History of Communications Media

Class 3

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What We Will Cover Today

- Finish our discussion of printing
- Briefly discuss the impact of print pornography
- Discuss news, newspapers, and 19th century printing innovations
- Discuss the telegraph and its impact

Printing & Nationalism - 1

- Printing created a unified official vernacular out of numerous local dialects
  - E.g. the King's English, Parisian French, Tuscan Italian, Castilian Spanish, & High German
- Printing gave a new fixity to language, building an image of antiquity so central to the subjective idea of a nation
- Printing helped create the bourgeoisie as both an 'imagined community' and as a class

As Benedict Anderson in his *Imagined Communities* stated, ""The pre-bourgeois ruling classes generated their cohesions in some sense outside language, or at least outside print-language. If the King of England married a Spanish princess — did they ever talk seriously together? Solidarities were the products of kinship, clientship, and !! personal loyalties. The relatively small size of traditional aristocracies, their fixed political bases, and the personalization of political relations implied by sexual intercourse and inheritance, meant that their cohesions as classes were as much concrete as imagined. An illiterate nobility could still act as a nobility.

But the bourgeoisie? Individual members lacked the kinship and client-type links of the nobility but they could visualize in a general way the existence of others like themselves through print-language. For an illiterate bourgeoisie is scarcely imaginable. Thus in world-historical terms, the bourgeoisies were the first classes to achieve solidarities on an essentially imagined basis."

Printing & Nationalism - 2

- Printing fostered the idea of being part of large-scale collective groups
- Printing, as noted earlier, elevated the status of the vernacular language, thus fostering a sense of ethnic-linguistic nationalism
- Printing created walls between different language groups while homogenizing differences within
- Print media proved very useful in arousing nationalist feelings and hatreds

Supra-local identification - With printing, people began to read about what went on beyond their local village and achieve both vicarious participation in more distant events and links to larger collective units. Printed materials encouraged silent adherence to causes whose advocates could not be found in any one parish and who addressed an invisible public from afar. Being able to read books and later newspapers from the capital led local provincials to see themselves as part of a national state.

Vernacular language – The vernacular languages which most people spoke acquired an importance once a mass market arose for printed material in those languages. This made it commercially profitable to produce books in the vernacular, which in turn gradually raised the literary status of these languages. This helped foster a sense of identity with those who also spoke the language. Two of these vernacular languages, French and early English, had become competitors of Latin as "languages of power" by the sixteenth century. In England early English had become the legal language in 1362, in France in 1539

Walls & homogeneity – The preservation of a given literary language often depended on whether or not a few vernacular primers, catechisms or Bibles happened to get printed (under foreign as well as domestic auspices) in the sixteenth century. When this was the case, the subsequent expansion of a separate "national" literary culture ensued. The spread of books and later newspapers and magazines did much to weaken cultural regionalism. The information and ideas available in East Prussia, for example, no longer differed so drastically from what was available in the Rhineland. This was a homogenizing tendency.

Print media & Nationalist hatreds – Print media proved very useful in arousing nationalist feelings and a sense of identity. Often this took place in the context of opposition to some outsider that was seen as a threat. Thus, English supporters of the Crown stimulated English Nationalism by attacking Catholic Spain and then Catholic France. American newspapers played a big role in bringing about the American Revolution by attacking the policies of the English Parliament.

Printing and Intellectual Liberalism

- Printers disliked censorship
  - They were natural libertarians who generally wanted the freedom to print whatever they wanted and whatever they thought would sell
- Printers had to deal with scholars and intellectuals
  - This in itself contributed to liberal attitudes since intellectual pursuits brought together people from very diverse backgrounds and from different religions

Dislike of censorship - The printing industry was the principal natural ally of libertarian, heterodox, and ecumenical individuals. Eager to expand markets and diversify production, printers were the natural enemy of narrow minds

Dealing with scholars & intellectuals – A merchant-publisher had to know as much about books and intellectual trends as a cloth merchant had to know about cloth and dress fashions. He had to have a wide circle of acquaintances from various fields of endeavor and often wide contacts with foreigners (to serve as foreign experts and translaters). One result of all of this was exposure to people with different theologies and different points of view – all of which encouraged ecumenical and tolerant attitudes. Thus Christopher Plantin of Antwerp could be the official printer of Phillip II in the Low Countries but at the same time willingly serve Calvinists and have close friends who espoused unorthodox opinions that both Catholics and Calvinists considered beyond the pale.

Printing & Childhood - 1

- Printing created childhood as a distinct social category
  - Before the printing press, children became adults by learning to speak
  - In the centuries after the invention of printing, Adulthood was redefined – one became an adult by learning how to read

Speaking – Speaking is a behavior for which all humans are hardwired and which they generally master by age 7. Thus the Catholic Church and the Law both defined age 7 as the age of reason and the age at which they became morally and legally responsible for their actions.

Reading – Unlike speaking, reading has to be taught and requires effort on the part of the student.

Printing and Childhood – 2

- Before print, children were seen as little adults and seen as part of the adult world
- After printing, children had to earn adulthood by becoming literate, for which people are not hardwired
  - This meant children had to go to school
  - With the establishment of schools, children came to be viewed as a special class of people different from adults
- People began to see human development as a series of stages, with childhood being a bridge between infancy and adulthood

Children as a special class – Once children were seen as a special class, special institutions were developed for their nurturing. These include kindergartens, little leagues, Boy Scouts, Cub Scouts, Girl Scouts, Brownies, day care centers, Boys' Clubs, orphanages, summer camps, Juvenile courts, etc. We also conferred on children a special status, reflected in the distinctive ways we expect them to think, talk, dress, play, and learn.

Childhood, then adolescence - Later as schooling began to extend beyond literacy and primary or elementary school to high school, adolescence was added as a new stage between childhood and adulthood.

New Literary Genres

- As noted before, printing led to new formats and genres of literature:
    - Early genres included the book, broadside, pamphlet, leaflet, poster, and placard
    - The mid-17th century saw the newspaper
    - The late-17th –early-18th centuries saw the scholarly journal
    - The 19th century saw the daily newspaper and the magazine

Broadside - a (1) : a sizable sheet of paper printed on one side (2) : a sheet printed on one or both sides and folded b : something (as a ballad) printed on a broadside

Pamphlet - an unbound printed publication with either no cover or a paper cover and generally many fewer pages than a book

Leaflet - a usually folded printed sheet intended for free distribution

Poster - a bill or placard for posting often in a public place; especially   : one that is decorative or pictorial

Handbill - a small printed sheet to be distributed (as for advertising) by hand

Placard - a notice posted in a public place : POSTER

Pornography - 1

- "Great art is always flanked by its dark sisters, blasphemy and pornography." Camille Paglia
- It didn't take some authors and printers too long to find out that sex sells
  - Pietro Aretino *Postures* (1524)
  - Francois Rebelais *Gargantua and Pantagruel* (1530-1540)

Early printing - Early printing, though voluminous, was largely devoted to the Bible, to other theological, legal, and scientific works, to texts for scholars like the Greek and Latin classics, to popular sheet music, and to local religious and political broadsides

Two porn classics - But two less noble works did more to popularize print and bring literacy to the masses than the scholarly works. These were Pietro Aretino's *Postures* (1524) and Francois Rabelais' *Gargantua and Pantagruel* (1530-40). Of the two, the *Postures* was the more pornographic in the strict sense, a series of engravings of sexual positions, each with a ribald sonnet. Rabelais' work, on the other hand, instantly entered the canon, where it has remained ever since. Both were popular, Aretino remaining *the* underground porn classic for centuries, Rabelais traveling a somewhat higher road. Rabelais' boast in *Gargantua and Pantagruel* that "more copies of it have been sold by the printers in two months than there will be of the Bible in nine years" was first, probably true, and second, prescient advice to new media: sex sells.

Pornography - 2

- Prior to the 19th century, pornography was a vehicle to attack the political and religious authorities through the shock of sex
  - "Pornography has the power to delegitimize, by stripping the high ones of respect and exposing them to contempt. Pornography, customarily regarded as apolitical, has therefore enormous revolutionary potential." *Conor Cruise O'Brien*

Pornography - 3

- Pornography played a major role in the French Revolution
  - *Les Libelles* – pornographic pamphlets graphically described the alleged sex-lives of the French royal family and aristocracy
    - This did much to shape the attitudes of the Paris mobs toward the royal family
    - Thus, politically-motivated pornography helped bring about the Revolution by undermining the legitimacy of the ancien regime.

Conor Cruise O'Brien in his *On the Eve of the Millennium* notes, "Much ink has been spilt on the intellectual origins of the French Revolution. Much less has been heard about that revolution's *pornographic* origins. The intellectual origins were, it is true, extremely important in the long run, as Burke had seen. But on the eve of the revolution itself, in the 1780s, the business end of the pre-revolutionary process was in the hands of the pornographers. The favourite reading of Parisians in those years consisted of *les libelles.* These were pornographic pamphlets, clandestinely published or illegally imported, but widely available and delusively directed at the supposed sex-life of the French royal family, and of Marie Antoinette in particular. These fascinatingly smutty little booklets which could be read aloud to the illiterate — did much to shape the attitudes of the Paris mob towards the royal family: a major factor at various stages of the revolution."

Pornography - 4

- In the 19th and 20th centuries, Pornography has been used to attack and discredit other groups
    - Anti-Catholics wrote numerous pornographic works describing the alleged sexual misdeeds of priests and nuns
    - Abolitionists wrote extensively about slave masters allegedly raping their slaves
    - Russian revolutionaries wrote extensively about the alleged sexual misdeeds of Rasputin and the Czarina

Accusing specific groups and individuals of grossly immoral and deviant sexual behavior has often been effective and has also allowed writers and readers of such material to indulge in such material without the guilt feeling that they were doing something immoral

Pornography - 5

- In later 19th century America, Pornography largely took on an apolitical nature and began to focus more and more on the erotic and sexually explicit
  - It thus came to be seen as a separate, if disreputable, genre
  - If it was banned, it was banned for its alleged effects on morals, not for its libelous statements and political-religious radicalism

News and Newspapers - 1

- Definition of News
  - New information about a subject of some public interest that is shared with some portion of the public.
  - Thus news can be distinguished from:
    - History – since it lacks the requisite newness
    - Art – since it does not offer compelling information
    - Intelligence – which is reserved for governmental or private use and is usually close hold
    - Chit-chat & gossip – which is normally only of personal, family, or small group interest

In the pre-printing cultures of the past, news was often conveyed by the town crier, the visiting traveler or troubadour, the minister or priest via his sermon, or a letter from afar to one of the few persons in the community who were literate and who read the letter or conveyed its contents to friends and neighbors.

In the 18th and 19th century, it was conveyed largely by newspapers and magazines

In the 20th century, it was conveyed first by newspapers and then largely by radio and television, followed in the 1990s and thereafter by internet websites, emails, and blogs

News and Newspapers - 2

- Some Notes About News
  - Not all events are news
    - Events must be selected to be news and they are selected because
      - They are considered to be of interest
      - They are within the news gatherers' perceptual reach
      - They are seen as out of the ordinary
  - News imparts to occurrences a public character
    - It transforms mere happenings into publicly discussible events

News and Newspapers - 3

- Some Notes About News – 2
  - News is usually a report about an event, but
    - Word on the President's position on a major political issue of controversy would be news
  - News is usually about recent occurrences, but
    - Fresh information on whether President Zachary Taylor was or was not deliberately poisoned would be news
  - News is usually deliberately gathered for purposes of dissemination, but
    - Some news is obtained merely by stumbling upon it

News and Newspapers - 4

- Some Notes About Newspapers
  - Until the 19th century, almost all newspapers were weeklies whose content consisted largely of advertisements and news from outside the community. This was so for two reasons
    - Until the 19th century, printing remained a handicraft process
    - In small communities, local news could travel via the grapevine far quicker than by newspaper. Thus newspapers focused on news originating elsewhere

Printing of Newspapers – In 1800, no press was much different from that of Gutenberg's 350 years earlier – hand-operated and fed one sheet of paper at a time. With such a hand press, relays of experienced printers could print 2000 sheets on one side in eight hours; a newspaper with a circulation of 3000 required twelve hours, printing at top speed, and a popular paper had four presses, two for each side of the sheet, the whole paper being set at least twice. These limitations favoured other forms such as the weekly paper, the monthly magazine, the novel, and children's books.

Dearth of Local News – Given the grapevine effect, what local news there was usually consisted of obituaries and reprints of sermons and speeches by public officials

News and Newspapers - 5

- Some Notes About Newspapers
  - Despite their limitations, newspapers often had a major influence
    - The printers and publishers of newspapers were often well-educated individuals who were leaders and opinion makers in their community
    - Newspapers thrive on controversy, provided they are able to take part in public discussions with some degree of freedom
    - Prior to the 20th century, newspapers had a monopoly on the dissemination of news (except for word of mouth or letters read aloud)
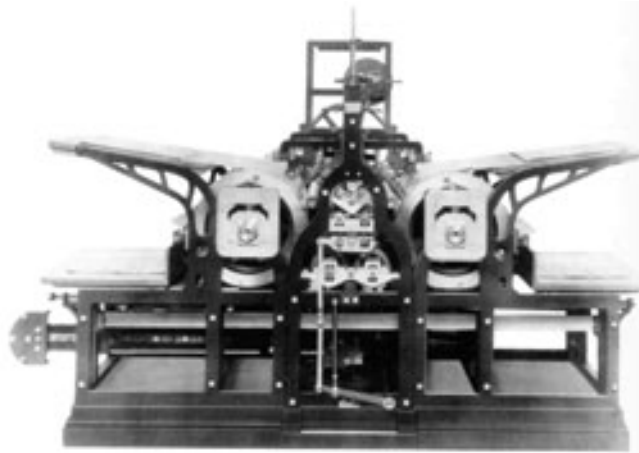
19ᵗʰ Century Newspaper Innovations

- In the 19ᵗʰ century, the newspaper would be revolutionized by
  - Faster presses & printing processes
    - The Koenig Steam-powered Press
    - Stereotyping
    - The Rotary Press
    - The Linotype
    - Photoengraving and color lithography
  - New News-gathering techniques
    - Reporters
    - The telegraph and then the telephone
    - Investigative Journalism
  - New dissemination technologies and innovations
    - The railroad and the post office
    - Cheap paper made of wood pulp
    - The Penny Press

These innovations, which I will discuss later, turned the newspaper from a normally 4-page weekly with limited news content and limited circulation to the newspaper as we know it today – a daily paper of many pages replete with local, national, and international news and containing numerous photographs and illustrations.

19th Century Newspaper Innovations - 1

- Use of steam power in printing
  - 1810 – Friedrich Koenig uses steam power to run a press
  - 1814 – *London Times* installs Koenig's press
    - Can print 1,100 sheets an hour (4X that of hand presses)
    - Bu 1850, further improvements raise the rate to over 4,000 sheets an hour
    - *London Times* circulation rose from 5,000 in 1815 to 50,000 in the 1850s

Koenig Steam Press

19th Century Newspaper Innovations - 2

- Stereotyping – 1811
  - Before stereotyping, a printer wishing to reprint something needed either to keep the original type in place or to reset it
  - With stereotyping, the set type was used to make a lead mold from which metal plates were cast
    - This freed up the type for other uses
    - It also facilitated multiple press runs

Stereotyping - Stereotyping, which came to America c1811 from England, solved other problems. Traditionally, to be able to reprint a book, a printer needed either to keep the original type standing (a substantial capital cost since it precluded use of the type for other purposes) or to reset it (a substantial cost in labor). With stereotyping, the set type was used to make lead molds from which metal plates were cast, freeing the type for other uses. Since stereotyping made it cheaper to reprint a book when the demand arose, the technology helped to modulate print runs, cut inventory costs, and reduce the risk of being stuck with unsold copies. By investing in plates, a printer could also run multiple presses without having to make correspondingly large investments in type or causing wear to the type itself. The plates themselves could be sold or rented as part of joint publishing or other arrangements. Thus, the technology was a source of flexibility as well as of economies of scale.

Stereotype Plate & Print

A stereotype is a printing plate (usually mounted as a block) which is a duplicate of a typesetting or engraving. Stereotypes were often mass-produced and sent to many printers and newspapers. The stereo was produced by a moulding process.

19th Century Newspaper Innovations - 3

- Rotary press invented by Richard Hoe - 1846
  - Rotary press consisted of a cylinder with type fixed to its surface, which rolled against another cylinder as paper passed between the two.
    - By 1860, the *Daily Telegraph* in London, which used a rotary press, was rolling out 130,000 copies a day.
  - This was followed by:
    - Four cylinder presses capable of printing on both sides of a paper simultaneously
    - Automated printing on continuous rolls of paper

Rotary Press
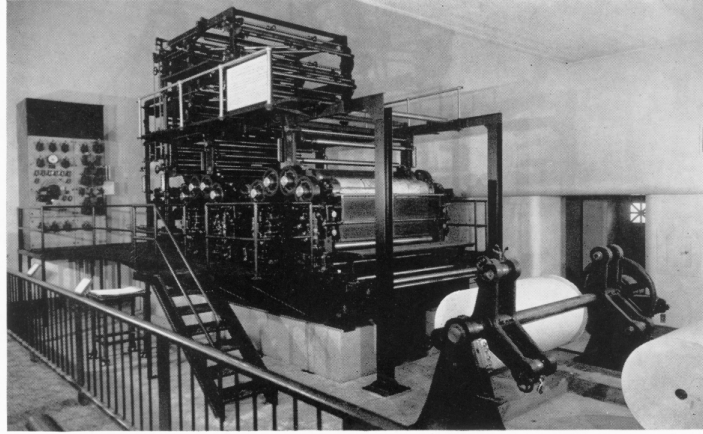
19th Century Newspaper Innovations - 4

- Reporters
  - Early newspapers did not have reporters
    - Local News was acquired by conversations at the print shop or local tavern
    - National and Foreign News acquired from letters to the newspaper and from other newspapers
  - Reporting -- going into the field in search of news -- was a consequence of:
    - Newspaper competition
    - Faster and better means of communication (which encouraged the use of out-of-town and overseas correspondents)
    - Growth of cities (which created an appetite for local news that word-of-mouth could not meet).

Before reporters - Early newspapers did not have reporters. What little local news there was in the papers (which often competed with word of mouth) could usually be obtained in the course of conversations at the print shop, the church, or the local tavern. National and foreign news was taken from letters or, more commonly, from other newspapers.

Reporting - Early 19th Century big city newspapers began sending reporters to cover court room and legislative proceedings since both crime and the passage of new laws interested their readerships. Reporting also got a big boost from the telegraph and later the telephone which made it feasible for newspapers to hire out-of-town correspondents to provide the paper with news of whatever was going on in the area where the correspondent lived or worked. One noted foreign correspondent for New York City newspapers during the Civil War was Karl Marx.

19th Century Newspaper Innovations - 5

- Telegraph
  - Revolutionized the newspaper business
    - Made feasible the use of out-of-town and foreign correspondents
    - Led to the creation of news wire services, such as the Associated Press and Reuters
    - Gave rise to our present concept of news and our present methods of newsgathering
    - Had other impacts on the newspaper which I will talk about when I discuss the Telegraph and its impacts

19th Century Newspaper Innovations

- Investigative Journalism
  - Pioneered by the *New York Tribune* and the *New York Times*
    - *Tribune's* investigation of the 1836 murder of Ellen Jewett
    - *Times'* expose of the Tweed Ring in 1870

Investigative Journalism - James Gordon Bennett's *New York Tribune* and the *New York Times* pioneered the field of investigative journalism -- Bennett through his investigative reporting of the 1836 murder of Ellen Jewett and the *New York Times* through its expose of the Tweed Ring in 1870, in which reporter John Foord revealed that Tweed had added 1,300 new employees to the city payroll in six weeks, that city park lamps were being painted on rainy days so that they would have to be repainted at lucrative rates, that some city election districts had 70% more registered voters than male citizens over the age of 21, and that the city paid over $1,200,000 for plumbing and gas fittings in the new courthouse and over $779,000 for carpets and shades

19th Century Newspaper Innovations

- Popularization of Wood Pulp Paper
  - As noted in the first class, paper meant rag paper until the middle decades of the 19th century
  - In the 1830s came hemp paper and straw paper
    - Hemp had a high cellulose content with strong fibers, but it was costly and could not be bleached – used for manila folders
    - Straw was cheap, but it had short fibers that were neither strong nor durable
      - Mixed with rags, it was widely used for newsprint and dime novels by mid-century

19th Century Newspaper Innovations

- Wood Pulp Paper
  - Production began in Germany In 1847
    - German immigrants brought the technology and production techniques to the U.S.
  - U.S. began wood pulp paper production in 1867
  - Wood Pulp Paper was less durable and weaker than paper made from straw, but was also cheaper
    - When it became available, newsprint prices dropped from 25 cents per lb in the 1860s to 2 cents per lb in 1897
  - U.S. newspapers begin using wood pulp paper in the late-1870s—early-1880s

19th Century Newspaper Innovations

- Wood Pulp Paper - 2
  - Facilitated the penny press and the dime novel by drastically lowering the cost of paper
  - Created a record storage medium that was highly prone to acidification and degradation
    - Thus many 19th and 20th century newspapers, books, and documents have become unreadable and have either been lost or have had to be deacidified and laminated at great expense

19th Century Newspaper Innovations

- Penny Press
  - Became possible when newsprint became cheap
    - Began with the rag-straw paper but was facilitated by the adoption of wood pulp paper
  - Depended on advertising revenues and newspaper sales rather than upon subsidies and printing contracts from political parties
    - This led to "sensationalism", a focus on local news and especially crime news and human interest stories , and less of a focus on political and business news

Effects of cheap newsprint - Reductions in the cost of paper and printing contributed not only to the proliferation of political and reform-oriented papers, most of them weeklies with fewer than a thousand subscribers; but also made possible the 'penny press' mass (and sensationalistic) journalism of the New York *Sun* (launched in 1833 by printer Benjamin H. Day) and the New York *Herald* (launched in 1835 by the journalist James Gordon Bennett and destined to become largest-circulation newspaper in the world) plus imitator 'penny press' newspapers in Boston, Philadelphia, Baltimore, and other cities. !!

Penny press - In the 18th and early-19th centuries, the press depended on governments and political parties for subsidy. Unlike other newspapers, the 'penny press' newspapers depended entirely for revenue on advertisers and sales to readers. Hence, they were independent of political parties and could and did represent themselves as unfettered champions of the public in reporting the news. Unlike earlier newspapers which focused on business, political, and foreign news, the penny papers, while not abandoning politics and business, focused on local news, especially crime news, and human interest items. With their higher income from their high

19ᵗʰ Century Newspaper Innovations

- Linotype
  - The machine revolutionized printing and especially newspaper publishing, making it possible for a small number of operators to set type for many pages on a daily basis.
  - Resulted in an 85% reduction in the time it took for setting type
- Color Lithography & News Photography
  - Will talk about these when I discuss Photography

The Linotype machine operator enters text on a 90-character keyboard. The machine assembles "matrices", which are molds for the letter forms, into a line. The assembled line is then cast as a single piece, called a "slug", of type metal. The matrices are then returned to the type magazine from which they came. The name of the machine comes from the fact that it produces an entire line of metal type at once - hence a "line o' type". This allows much faster typesetting and composition than original hand composition in which operators place down one pre-cast metal letter, punctuation mark or space at a time.
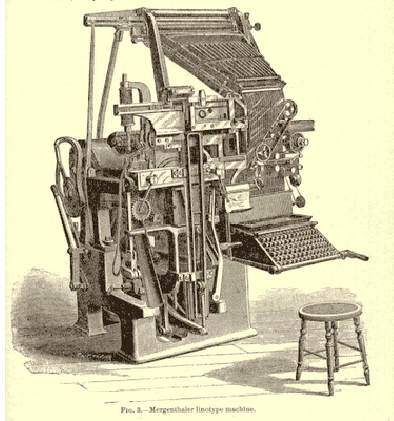
Linotype

Fig. 3.—Mergenthaler linotype machine.

Telegraph

Telegraph

- Theoretically, Telegraphy became possible when Stephen Gray in 1729 discovered that electric current could be sent along a wire and activate some sort of device at the other end
  - Variation in the number or duration of the impulses could signal different letters or numbers. These could be strung together to form a message
- Practically, creating a telegraph system was possible only when reasonably reliable and economical batteries became available

Telegraph

- What Samuel F.B. Morse and Theodore Vail accomplished was:
  - A telegraphic system that used Morse Code
  - A telegraphic receiver that could both mark the dots and dashes onto a moving strip of paper and emit sounds that an experienced telegrapher could decipher at speeds up to 40-50 words a minute

37

Morse was a well-known artist who had spent three years in Europe studying painting and who was also a professor of art at New York University. Beside being an artist and inventor of the telegraph, he was also an anti-Catholic bigot, authoring a treatise entitled *Foreign Conspiracy against the Liberties of the United States* (1835) that claimed that the Pope and the Jesuits were engaged in a conspiracy to take over America by arming American Catholics, provoking disorder, rigging elections, and electing foreigners to public office. He also helped publish a book about Maria Monk, a woman who claimed to have been a nun in Montreal, where she also claimed to have witnessed unnatural sexual acts performed by clergy and to have seen crypts filled with the corpses of illegitimate children. In the end it was revealed that Monk (rumored to have had a romantic affair with Morse) had escaped from a mental institution.

Theodore Vail later became a moving force in the creation of Western Union.

Telegraph

- Some Notes About the Telegraph
  - Before the telegraph, the speed of information was tied to the speed of transportation. The telegraph broke that link and made possible the almost instantaneous communication of information
    - This revolutionized information-intensive industries and activities
      - News could now be reported as it occurred and instantly disseminated across a fairly wide region
      - Facilitated the operation and coordination of the railroads
      - Business transactions between merchants in different cities that formerly took days or weeks now took only minutes or hours

38

Telegraph

- Some Notes About the Telegraph – 2
  - It created a lot of technological hype and technological utopianism
    - The notion that new technology equals progress and that technological innovation can solve our socio-economic-political problems largely gets its start with the telegraph and the railroad.
  - It made possible the future creation of large-scale corporate entities

39

In 1858, H.L. Wayland noted that the telegraph "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." It was because of sentiments like this that Tom Standage in *The Victorian Internet* noted: "Because of its ability to link distant peoples, the telegraph was soon being hailed as a means of solving the world's problems. It failed to do so, of course, but we have been pinning the same hope on new technologies ever since."

People noted that the Battle of New Orleans could have been avoided since neither the British nor American forces at New Orleans in January 1815 knew that a peace treaty had been signed at Ghent in December 1814. Others even contended that if the telegraph had existed in 1812, the War of 1812 could have been avoided (since the British Orders in Council which to some extent provoked the American declaration of war were repealed one day before the American Congress, which didn't know of the change in British policy, declared war.

Economist Mancur Olson noted that poor transportation and communication made large-scale efficient enterprises impossible for

Effects Upon Newspapers & Newsgathering

- News Wire Services
  - The combined desire for speed and the increasing costs involved in using the telegraph to get news led New York City newspapers in 1848 to create the first news wire service, the Associated Press
- Out-of-Town & Foreign Correspondents and Reporters
  - The telegraph made it possible for such correspondents to report distant news
- 'Inverted Pyramid" Style of News Writing
  - A result of the unreliability of early telegraph lines (especially in wartime)
  - The concern with essential facts led to a differentiation between news and opinion – with the latter being segregated into an editorial section or caged in quotation marks

40

The unreliability of early telegraph lines and the Civil War (where lines were often cut by opposing forces) led reporters to develop the habit of compressing the most essential facts into short 'lead' paragraphs at the beginning of their dispatches so that the key facts would get through even if the complete news dispatch did not.

Nationalizing of Markets

- To economists, it is axiomatic that markets are limited to the area in which communications is effectively instant
  - Thus, before telegraphy, markets were inherently local. After telegraphy, they became regional and then national.
    - One effect was to concentrate the trading of items such as gold, stock, bonds, and commodities in the place where most of their related financial transactions took place:
      - New York became a center of stock and bond trading
      - Chicago became a center of commodities trading

41

Some Other Consequences

- Created the first network-effect technology – the value and use of telegraphy increased as more nodes were added to the system
  - This provided a pattern for subsequent network-effect technologies
- Made Western Union a major corporate entity
- Facilitated the use of acronyms and abbreviations in messages (and writing)

Western Union - Before the Civil War, Western Union achieved prominence as a result of buying up bankrupt telegraph companies, its exclusive agreements with the railroads to run telegraph lines along rights-of-way , and its completion of the transcontinental telegraph in 1861 (which drove the Pony Express out of business). Before the Civil War, however, Western Union had a major competitor in the American Telegraph Corporation which had gained control of many eastern lines, including those originally owned by Morse's Magnetic Telegraph Company. The Civil War brought prosperity to Western Union since its principal trunk lines ran east-west and thus benefitted from a surge in wartime demand. In contrast, American Telegraph suffered greatly since its principal trunk lines ran north and south, so that when war broke out, its lines were cut and revenues plunged. In 1866, Western Union combined with a third firm, United States Telegraph, and the combined Western Union took over American Telegraph, gaining a nearly complete monopoly throughout the United States.

Telegraph Style – Since the telegraph companies charged by the word, there developed a clipped way of writing that abbreviated

Orville Wright Telegram

Some Other Consequences - 2

- Paved the way for such future wire-related information technologies as the:
    - Telephone,
    - Teletype machine,
    - Stock ticker,
    - Remote fire and burglary alarm
    - Fax machine

Some Other Consequences – 3

- Along with the railroad, the Telegraph:
  - Facilitated travel and the holding of professional and business conventions
    - Telegraph allowed people to make hotel reservations
    - Allowed convention planners to coordinate convention planning with the hotels where the convention was to take place
  - Made modern sports and touring theatrical companies and their related stars possible by:
    - Permitting long-distance transportation of teams, troupes, and fans (and the necessarily-related coordination) and
    - Allowing the electrical transmission of sports news and theatrical publicity to city newspapers and mass-distribution magazines

The era of the telegraph and railroad train saw the beginnings of annual professional, fraternal organization, and business conventions. It also saw the beginnings of touring theatrical and vaudeville performers and companies, baseball teams, and public speakers.

Historical Notes -1

- 1851 – Fire alarm telegraph
- 1858 – Wheatstone Automatic Telegraph Sender that could transmit up to 400 words a minute from pre-punched tape
  - Used for news transmission
- 1871 – Western Union begins money transfers
- 1871 – Signal telegraph
  - Allowed a customer to signal a central police station, firehouse, or messenger service
- 1872 – Duplex Telegraph
- 1884 – Quadraplex Telegraph

Wheatstone Auto Telegraph - In 1858, Charles Wheatstone patented an *automatic telegraph sender* that could transmit Morse Code messages at speeds up to 400 words a minute from pre-punched tape. At the receiving end, messages were printed out as dots and dashes by a standard Morse printer and then decoded into letters and numbers. While the message had to be punched onto tape, it could be done in advance; and it could be done by several keypunchers working in parallel, each punching a different paragraph with the paragraphs spliced together in proper order afterwards. The Wheatstone Automatic Telegraph, as it was known, entered widespread use after 1867, particularly for news transmission for which it was especially well-suited.

Duplex telegraph - In 1872, Joseph Stearns of Boston built and patented a *duplex telegraph* which could send messages over a single line in both directions simultaneously. This meant that telegraph companies were able to send twice as much traffic over a single wire as before.

Quadraplex telegraph - In 1884, Thomas Alva Edison invented the *quadraplex telegraph* which enabled single wire to carry four streams of traffic

Historical Notes - 2

- 1884 – Western Union is one of the original 11 stocks included in the first Dow Jones Average
- 1900 – Fredrick Creed invents a way to convert Morse Code to text
- 1913 – Western Union develops Multiplexing
- 1914 – Western Union introduces the first charge card
- 1920s-1930s – Telegrams experience peak popularity
- 1925 – Teleprinter machines

In 1913 Western Union developed multiplexing, which it made possible to transmit eight messages simultaneously over a single wire (four in each direction). Teleprinter machines, which are printing devices resembling a typewriter that send and receive telephonic signals (and produce printed output) came into use about 1925.

Historical Notes - 3

- 1933 – Western Union introduces singing telegrams
- 1936 – Varioplex Telegraph
- 1938 – Facsimile
- 1959 – TELEX
- Jan 27, 2006 – Western Union delivers the last telegram

Varioplex, introduced in 1936, enabled a single wire to carry 72 transmissions at the same time (36 in each direction). Two years later Western Union introduced the first of its automatic facsimile devices. In 1959 Western Union inaugurated TELEX, which enables subscribers to the teleprinter service to dial each other directly.