RADIO AND THE DEVELOPMENT OF MODERN BROADCASTING

(THE SHORT VERSION)

July 29, 2009

History of Information – Lecture 11b – Dan Perkel

Overview

- Scientific and technical work
- Early radio users and uses
- Conceptual models of radio and regulatory systems
- Genres of programming and commercial interests
- Radio in public life

Scientific and technical work

"The broadcasting system tied together a bundle of technological and scientific threads that had been dangling for a generation…"

- Czitrom, Daniel J. 1982. *Media and the American Mind: From Morse to McLuhan.*

Visions of "wireless" communication

By Land or by Sea?

- Morse and Steinheil separately show that you use earth or water to create a telegraphic circuit
- Thomas Edison invents a system for train-to-train communication using telegraph lines but does not interfere with the normal load
- Preece develops a way to communicate with islands positioned amongst parallel telegraph lines

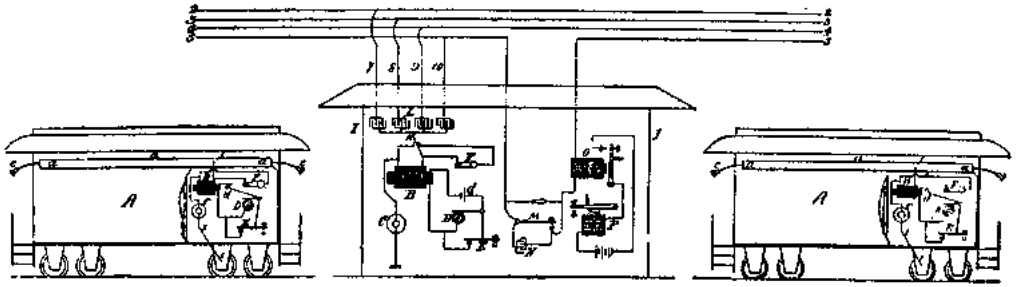


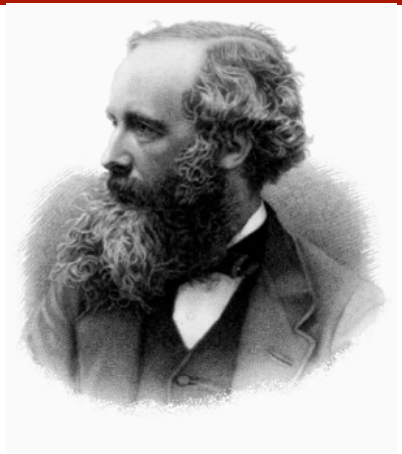
Fig. 9.

Edison's plan: Src: http://earlyradiohistory.us/1901fa17.htm

Visions of “wireless” communication

Something in the air?

- 1861-1865: Maxwell describes propogation of electro-magnetic waves.



src: http://en.wikipedia.org/wiki/James_Clerk_Maxwell

- 1888 -1892: Hertz demonstrates transmission and reception of electromagnetic waves in the air

src: http://en.wikipedia.org/wiki/Heinrich_Rudolf_Hertz

“It’s of no use”

- “It’s of no use whatsoever. This is just an experiment that proves Maestro Maxwell was right – we have these mysterious electromagnetic waves that we cannot see with the naked eye. But they are there.”

- Hertz in 1887, responding to his students’ question: “What next?” (quoted in: Capra. 2007. Quips, Quotes and Quanta…”)

- “Telegraphing through the air without wires by means of electricity does not seem to have an element of practicality in it.”

- John Trowbridge, Harvard Engineer, in 1892, reviewing plans for wireless telegraphy a sea. (quoted in: Czitrom, 1982).

Or is it?

- 1895: Guglielmo Marconi transmits radio signals over a mile innovating on inventions that preceded his work
- 1895: Creates the Marconi Wireless Telegraph Company
- 1896: Receives British patent for transmission and reception of Hertzian waves
- 1900: Patents the tuning dial
- 1902: Signals across the Atlantic. Naval vessels are equipped with his company's devices.
- Later innovations and technical achievements focused on this approach and lead to voice transmission technologies from 1900-WWI

http://en.wikipedia.org/wiki/Guglielmo_Marconi

Early users and uses

Radio: early users and uses

1. The Navy – national security and warfare
2. Commercial companies – Global communication and spread of commericial "news"
3. Hobbyists and "amateurs" – Global communication in the promotion of utopian ideals
4. Even educational institutions dabbled

All of these "constituencies" have a mix of what we might now call "point-to-point" and "broadcast"

Early government regulation (U.S.)

- 1904: Mixed responsibility of the Department of Labor and Commerce, and War Dept. to supervise stations
- 1912: Radio Act of 1912 set up four areas of the wireless spectrum: ship, coastal, amateur, government (no notion of “broadcast” interests really in the law)

Conceptual/regulatorly models

Notions of broadcast and its uses

- Westinghouse Corp begins regular broadcasting following the lead of amateurs and an early local store
- "…the efforts that were then being made to develop radio telephony as a confidential means of communication were wrong and that instead its field was really one of wide publicity; in fact, the only means of instantaneous collective communication ever devised."

  - Westinghouse exec Frank Conrad (quoted in Czitrom 1982)

Early broadcast radio

- 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
- 1921: AT&T announces plan to create national broadcasting network (which is sold to Radio Corporation of America, RCA, in 1926)

“Radio Mania” and tensions

- % of homes in the U.S. with a radio:
  - 1922: 0.2%
  - 1930: 46%
  - 1934: 65%
  - 1940: 81%
- 1920-25: Broadcasting boom
- Amateur “cult of DX-ing”. "Someday, perhaps, I shall take an interest in radio programs. But at my present stage they are merely the tedium between call letters."

  - Radio fan, 1924, quoted in Czitrom, 1982.

Conceptual models of broadcasting

- Broadcasting as common carrier (like phone service)
  - Thus obligation to provide general access
- Broadcasting as extension of press
  - Thus exempt from state control
- Broadcasting as entertainment (like movies)
  - Thus subject to censorship

Regulatory resolutions

Radio Act of 1927

Communications Act of 1934

Regulatory resolutions

Radio Act of 1927

- Establishes and authorizes Federal Radio Commission to grant broadcasting licenses & assign frequencies.
- Limits power of FRC to control programming, apart from banning "obsecene 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"
- Control of the airwaves in the hands of advertisers and commercial interests, rather than state or “public” interests

Regulatory resolutions

Communications Act of 1934:

- Creates the Federal Communications Commission to replace the Federal Radio Commission
- Rejects the opportunity to build a model of regulation and control that incorporates elements of the British and Canadian systems to help balance public and commercial interests (such as the British Broadcasting Corporation, BBC)

From:

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

  - Herbert Hoover, 1924

To:

- "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

Commericial programming

Almost all major genres of programming, many that we would still recognized, established in the 1930s and 1940s

Radio in public life

Direct addresses “to the people”

- Reports of election results in the early 1920s
- First use of radio to build a social/political movement: The “Radio Priest” Father Charles Coughlin in the 1930s
- Franklin Delano Roosevelt’s “Fireside Chats” begin in 1933
- Emergence of news programming and the public news commentator, the literal “voice” of authority and truth

Radio in “domestic” life?

- See Spigal on the transformation of radio into a “domestic machine”.