

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-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

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 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.

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

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

- 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 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

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 19th 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

19th Century Newspaper Innovations

- In the 19th 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

19th 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

19th 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

19th 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

19th 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).

19th 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

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

19th Century Newspaper Innovations

- Cheap 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

- 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

19th 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 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

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