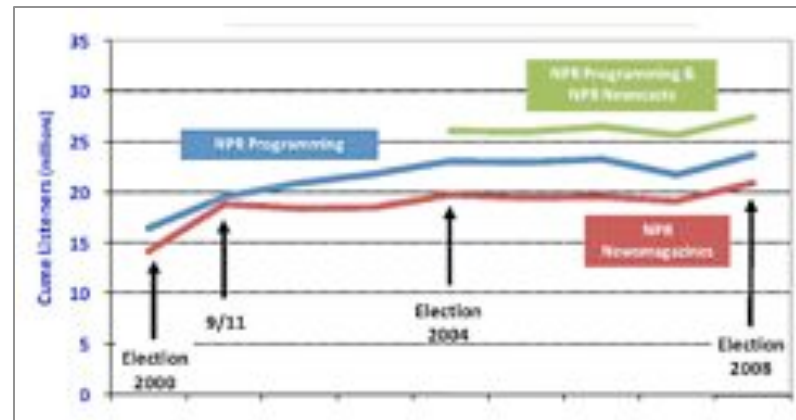
1950-1965 Radio retreats to all-news and "Top-40" formats; programming aimed at "drive time" audiences

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.

Currently 900 stations, 28m weekly listeners (up 60% since 2000); av. Age 50 (33 for podcasts), income ca. 80k.







# 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

1982: Howard Stern begins broadcasting at WNBC (NYC)

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), Laura Ingraham (5.0), Bill O'Reilly (3.25), others. Highest-ranked liberal talker is Ed Schultz (2.25)



# 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.

2004: Air America radio begins syndicated broadcasting to provide "liberal voice" in radio; 2006, files for bankruptcy protection





# 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"



## Readings for 4/10

Viktor Mayer-Schönberger, “Useful Void: The Art of Forgetting in the Age of Ubiquitous Computing,” KSG Faculty Research Working Paper Series RWP07-022.

Bush, Vannevar. 1945. As We May Think, Atlantic Monthly; 176 (1): 101-108.