AMERICAN INFORMATION INFRASTRUCTURE: POSTAL SYSTEM, TELEGRAPH, AND TELEPHONE
Quiz

- Pick ONE social, political, cultural, or economic institution or “trend” and show how it may or may not have shaped the use or deployment of the telegraph OR telephone OR the postal service. (Bonus: the telegraph!) Use evidence from the readings to support your claims.
Agenda

- Towards Information infrastructure
- Postal Service and the development of modern communication practices
  - Circulation of “news”
  - Expectation of availability
- Telegraph and the expectation of “reach” at “speed”
- Telephone industry embedded in business interests
What constitute infrastructure? Leigh Star et al – Infrastructure has the following qualities:

- Embedded
- Transparent
- Reach
- Learned
- Practice
- installed base
- modular increments
Transparent until breakdown

- Transparent (and largely invisible) once established, “reappearing” only at moments of upheaval or breakdown;

YouTube Is Doomed (GOOG)

Benjamin Wayne | Apr. 9, 2009, 6:30 AM | 98
Tags: Media, Google, Big Tech, Video, YouTube, Advertising

YouTube, that incandescent tower of video Babel; monument to the sloughed-off detritus of our exponentially-exploiting digital culture; a Technicolor cataract of skateboarding dogs, lip-synching college students, political punditry, and porn; has reached the zenith of its meteoric rise; and Icarus-like, wings melting; is spiraling back to earth. Despite massive growth, ubiquitous global brand awareness, presidential endorsement, and the world’s greatest repository of illegally-pirated video content, Google’s massive video folly is on life-support, and the prognosis is grave.
Reach

- Defined by its reach beyond particular spatial or temporal locations;
- The Crimean War: "The press and the telegraph are enemies we had not taken into account but as they are invincible there is no use in complaining to them;"
  - British foreign secretary, the Earl of Clarendon.
- Fenton’s doctored photographs
Learned

- Learned as a part of membership within particular professional, social, or cultural communities;

- “As Sidney Aronson has noted, “[T]he inventor and his backers ... faced the formidable task of inventing uses for the telephone and impressing them on others.”

  Claude Fischer, *America Calling*. 1995
“In 1892 the Sunset Telephone Company established the first exchange in Antioch... Dr. George brought the telephone its first recorded notoriety in town with his church concert... By 1903, telephones were sufficiently common in the county to inspire fulmination by the editor of the Contra Costa Gazette: "With a new invention springs up a new crop of fools. A boar is always a boar even at the other end of a telephone line."

Claude Fischer, *America Calling*. 1995
Learned: point to point/broadcast

- early uses envisaged for the telephone broadcasting
  - music
  - transmitting sermons
  - broadcasting news
  - providing wake-up calls
  - conferring degrees
  - telephoning in airplanes
  - political ads
Installed base

- Built on, shaped and constrained by its relationship to an already installed base;
installed base: telegraph system
Embedded

- **Embedded** in other structures, social arrangements, and technologies
  
  - "telegraphy grew to accommodate geographic dispersion as well as the increasing number of populations concentrations, thus addressing the twin problems of serving both local and long distance markets"
Modular increments

- Fixed and changed in *modular increments*, through complex processes of negotiation and mutual adjustment with adjacent systems, structures, and practices

- “Telephone entrepreneurs in the early years broadcast news, concerts, church services, weather reports, and stores’ sales announcements over their lines. Although these services disappeared quickly in most places, they lingered longer on rural party lines, especially weather reports and emergency news.”

  - Claude Fischer, *America Calling*. 1995
Deeply linked with conventions of practice and other forms of routinized social action;

“our pervasive expectations of complete contact, of boundless accessibility, actually link us back to the cultural moment when ordinary Americans first experience the mail in similar terms.”

- Addressibility
- Valentines day
- Anonymity
- Henkin, The Postal Age. 2006
Pre-print news networks

Catholic Church
Political authorities of states and principalities.
Commercial banking, trade and manufacturing.
Merchants, peddlers, and traveling entertainers.

The Antwerp Exchange

- “We date the start of the commercial and financial press to these humble but significant beginnings at Antwerp around 1540”

What were the characteristics of the first American newspapers, North or South? They began essentially as appendages of the market. Early gazettes contained - aside from news about the metropole - commercial news (when ships would arrive and depart, what prices were current for what commodities in what ports), as well as colonial political appointment, marriages of the wealthy, and so forth”

*Imagined Communities, Anderson*
Postal Service
Herodotus
early mail systems
In England...


In 1775 the postal communication with the British Dominions in America was by five packet-boats between Falmouth and New York, sailing from the former the first Saturday, from the latter the second Saturday in every month, they were:

Halifax, Capt. John Bolderson.
Lord Hyde, Capt. Norris Goddard.

The postage between London, and any port within the British Dominions in America, of a single letter (i.e., one sheet of paper) was 12d., which covered inland conveyance in the Dominions up to 60 English miles; from 60 to 100 miles, 6d.; 100 to 200 miles, 8d., not passing through a chief office; and so in proportion increasing two-pence for any distance above every 100 miles. All double, treble,
“information systems” themes

- Monopolistic
- Private or government?
- Profitability
- Surveillance
USA Congressional powers

- U.S. Constitution - Article 1 Section 8
- “To establish Post Offices and Post Roads;”

This Day In History

July 26, 1775
Congress establishes U.S. Post Office

On this day in 1775, Congress establishes the United States Post Office and names...
Government monopoly for profit…

“The United States in Congress assembled shall also have the sole and exclusive right and power of … establishing or regulating post offices from one State to another, throughout all the United States, and exacting such postage on the papers passing through the same as may be requisite to defray the expenses of the said office …”

Article 9, “The Articles of Confederation” (Agreed to by Congress November 15, 1777; ratified and in force, March 1, 1781.)
“Two Postal Revolutions”

First:

Post Office Act, 1792, “it gave the postal system a radically new purpose. Henceforth, its goal was not to carry official messages or to obtain revenue by disseminate, in the words of Benjamin Rush, ‘knowledge of every kind… through every part the United States”

How to disseminate knowledge?
Post Office Act, 1792

- 1. newspapers could be sent for very inexpensive
- 2. public officials are not supposed to spy on the mail
- 3. facilitated the expansion of the postal network
Early post

- Newspapers sent between newspapers were free
- Newspapers to citizens were inexpensive
- Subsidized by the cost of sending letters
- Letter workaround?

“Columbian Centinel” 03-08-1806; Volume: 45; Issue: 4; Page: [1]; Boston, Massachusetts
Other purposes?
Other purposes for the post?

- Money transfer
- Public transportation

“In 1857, the Postmaster General began contracting with private stagecoach companies for mail service in the western territories.”

Source http://www.postalmuseum.si.edu/duty/dangersofthetrail.html
The growth of the post office

By 1840:

- ~4 of every 5 Federal employees worked for the post office
- 13,486 post offices (75 in 1790)
  - 1,087 people served by each office (43,084 per office in 1790)
  - 1 office every 61.4 square miles (1 per 3492.7 square miles in 1790)

Effective at disseminating knowledge?

- 500,000 newspapers sent through the mail in 1790
- 39,000,000 newspapers sent through the mail in 1840
  - 2.7 newspapers per capita

Effective?

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- 39,000,000 newspapers sent through the mail in 1840
  - 2.7 newspapers per capita

- Circulation was high, but did it mean an informed electorate?
The post office as a communication systems was a site to contest what the meaning of the community was.
Two impacts

- “This steady flow of information in turn helped to introduce a widely scattered population to two key ideas: that the boundaries of the community in which they lived extended well beyond the confines of their individual locality, state, or region, and coincided more or less with the territorial limits of the United States; and that the central government might come to shape the pattern of everyday life.”

- Richard R. John, *Spreading the News*, 1995
Some bold statements

- “One of the most effective elements of civilization”?
  - Francis Lieber, *Encyclopedia Americana*, 1932

- “mighty arm of civil government”
  - *New York Times*, 1852

- “time and distance are annihilated…. We are there”

- “How society in the nineteenth century could exist without mail routes and the regular delivery of letters, it is impossible to conceive….. Particularly the lovers cut off from correspondence, bereft of newspapers, buried alive from the light of intelligence, and the busy stir of the great world! What an appalling picture”

  Quoted from: John, *Spreading the News*, 1995
Imagined community…

“No longer did ordinary Americans defer to their betters, as they had during the colonial period; no longer did they stand against the government, as they had in the years immediately preceding the War of Independence. Now, for the first time in American history, a politics of vigilance supplanted a politics of trust and participation became a valued idea.”

...of white men

“... in the very process of incorporating the the citizenry into American public life, postal policy marginalized a number of groups – in particular, women and blacks – and in this way identified the public sphere with free white men...”

Mail system constituting American politics

- Social implications of early mail
  - Invigorating democratic processes
  - Paradoxically, Postal information system reinforcing social stratification
    - Expense
    - Inclusion

- Nonetheless, providing a site for contesting ideologies
Mail as site of national controversy

“the national controversy that they inspired are best understood as the response of Southern slaveholders and their Northern antiabolitionist allies to the challenge that the prior expansion of the postal system posed to conventional assumptions regarding the boundaries of American public life.”

1835 abolitionist mail crisis

“As Jones’s speech attests, the southern slavocracy viewed the raising of money, the printing of abolitionist papers, and the mailing of them into the South as both an intentional and a coordinated act of aggression. And while his fear of the use of new communication technologies may seem irrational, it may also be viewed as a legitimate response to fears of modernity and the attendant further ebbing of the slaveholders’ ability to control everything and everyone around them.”

“Two Postal Revolutions”: the second

- 1845 and 1851:
  - Lower the rates for letters
  - Pay by weight instead of by the sheet
- 1854: prepayment only
- What does Henkin say happens?
Modern communication practices

- Expectation of “boundless accessibility”
  - “Americans on the move formed a defining context for the newly accessible postal system.”

- The Dead Letter Office
  - Addressibility: “To the big-faced Butcher, with a big wart on his nose – Cleveland, Ohio”
  - “Appearance on a list of undelivered mail raised the specter of ultimate disappearance”

- From: Henkin, The Postal Age. 2006
“Calling Congressional attention to the volume of salacious literature, obscene photographs, and sexual paraphernalia that passed through the mail, Comstock’s crusade reflected the new power and priorities of an evangelical preoccupation with sexual vice”

“junk” mail
- “circulars” for “advertising, propaganda, fund-raising”
- “frauds, swindles, schemes”
- “an enterprising teenaged boy sent multiple handwritten copies of a letter stating he had ‘received a package of paper for you with six shillings charges thereon – on receipt of which amount the parcel will be sent to you…’”

From: Henkin, The Postal Age. 2006
“a festival of the mail system”

- On Valentine’s Day people explored the potential for anonymity
- *Mock Valentine*
  - “Don’t look at each other so cross and so cold/ You can’t have a baby, you’re getting too old/ So it’s no use of fretting each other insane/ You’re rocking that old empty cradle in vain”
- Demonstrated the demand for cheap postage
I dreamt last night a drunken sot
Had very, very tipsy got, ---
And, waking, hear a tale too true
Which made me think that out was you;
For day by day and night by night,
Drinking you make your sole delight
Porter and brandy, rum and gin
All in excess are taken in —
Glass after glass each day you swallow,
And then in drunkenness you wallow,
No drunkard ever shall be mine,
You don’t deserve a Valentine.
California!

“Nowhere was the arrival of the mail more eagerly awaited than in San Francisco during the opening months of the California gold rush.”

*Spreading the News* by Richard John
De Pue & Company; Galloway, W. T. (William T.) 1879 “Dunnigan, Winters, Madison farm. Publisher:”De Pue & Company San Francisco
'Public buildings, San Francisco [California]"
Creator/Contributor: Britton & Rey (active 1851-1902), lithographer and publisher (lithographer and publisher) [18--] Identifier:BANC PIC 1963.002:0562--C
http://content.cdlib.org/ark:/13030/tf2g5007sn/thumbnail
According to the State Register of California for 1857, 91 different newspapers and periodicals published in the State of California (Aggregate circulation is about 18 million sheet annually)

- 25 are daily
- 7 in non-English
- 23 democrat; 9 “American”; 8 Republican; 33 independent
- 9 are religious

23 libraries which are non-private

2 telegraph lines – California State Line; Alta Telegraph Line – both “organized” in 1852
1857 Post office

According to the State Register of California for 1857

Number of post-offices in California: 256; length of routes, 2,332 miles; cost of transportation, $127,515. Total receipts of mail for year ending June 30th, 1855, $234,591

Statement of the number of Letters sent and received in the California Mails, and the Postage paid on the same:

- Year ending June 30th 1852 — Number of Letters: 1,495,537;
- Year ending June 30th 1853 — Number of Letters: 2,707,533;
- Year ending June 30th 1854 — Number of Letters: 2,958,681
- Year ending June 30th 1856 — Number of Letters: 2,365,902
According to the *California Pictorial Almanacs*

1858: statement of letters sent “From the Post Office, San Francisco, Cal., to the Atlantic States from Jan. 5th to Nov. 5th 1857”

- January 5; John L. Stephens [boat] sent 45,942 letters

- Dates of departure: 22
- Sent: Total registered and valuable letters: 9,743
- Sent: Total no. Of letters: 832,102
- Received: Total: 6113 “bags of mail matter”
1857 Post office

Schedule of Mail departures From Post Office at San Francisco, California

- “Atlantic States, via Panama, 5th and 20th of every month.
- San Diego and Salt Lake 3rd and 18th of every month. Oregon and Washington Territories, taking mails also for the Northern Coast, 1st and 21st every month.
- San Jose, 8 A. M., ever day.”....

- "Ship Mails are despatched by every opportunity for the Sandwich Islands, Society Islands, Australia, and China. Postage on Letters to all parts of the Pacific, by ship, to be prepaid.”
1858 – first overland trip

- Leaving St. Louis September 16, and arriving in San Francisco October 10,
- Volume of mail increases very quickly –
  - 896 letter received on the first northern route trip in September 1858 –
  - October 1859 there are 18,149 letters received
  - October 1859 there are 27,851 letters sent.
United States. Post Office Dept.; Von Haake, A.
Date: 1896
“Composite: California, Nevada.”
Publisher: U.S. Post Office Washington
EXPLANATION OF MAIL SERVICE.

- Rail Roads
- Six times a week
- Three times a week
- Twice a week
- Beginning of Route

<table>
<thead>
<tr>
<th>Service</th>
<th>Line Color</th>
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<tbody>
<tr>
<td>Once a week</td>
<td>Red</td>
</tr>
<tr>
<td>Special Supply</td>
<td>Blue</td>
</tr>
<tr>
<td>Mail Messenger</td>
<td>Yellow</td>
</tr>
<tr>
<td>Offices discontinued</td>
<td>Gray</td>
</tr>
<tr>
<td>End of Route</td>
<td>Black</td>
</tr>
</tbody>
</table>
The gold rush mail

- Contact with women (remember ~5k women in the state according to the 1850 census)
- Daguerreotypes, descriptions of physical self
- Letters and envelopes with images of California
- Sending money or financial situation
Scene at the San Francisco Post Office showing how we get our letters [California]

Creator/Contributor:
- Anthony & Baker (active 1850s), engraver (engraver)
- Leland & McCombe, publisher (publisher)
- A B [monogram], undetermined (undetermined): [1854]

BANC PIC 1963.002:0137--A
“The above illustration will be recognized as a correct post-office scene upon the arrival of the mails from the Atlantic. An interval of two weeks elapsing for the arrival of one mail to another, creates an anxiety to hear form home that can scarcely be comprehended by other than residents of California. At an early hour of the morning on which it is announce the mails will be ready for delivery, anxious faces commence forming the the lines leading to the different deliveries, and by 8 o'clock the whole interior of the spacious building is completely jammed with persons, as well as the streets adjoining. The letters are generally delivered with all possible dispatch, yet evening will often find the different lines but little shortened; and the RUSH sometimes continues for three days.”
“Persons in the Atlantic states will readily understand the disappointment a friend here experiences at being told at the window after undergoing for three or four hours the persecution of being jammed and jostled by and anxious crowd, exposed to a burning sun the freezing and disagreeable winds which at seasons swap round the corners of our streets carrying with them clouds of dust -- yes, at being told by the clerk that there is nothing for him. The announcement fall harshly upon his ear, and with the speed of thought settles upon his countenance a shade of gloom and disappointment. On the other hand, should a letter be handed him, it is refreshing to note the gleam of joy that sparkles in his eyes, and the smile of thankfulness that beams upon his face, as he places the sacred epistle in his pocket, and walks hurriedly away. Friends in the Atlantic States, could they but for a moment witness the scene so perfectly represented by the artist in the sketch above, and watch the anxiety depicted in the features of each figure slowly working his way to the delivery, we think they would be more punctual in their correspondence, for it would be no pleasing sight to notice the disappointment of a husband, a father, a brother or a friend, caused perhaps, by their negligence.”
Dear Brother,

I write you again thinking you might like to hear something of my movements. I believe I told you in the letter I wrote about a fortnight ago that I meant to leave San Francisco, and I did leave a day or two afterwards, with the intention of going to San José. I found there were two ways of getting there, by the stage for twenty dollars and by vessel to the Embassadors eight miles from San José. I chose to go by the vessel as it was cheapest. I got on board a slop of nine tons and at 11 o'clock in the day we started. There were five passengers besides myself, one of whom was a lady. The slop being deeply laden with lumber, when the afternoon wind sprung up the ship dashed over us and water came in at the bow as well as a good sea broke on the sides so strongly that we were all soaked. The boats on the shores of the bay had the appearance of being sandy and barren, but they were covered with the mild west which was now upon it. At 6 o'clock we entered the mouth of a small creek which after tacking up for an hour we reached the Embassadors. This was a swamp in which there was about a dozen houses the centres of which were engaged in raising lumber to the river. I spread my bed in the house of a Mr. Roberts.
Daguerreotype

Joseph Sharp, with a pick axe, pan and gun. Bancroft Library.
http://content.cdlib.org/ark:/13030/tf3b69n709/?brand=calisphere

View from Nob Hill looking down California Street; harbor packed with ships; Yerba Buena Island and bay at distance; Telegraph Hill. Handwritten letter dated 1851 on recto and verso. Blind stamp (UC). Enclosed is original envelope of lettersheet.

To my dear little Mary,

You have above a picture of the place where I am now writing. Rincon Point is the southern extremity of a cove called Yerba Buena or in English good gruel, cove, the hills to the left as also the one with a flag staff are laid out with streets. All the lands back to the left as far as the mission 3 miles from here are offered in lots for sale. No. 1 is ready, No. 2 Central, Wharf, Yacht, Ship, Apollo No. 3 Prison Ship, No. 4 Catholic Church No. 6 Clarke's Point No. 7 where we lay No. 8 Sausalito where they get water for ships. We enter the barroom from behind the hills at the left. 2 go between the Catholic Church and the hill beyond, 4 round the hill with the flag staff 2 go between Clarke Point, Sausalito & the shipping the steamers anchor off Rincon Point. Cha. Wood.
Dear Sir,

I have wanted to address you before now, but hoped that the want would bring the information that were now on the way shall lay the case. I have at moment to make though the this is the tiring day of the season

I came into this office the last time, and to the understanding that. I was to have charge of the new paper department, and would receive at least 200 for month. Other arrangements being made, I spoke with you on this subject the now to your leaving, and as you said your
San Francisco [California]
Creator/Contributor:
G.F. Nesbitt & Co., lithographer
Marvin & Hitchcock (active ca. 1852), publisher
[1850]
Bancroft Library.
December 9, 1850
Dear Father, Mother, Lishes[?] and Brother

Well here I am once more in the city of San Francisco having lost my all on the Hamolaus[?] river, which so discouraged me that I have left the mines, so which I shall never return. I have worked like a cart horse all the time from sun rise until sunset with the exception of a couple of hours during the heat of the day. As yet we have had but very little rain and the Indians prophesy a dry winter as this is the seventh year. There will be a great deal of suffering this country during the winter as the mines are rapidly becoming exhausted but there will be a few lucky ones who will strike a pile[?] while thousands scarcely earn their board although they work very hard. It is impossible for my person to imagine this country in ids[?] free light unless he had been here to see that monstrous Elephant. As Anthony has said the miner gains nothing but the speculator all. I have learnt much of mankind since I left home having had a better opportunity to study them in this far off country than I had at home. I left Charlie Pierce in the mines....
and, It is not
in its true
Elephant
Telegraph!
Optical to electrical
The Chappe Semaphore

"[B]y the telegraph [man] renders himself as it were present in the same moment at distant places."

Monthly Review
“What Hath God Wrought?”

- Patent filed in 1837
- Morse as “inventor” of the telegraph is dubious: Wheatstone and Cooke were working on the same thing in England as was Schilling in Germany
- Morse code patented in 1840 (binary)
- Senate demonstration in 1844
Deployment in the US

- First electric telegraph in the USA: 1845-7 operated by the post office
- Congress and the Postal Service lacked interest and telegraphy became a private enterprise in 1848
- 1850s - extreme instability - "frequent breakdowns, lawsuits, rate wars, duplicate services, and ruinous competition" p12

- Amy Friedlander, Natural Monopoly and Universal Service: Telephones and Telegraphs in the U.S. Communications Infrastructure, 1837-1940. 1995
Western Union
# Table of Distances

<table>
<thead>
<tr>
<th>Place, County, and State</th>
<th>Distance from Washington</th>
<th>Distance from New York</th>
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</thead>
<tbody>
<tr>
<td>Abbeville C. H., Abbeville, S. C.</td>
<td>610</td>
<td>838</td>
</tr>
<tr>
<td>Aberdeen, Monroe, Miss</td>
<td>941</td>
<td>1,169</td>
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<tr>
<td>Abingdon, Knox, Ill</td>
<td>919</td>
<td>1,057</td>
</tr>
<tr>
<td>Abingdon, Washington, Va</td>
<td>369</td>
<td>597</td>
</tr>
<tr>
<td>Abington, Plymouth, Mass</td>
<td>479</td>
<td>251</td>
</tr>
<tr>
<td>Ackley, Hardin, Iowa</td>
<td>1,094</td>
<td>1,223</td>
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<td>Ada, Hardin, Ohio</td>
<td>549</td>
<td>678</td>
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<td>Adams, Berkshire, Mass</td>
<td>400</td>
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<td>Adams, Jefferson, N. Y</td>
<td>492</td>
<td>314</td>
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<tr>
<td>Adams' Run, Colleton, S. C</td>
<td>603</td>
<td>831</td>
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<td>Addison, Steuben, N. Y</td>
<td>325</td>
<td>301</td>
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<td>Adrian, Lenawee, Mich</td>
<td>591</td>
<td>720</td>
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<td>Aiken, Barnwell, S. C</td>
<td>609</td>
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<td>Albany, Dougherty, Ga</td>
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<tr>
<td><strong>ALBANY, Albany, N. Y</strong></td>
<td>373</td>
<td>145</td>
</tr>
</tbody>
</table>
Ovr — Over.
Ofr — Offer.
Opr — Operator.
OS — Order Sheet.
Pa — Pay.
Pd — Paid.
P O — Post Office.
Pla — Please.
Passgr — Passenger.
Pt — President.
Qk — Quick.
Rite — Right.
Rpt — Report.
Rtn — Return.
RLF — Relief.
Sa — Say.
Shld — Should.
Sck — Suck.
Sm — Some.
Sn — Soon.
Ses — Says.
St — Street.
So — South.
SF B — Stop for Breakfast.
SF D — Stop for Dinner.
Sh — Stop for night.
Sig — Signature.
Sm — Small.
Stk — Stock.
Stng — Something.
Supt — Superintendent.
T — The.
Tf — That.
TI — Tariff.
Toda — Today.
Tag — Thing.
Tk — Take.
Tak — Tank.
Tax — Thanks.
Tr — Them.
Ti — Time.
Tn — Then.
Tr — There.
Ts — This.
Twn — Town.
Ty — They.
Tel — Telegraph.
Tso — Though.
Thot — Thought.
Tm — Tomorrow.
Tr — Through.
Tkt — Ticket.
Trn — Train.
U — You.
Ux — Underline.
Und or 13 — Understand.
V — Very.
W — With.
Wa — Way.
WB — Waybill.
Wh — Which.
Wld — Would.
Decentralized population
Centralized “information flows”

”centralized information flows helped to consolidate key urban and commodities markets.... also allowed businesses to decentralize internal operations... cotton agents could buy the crop virtually off the farm while remaining in communication with the home office”

Amy Friedlander, Natural Monopoly and Universal Service: Telephones and Telegraphs in the U.S. Communications Infrastructure, 1837-1940. 1995
“There were wholesale fruit stores, where a pocketful of apples was sometimes to be had for the prompt delivery of a message; bakers and confectioners’ shops where sweet cakes were sometimes given to him. He met very kind men of whom he looked up with respect; they spoke a pleasant word and complimented him on his promptness, perhaps asking him to deliver a message on the way back to the office. I do not know a situation in which a boy is more apt to attract attention, which is all a really clever boy requires in order to rise”

Andrew Carnegie on being a telegraph messenger boy.
Telegraph... centralization?

“Throughout the entire history of armed conflict, the ability to have a virtually instantaneous exchange between a national leader at the seat of government and his forces in the field had been impossible. As a result, field commanders had been the closest things to living gods.”
New opportunities for espionage and surveillance?

We intend to begin unrestricted submarine warfare on the first of February. We shall endeavour in spite of this to keep the United States neutral. In the event of this not succeeding, we make Mexico a proposal of alliance on the following basis: make war together, make peace together, generous financial support, and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico and Arizona. The settlement in detail is left to you.

You will inform the President [of Mexico] of the above most secretly, as soon as the outbreak of war with the United States is certain, and add the suggestion that he should, on his own initiative, invite Japan to immediate adherence and at the same time mediate between Japan and ourselves.

Please call the President’s attention to the fact that the unrestricted employment of our submarines now offers the prospect of compelling England to make peace within a few months. Acknowledge receipt.

Zimmermann
“telegraph reporters”

- Associated Press formation 1846-8
  - James Gordon Bennet, New York Herald
  - James Webb, Courier & Enquirer
  - Gerald Hallock, Journal of Commerce
  - Horace Greely, Tribune
  - Moses Beach, New York Sun
  - Eustace Brooks, New York Express
Sacramento, January 9:

“A severe shock of an earthquake was felt here this morning”
Exciting!

Daily Record, Sacramento, Calif.
Telegraphs are dated October 21st 1868
Crossing the Atlantic
"May the Atlantic telegraph, under the blessing of heaven, prove to be a bond of perpetual peace and friendship between the kindred nations, and an instrument destined by Divine Providence to diffuse religion, liberty, and law throughout the world."

President Buchanan, 1858

"Tomorrow the hearts of the civilized world will beat in a single pulse, and from that time forth forevermore the continental divisions of the earth will, in a measure, lose those conditions of time and distance which now mark their relations. ... The Atlantic has dried up and we become in reality as well as wish, one country."

Times of London. 1858
“Of all the marvelous achievements of modern science the electric telegraph is transcendentally the greatest and most serviceable to mankind ... The whole earth will be belted with the electric current, palpitating with human thoughts and emotions ... How potent a power, then, is the telegraphic destined to become in the civilization of the world! This binds together by a vital cord all the nations of the earth. It is impossible that old prejudices and hostilities should longer exist, while such an instrument has been created for an exchange of thought between all the nations of the earth.”

Charles Briggs & Augustus Maverick, *The Story of the Telegraph*, 1858

"Steam was the first olive branch offered to us by science. Then came the still more effective olive branch—this wonderful electric telegraph, which enables any man who happens to be within reach of a wire to communicate instantaneously with his fellow men all over the world."

Ambassador Thornton, 1858
Moral progress

- "facilitating Human Intercourse and producing Harmony among Men and Nations ... [I]t may be regarded as an important element in Moral Progress"
  - Daily Chronicle [Cincinnati] 1847

- "the great chain that will bring all civilized nations into instantaneous communication ... the most potent of all the means of civilization, and the most effective in breaking down the barriers of evil prejudice and custom"
  - Hunt's Merchants' Magazine, 1868

- "the hand of progress beckons .... a rivet is loosened from the chains of the oppressed"
  - Commercial and Financial Chronicle, 1865
  - "Making a better machine cannot make men better." Emile Zola
Down the rabbit hole….

- Two deterministic accounts: "The war machine of Virilio and the love machine of McLuhan create quite different kinds of worlds: contest or contact."
  - McLuhan and Baudrillard By Gary Genosko

- "Electric circuitry has overthrown the regime of 'time' and 'space' and pours upon us instantly and continuously concerns of all other men. It has reconstituted dialogue on a global scale. Its message is Total Change, ending psychic, social, economic, and political parochialism. . . . Ours is a brand-new world of allatonceness. 'Time' has ceased, 'space' has vanished. We now live in a global village . . . a simultaneous happening."
  - Marshall McLuhan et al., Medium is the Massage, 1967

- "Everything in this new warfare becomes a question of time won by man over the fatal projectiles toward which his path throws him.. it is the permanence of the war of Time that creates total peace, the peace of exhaustion humanity will divide into "hopeful population" - "who are allowed the hope that they will reach, in the future someday, the speed that they are accumulating, which will give them access to the possible -- that is, to the project, the decision, the infinite: speed is the hope of the West...We have to face the facts: speed is war, the last war"
  - Paul Virilio, Speed and Politics. 1977
“telegraph” first used by the French with the Semaphore system

Electronic telegraph was “invented” around 1837

Big implications for:
- Press
- Military
- Spying/surveillance
- Business
"When offered the Bell patents for $100,000 in 1876, Western Union turned them down" - Friedlander
How does business shape early telephone use?

The Guilded era and today?
"Someday we will build up a world telephone system, making necessary to all peoples the use of a common language or common understanding of languages, which will join all the people of the earth into one brotherhood. There will be heard throughout the earth a great voice coming out of the ether which will proclaim, 'Peace on earth, goodwill towards men'.

John J. Carty, AT&T, 1891
Reality: private interests

- 1876-1893: Monopoly
  - Selling boxes plus the connections
  - Not interested in “universal” services
    - Difficult to manage
    - Not profitable (economies of scale yet to be understood)
  - Not clear how the phone would be used
Businessmen relied on letters and telegrams, often with complex codes, to produce written records of their transactions ... voice transmission, scratchy and often indistinct, could be an adjunct at best"

Claude Fischer, America Calling 1992
"When the competing telephone exchange closed in San Francisco in 1880, the Bell local raised its charges from $40 to $60 a year. The local manager justified the move: ... 'The public always expects to be "cinched" when opposing corporations consolidate and it was too good an opportunity to lose’"

Fischer
Competition era – 1894-WWI

- Bell’s patents expire in 1894
- More options for customers from thousands of new companies
- Competition drives lower prices
- 1913 Kingsbury Commitment
WWI - 1940: industry consolidation

- Government takeover of telcos during WWI made nationalization seem like a bad idea
- Regulators persuaded of the advantages of natural monopoly
- Many households disconnected during the depression era
Availability, speed, competition

The making of modern telecom
Some closing themes

- Who is controlling the infrastructure?
  - Government or private corporations?
  - "natural" monopoly of infrastructure?
- What are the practices that are part of the infrastructure?
  - Change without technical change?
- Point to point or broadcast?
- Speeding up what?
  - Humans?