

# History of Communications Media

Class 2

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# The Impact of Printing



# Printing

- Johann Gutenberg of Mainz was a German goldsmith and printer:
  - The first European to use movable type printing (c 1439, and
  - The global inventor of the mechanical printing press.
- After printing several books, he started printing his famous Gutenberg Bible in 1455
  - About 180 of these Bibles were printed
  - The Gutenberg Bible is more a printed manuscript rather than a printed book

# Printing

- Gutenberg's printing press depended on 3 innovations which he combined
  - Movable type cast in metal
  - Oil-based ink
  - Wooden press

# Printing

- Printing spread very rapidly
  - By 1480, 110 towns had printing presses
  - By 1500, 236 towns had print shops
- It greatly multiplied the number of books and titles
  - Before Gutenberg, there were an estimated 30,000 manuscript books in Europe
  - By 1500, there were more than 20 million books in 35,000 titles
  - By 1600, there were more than 200 million books

# Some Notes about Printing - 1

- Printing involved not only text but also images, maps, diagrams, and data tables
- Economics of printing – high upfront costs combined with relatively small marginal costs for each additional item
  - This contrasted sharply with the economics of manuscript production where upfront costs were low but marginal costs were extremely high

# Some Notes about Printing – 2

- Effects of printing took a long time to show their effects
- Out of printing emerged not only the printed book, but also the:
  - Broadside
  - Pamphlet
  - Leaflet
  - Newspaper
  - Scholarly Journal
  - Poster
  - Magazine
  - Cartoon
  - Comic Strip

# Effects of Printing -1

- The Printing Revolution had a host of effects, all stemming from the fact that Print:
  - Made possible the mass production of books and other printed material
  - Drastically lowered the cost of reproducing information
  - Produced typographical fixity

# Effects of Printing - 2

- The mass production of books created new information management problems
  - Need for libraries to store the books
  - Need for catalogs to retrieve the books
  - Need for book reviews and bibliographies in order for readers to identify books of interest

# Some Effects of Lower Costs

- Reduced books from a status symbol of wealth to a mere commodity
- Made the monastic scriptoria and the university scribes obsolete
  - Reduced the economic importance of the monasteries
- Made it economically feasible to publish books in the vernacular languages as well as Latin

# Intellectual Effects - 1

- The Print Revolution:
  - Made Possible a vast expansion of knowledge. It did this in the following ways:
    - Re-arranging the arts and routines of book-making in a way that brought printers, intellectuals, merchants, and workers into contact with each other
    - Revealed the knowledge deficits and errors in ancient texts
    - Permitted scholars to improve and correct their works in subsequent editions
    - Created print shops that were meeting places and message centers for scholars

# Intellectual Effects - 2

- The Print Revolution:
  - By making possible a vast expansion of knowledge, it changed the concept of knowledge
    - Knowledge was no longer a closed body of knowledge passed down generation to generation
    - Knowledge was now the accumulated results of open-ended investigatory processes that continually expanded what was known

# Intellectual Effects - 3

- The Print Revolution
  - Helped insure against the loss of knowledge
    - While loss of single manuscripts were common, the multiple copies that printing produced insured that at least some copies would escape destruction
  - Knowledge preservation made intellectual progress possible.
    - Before printing, knowledge was fragile and easily destroyed, leading to cycles of intellectual progress and regression

# Intellectual Effects - 4

- The Print Revolution:
  - Led to the creation of new types of reference books – dictionaries, encyclopedias, chronological tables, gazetteers
  - Led to a range of “how-to-do-it” books on subjects as varied as agriculture, mining, good manners, cooking, and calligraphy
  - Led to the creation of a new genre of entertainment books ranging from romances to crime dramas, often within a moralistic framework

# The Print Revolution – 1

- Created a ‘reading public’
- Fostered privacy and isolation
  - Reading demands quiet and freedom from distraction
  - Print set the stage psychologically for solo reading
  - Replaced aural reading with silent reading
  - Printed books permitted people to escape from the outside world

# The Print Revolution - 2

- Made possible the creation of identical images, maps, diagrams, charts, and numerical tables
  - This fostered the development of science
  - It permitted copies of art works to be seen by people who would never visit the site where the original artwork was located
  - It led to the mass printing of playing cards and religious images

# The Print Revolution - 3

- Made possible the creation of more accurate maps
  - Printing made possible an era of feedback from map users to mapmakers
  - It also prevented the degradation that results over successive generations of a map

# The Print Revolution – 4

- Made possible the creation of illustrated books
  - This was a boon to science, technology, and engineering
- The creation of illustrated books and other illustrated material
  - Made celebrities out of authors and people who were the subject of a book
  - Enabled rulers to impress their personal image on their subjects

# The Print Revolution – 5

- Created private ownership of knowledge. This led to:
  - The concept of the author
  - Resentment of plagiarism
  - Copyright laws
    - Copyright laws led to the practice of authors selling their manuscripts to publishers

# The Print Revolution – 6

- Extended the power of monarchs and bureaucrats
  - As noted before, prints and engravings made it possible for rulers' facial images and physical features to be known to their subjects
  - Monarchs used print to convey information to their subjects and to affect the attitudes of their subjects

# The Print Revolution – 7

- Led to the institution of censorship
  - Political & religious leaders were quick to see the subversive power of print. This led them to:
    - Require printers to be licensed
    - Restricting the number of printers in the realm
    - Censorship
      - Banning of radical, heretical, pornographic, and libelous books

# The Print Revolution - 8

- Censorship in turn led to attempts at evasion
  - Smuggling of banned books into countries that banned them
  - Clandestine printing and publication
  - Organization of clandestine communication networks

# Language Effects - 1

- Affected both Latin and the vernacular languages of Europe
  - As noted earlier, printing made it profitable to publish books in vernacular languages as well as in Latin
    - This raised the status of vernacular languages such as English, French, and German by giving them a literary status equal to that of Latin
    - This contributed to the slow decline of Latin as a European elite lingua franca

## Language Effects - 2

- Whether or not there was a printed Bible in the language determined whether the language became permanent or became a mere provincial dialect
- Printing contributed to the homogenization of many regional dialects into a few national languages

# Language Effects - 3

- Printing led to standardized grammar and spelling
  - This in turn led to notions of ‘correctness’ in language
  - The idea of using correct language in turn led to mass publication of dictionaries
- Printing replaced poetry with prose

# Print & Manuscript - 1

- What Print does that the Manuscript does not
  - Print permitted externalization of our memories
  - Print made the Bible a single book rather than a collection of discrete mss known as the Scriptures
  - Print fostered a linear, rational, sequential way of thinking

# Print & Manuscript - 2

- What Print does that the Manuscript does not
  - Print permitted pagination; Mss were organized by chapter and verse
  - Pagination led to page numbers, indexes, cross-references, and table of contents – all lacking in manuscripts
  - Print led to title pages; Mss were labeled by their incipits

# Print & Manuscript - 3

- What Print does that the Manuscript does not
  - Print led to the concept of the book as a logical unit
  - Print changed the document focus from that of the producer/copyist to that of the reader
  - Print encouraged a sense of closure and finality – the idea that the represents the author's words in a definitive or final form

# Social & Historical Effects

- Print was a major factor in the development of the following:
  - Capitalism
  - The Protestant Reformation
  - Nationalism
  - Intellectual Liberalism
  - The creation of childhood as a distinct social category
- I will discuss each in turn

# Printing & Capitalism

- Printing shops were the first major urban capitalist enterprises
  - Print shop economics – large up-front costs combined with later revenues
  - The print shop's demand for paper stimulated the growth of the paper manufacturing industry which led it to rationalize the collection of rags
  - Printing resulted in new occupations – printers, booksellers, proof readers, editors, and librarians
  - Printing press technology anticipated many features of industrial production

# Printing & Protestantism -1

- When Luther nailed his Ninety-Five Theses to the church door, he saw it as merely an invitation to an academic disputation
- Protestantism was the first religious movement to fully exploit printing's potential as a mass medium
  - Luther described printing as “God’s highest and extremest act of grace, whereby the business of the gospel is driven forward.”

# Printing & Protestantism - 2

- Printing brought into focus many troublesome issues that had been easily glossed over before
  - One issue was the relation of Scripture and Tradition
  - Another was the relationship of faith and works
- Printing with its focus on the word of God led to simpler forms of church architecture
  - Art was banished from the churches – compare the Gothic cathedral with the Old South Church

# Printing & Protestantism - 3

- Popular editions of the Bible (such as the Luther & King James versions) had some interesting results:
  - They led people to draw an inevitable contrast between the idealized origin Church depicted in Acts and its current reality
    - Led many to see the present as a corruption and a decline from the past
  - Contrary to the intentions of the Reformers, it led to the fracturing of Protestantism

# Printing & Science

- The Book of Scripture or the Book of Nature – both were seen as the handiwork of God
  - Printing had a differential impact on the study of both:
    - Biblical scholarship could not get back to the pure original words of God before they had been corrupted by copyists over time
    - The study of nature, however, could progress as corrupted scientific data could be compared with, and corrected by, current observations and experiments

# Printing & Science - 2

- But if the Book of Nature (what science revealed) seemed to contradict the Book of Scripture (what God revealed), then what:
  - For intellectuals and members of the educated elite, the logical conclusion was that the Book revealed by science was true and that the Bible was simply a collection of legends
  - For common believers, the logical conclusion was that Scripture was an infallible source of scientific knowledge

# 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

# 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

# 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

# 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

# Printing and Childhood – 2

- 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
  - Before print, children were seen as little adults and seen as part of the adult world

# New Literary Genres

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

# Printing – Pamphlet

- Pamphlets – an unbound printed publication with either no cover or a paper cover and generally many fewer pages than a book
- Pamphlets were an ideal print medium for circulating opinions, sermons, and pornographic writings and images
  - Pamphlets have played a major role in many political, social, and religious controversies and revolutions

# How Pamphlets Changed History

- Some examples
  - The Protestant Reformation
  - The Enlightenment Debate between Rationalists, Deists/Skeptics/Atheists and Traditional Christians
  - The “Pamphlet War” at the End of the Seven Years War
  - The American Revolution
  - The Abolitionists
  - The Influence of two pamphlet writers on Adolf Hitler

# Pornography - 1

- 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)
- "Great art is always flanked by its dark sisters, blasphemy and pornography." Camille Paglia

# Pornography - 2

- Prior to the 19<sup>th</sup> 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.

# Pornography - 4

- In the 19<sup>th</sup> and 20<sup>th</sup> 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

# Pornography - 5

- In later 19<sup>th</sup> 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

- News information – information and data about recent events
  - It consists of information transmitted via the media about the people, places, and events that engage us, influence our view of the world, or even directly affect our lives

# News and Newspapers

- 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

# News and Newspapers

- 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

- 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

- Some Notes About Newspapers
  - Until the 19<sup>th</sup> 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 19<sup>th</sup> 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

# News and Newspapers

- Some Notes About Newspapers
  - Despite their limitations, newspapers often had a major influence
    - Newspapers and the printers who printed them were often well-educated individuals who were leaders and opinion makers in their community
    - Newspapers are a media that thrives on controversy, provided they are able to take part in public discussions with some degree of freedom

# News and Newspapers

- Newspapers and the American Revolution
  - The Stamp Act tax paved the way for the American Revolution by:
    - Politicizing the press so that it became a forum for discussion and protest, thus giving rise to a coherent and powerful inter-colonial opposition movement
  - Newspapers played a key role in organizing a revolutionary movement in America
    - Printers played a key role in organizing both the Committees of Correspondence and the Sons of Liberty

# News and Newspapers

- In the 19<sup>th</sup> century, newspapers would be revolutionized by
  - Faster presses powered first by steam and then by electricity
  - The telegraph and then the telephone
  - The railroad and the post office
  - Cheap newsprint made of wood pulp paper
  - News photography and color lithography

# 19<sup>th</sup> Century Newspaper Innovations

- In the 19<sup>th</sup> century, the newspaper would be revolutionized by
  - Faster presses powered first by steam and then by electricity
  - The telegraph and then the telephone
  - The railroad and the post office
  - Cheap paper made of wood pulp
  - Photoengraving and color lithography

# 19<sup>th</sup> Century Newspaper Innovations

- 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

# 19<sup>th</sup> Century Newspaper Innovations

- 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

# 19<sup>th</sup> Century Newspaper Innovations

- 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

# 19<sup>th</sup> Century Newspaper Innovations

- 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).

# 19<sup>th</sup> Century Newspaper Innovations

- 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
    - Had other impacts on the newspaper which I will talk about when I discuss the Telegraph and its impacts

# 19<sup>th</sup> 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

# 19<sup>th</sup> Century Newspaper Innovations

- Cheap Paper
  - As noted in the first class, paper meant rag paper until the middle decades of the 19<sup>th</sup> 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

# 19<sup>th</sup> Century Newspaper Innovations

- Cheap Paper – 2
  - 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

# 19<sup>th</sup> Century Newspaper Innovations

- Wood Pulp Paper
  - 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 19<sup>th</sup> and 20<sup>th</sup> century newspapers, books, and documents have become unreadable and have either been lost or have had to be deacidified and laminated at great expense

# 19<sup>th</sup> 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

# 19<sup>th</sup> 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