HISTORY OF INFORMATION: PRINT AND PRINT CULTURE

Lecture 3 – Megan Finn – July 10, 2009

Agenda

A little from last time

□ Assessing the print revolution in Europe

- Before
- During (quiz)
- After
- Non-European cases

LAST TIME

- Early "writing"
- Pictographic writing
- Logographic writing
 - Examples: Math, Chinese



- Advantage: you don't have to know how to say something to read it
- Alphabetic writing
 - Examples: English, Hangul
 - Greeks invented consonants and vowels
 - Beware of Alphabetolatry

The literacy myth?

- Does widespread literacy "require" the alphabet?
- □ the societal consequences attributed to literacy
- economic, political, and religious institutions who have always exercised greatest influence on the actual uses of reading and writing

Orality overthrown?

- "Then, about 500 years ago, orality was overthrown by technology. Gutenberg's invention of metallic movable type elevated writing into a central position in the culture. By the means of cheap and perfect copies, text became the engine of change and the foundation of stability. From printing came journalism, science and the mathematics of libraries and law."
- Kevin Kelly, "Becoming Screen Literate", New York Times, November 21, 2008

The third revolution

- There have been three revolutions in the history of human thought. The first ... when language first emerged. ... The second cognitive revolution was the advent of writing ... The third ... the invention of a type and the printing press. ... the fourth cognitive revolution, which is just about to take place with the advent of "electronic skywriting".
- Steven Harnad, "Post-Gutenberg Galaxy: The Fourth Revolution in the Means of Production of Knowledge", 1991

Between writing and printing?

What was going on at the time of Gutenberg's invention?

Last time:



Information in Medieval Europe

Technologies

Form: scroll versus codex

Material

- Institutions
 - Church
 - bureaucracies

Material: Papyrus, parchment, paper

- parchment over papyrus?
- paper invented in 200 bc?
- diffusion:
 - 🗖 105 ad, China
 - 300 ad, Korea (Koguryo dynasty)
 - 5th century, 'domestic' uses,
 - 🗆 India 610,
 - 🗖 Japan 750,
 - 795, Baghdad
 - 9th century, Byzantium





Technology: Features of the scroll

- □ handy
- Pages
- random access
- doesn't crack



Technology: Features of the scroll

	rn Europe By E	Elizabeth L. Eisenstein Page 4		eð <u>Link</u>
handyPages	tr. David Gera ³ S. H. Steinbe	ard (London, 1976). rg, Five Hundred Years of Printin	of the Book – L'Apparition du Livre g, rev. ed. (Bristol, 1961), 11. 1450–1550, rev. ed. (Wiesbaden	u de la companya de la
🗆 rando)			
doesn			Copyr	ighted mat
		AN UNACKNOWLEDGED	REVOLUTION	5
	The effects produced by printing have aroused little controversy, not because views on the topic coincide, but because almost none has been set forth in an explicit and systematic form. Indeed, those who seem to agree that momentous changes were entailed always seem to			

Technology: The codex takes over

- "The roll continued to serve for ... writing of the sort that goes into files or archives, but the codex took over in literature, scientific studies, technical manuals ... the sort that go onto library shelves".
 Casson, Libraries in the Ancient World, 2000
 "the revolution between the second and fourth
 - centuries that changed the very structure of the book by substituting the codex for the roll"
 - Roger Chartier, Forms and Meaning 1995

Technology: affordances of the codex

In Western Europe in 200 ad, codex gaining, scroll losing 500 ad, codex dominating

why? Codex gives...

- random access
- one handed
- two-sided
- pagination
- 🗖 marginalia
- footnotes
- indexes

Technical superiority?



Institution: The church



SCRIPTORIUM MONK AT WORK. (From Lacroix.)

Technology: the codex

- The late medieval book differs more from its early medieval predecessors than it does from the printed book."
 - Parkes, "Influence" 1976
- "The expectation of readers was changed, and this was reflected in changes in the physical appearance of books."
 - Parkes, ibid



Technology: the codex

Innovation in changing codex:

- running titles
- subdivisions: books, chapters
- analytical tables of contents
- chapter headings
- cross references
- alphabetical order
- page numbers, indexes



Institution: the bureaucratic state

- In England "lay literacy grew out of bureaucracy, rather than from any abstract desire for education or literature..."
 - Clanchy, From Memory to Written Record, 1993, p19

Preparing the ground....

Innovations:

- Domesday
- dates
- names
- spelling
- written evidence
- authenticity
- Centralization
- Unintended consequences?

Institution: the bureaucratic state

- In England "lay literacy grew out of bureaucracy, rather than from any abstract desire for education or literature..."
 - Clanchy, From Memory to Written Record, 1993, p19
 Sealing wax consumption, 1226-1271



The printing revolution?

-Assessing a revolution:

-What happened?

- Gutenberg
- Eisenstein

-What came before?

- Manuscript culture
- Non-European contexts

-What came after?

Empowering ordinary people?

- "the net.... This is the most extraordinary invention for empowering ordinary people since the invention of the printing press in the 1400s. It really is. It has re-democratized America. There is an enormous shift in power. I thought the YouTube/CNN debate was sensational."
- Howard Dean, Yearly Kos. Chicago, Aug 4, 2007; http://howardempowered.blogspot.com

Individual empowerment

- "Not since Gutenberg invented the modern printing press more than 500 years ago, making books and scientific tomes affordable and widely available to the masses, has any new invention empowered individuals, and transformed access to information, as profoundly as Google."
- From: Vise, David A. (2005) The Google Story. Macmillan: London



Who is this guy? What did he do?

Gutenberg's life



http:// commons.wikime dia.org/wiki/ File:Gutenberg.j pg

Gutenberg's bio:

- "His story is shrouded in mystery"
 - -Stephen Fry
- What documentation existed about him?
 - Court records

What we know from records



Src: Henri-Jean Martin and Lydia G. Cochrane, The history and power of writing (University of Chicago Press, 1995). Lucien Paul Victor Febvre, Henri-Jean Martin, and David Gerard, The coming of the book (Verso, 1997). Gutenberg digital: <u>http://www.gutenbergdigital.de</u> British Library Online: <u>http://www.bl.uk/treasures/gutenberg/</u> Paul Duguid, lecture, "print culture", February 10, 2009

Gutenberg's bio:

- 1394-1404 Born in Mainz as Johannes Gensfleisch(?) In Mainz
- 1418/9 Johannes de Alta villa enrolls at University of Erfurt
- □ 1420 father dies
- □ 1428??? Gutenberg exiled from Mainz
- 1430 Gutenberg is allowed to return to Mainz, but does not.
- □ 1434 Gutenberg shows up in Strasbourg
- In 1436-7, Ennelin zu der yserin Thüre claims Gutenberg promised to marry her
- 1436 pays Hanns Dunne for "things to do with printing"
- □ 1438 Drizhen dies, conflict over in heritance.

Gutenberg's bio:

- 1442 incurred more
 debt in Strasbourg
- [Waldfoghel and Ferrose]
- 1448 Back in Mainz
 - borrows money fromGelthus



http://www.mediahistory.umn.edu/timeline/gallery/gutenb.html



Gutenberg's bio:

□ 1450 – Fust lends Gutenberg money

[From Maittaire.]

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indulgentiarum, 1455

Gutenberg's bio:

- 145x Donatus' Latin Grammar
- 1452? indulgences printed

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Luther's letter to the archbishop of Mainz, 1517: "works of piety and love are infinitely better than indulgences, and yet these are not preached with such ceremony or such zeal"

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http://www.fordham.edu/halsall/sbook.html

Why Catholic Indulgences Are Making a Comeback

By BONNIE ROCHMAN Sunday, Feb. 22, 2009



Alinari's Meeting Between Dante and Beatrice in Purgatory. Through the Catholic doctrine of indulgence, believers can minimize their time spent in purgatory Alinari Archives / Corbis



Gutenberg's bio:

1455 – 42-line bible is printed

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"The written word on parchment will last a thousand years. The printed word is on paper. How long will it last? The most you can expect of a book of paper to survive is two hundred years. Only time will tell."

- Trithemius, In Praise of Scribes. 1492

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"For all his dislike of mechanical reproduction, 'Trithemius] proved particularly deft at exploiting the printing press. ... He had his book... published in Mainz by Peter von Friedberg, his favourite printer, and ... set the work not in Gothic type normally used in Germany, but in an innovative and attractive Roman font".

-Grafton & Williams, Christianity and the Transformation of the Book, 2006.

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Belgium (1)	Bibliothèque universitaire, Mons	1	Incomplete, paper
Denmark (1)	Kongelige Bibliotek, Copenhagen	12	Vol. II, incomplete, paper
		15	Complete, vellum
France (4)	Bibliothèque nationale, Paris	17	Incomplete, paper. Contains note by binder dating it to August 1456
	Bibliothèque Mazarine, Paris	16	Complete, paper
	Bibliothèque Municipale, Saint-Omer	18	Incomplete, paper
	Gutenberg Museum, Mainz	8	One copy is vol. I, incomplete, paper; the other both
		9	vols., incomplete, paper. It is unclear which is which.
	Landesbibliothek, Fulda	4	Vol. I, incomplete, vellum
	Universitätsbibliothek, Leipzig	14	Incomplete, vellum
	Niedersächsische Staats-und Universitätsbibliothek, Göttingen	2	Complete, vellum
	Staatsbibliothek, Berlin	3	Incomplete, vellum
Germany (12)	Bayerische Staatsbibliothek, Munich	5	Complete, paper
(12)	Stadt- und Universitätsbibliothek, Frankfurt-am-Main	6	Complete, paper
	Hofbibliothek, Aschaffenburg	7	Incomplete, paper
	Württembergische Landesbibliothek, Stuttgart	10	Incomplete, paper. Purchased in April 1978 for 2.2 million US dollars.
	Stadtbibliothek, Trier	11	Vol. I?, incomplete, paper. Possibly sister volume to Hubay 46, in Indiana
	Landesbibliothek, Kassel	12	Vol. I, incomplete, paper
Japan (1)	Keio University Library, Tokyo	45	Vol. I, incomplete, paper. Purchased in October 1987 for either 4.9 or 5.4 million US dollars (sources disagree)
Poland (1)	Biblioteka Seminarium Duchownego, Pelpin	28	incomplete, paper
Portugal (1)	Portuguese National Library, Lisbon	29	Complete, paper
Bussie (2)	Russian National Library	-	Incomplete, vellum
Russia (2)	Lomonosov University Library, Moscow	-	Complete, paper
Spain (2)	Biblioteca Universitaria y Provincial, Seville	32	Vol. II, incomplete, paper

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	United Kingdom (8)	Lambeth Palace Library, London	20	New Testament only, vellum
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		John Rylands Library, Manchester	25	Complete, paper
		Bodleian Library, Oxford	24	Complete, paper
		University Library, Cambridge	22	Complete, paper
		The Morgan Library & Museum, New York	37	Incomplete, vellum
			38	Complete, paper
		101K	44	Incomplete, paper
		Library of Congress, Washington DC	35	Complete, vellum
		New York Public Library	42	Incomplete, paper
		Widener Library, Harvard University	40	Complete, paper
	United States	Beinecke Library, Yale University	41	Complete, paper
	(11)	Scheide Library, Princeton University	43	Incomplete, paper
		Lilly Library, Indiana University		Incomplete, paper. Possibly sister volume to Hubay 11, in Trier
		Henry E. Huntington Library, San	36	Incomplete, vellum
		Marino	30	incomplete, velium
		University of Texas at Austin	39	Complete, paper. Purchased in 1978 for 2.4 million US dollars.
	Vatican City	Bibliotheca Apostolica Vaticana	33	Incomplete, vellum
(2)	(2)		34	Vol I, incomplete, paper

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Image source:http://www.hrc.utexas.edu/educator/modules/gutenberg/invention/tamiliar/

Printing spreads

THE ATLAS of EARLY PRINTING

about the atlas fifteenth century printing the fifteenth century book sources





Select a layer to display on the map



Spread of Printing



Trade Routes

View Modern Cities

View Modern Borders





So what was Gutenberg's invention?

- Movable metal type: the punch and the matrix
- But wait: Blaise Aguera y Arcas and Paul Needham call this into question

Source: http://www.open2.net/ historyandthearts/discover_science/ gutenberg_conclusions.html







John Fust. [From Maittaire.]



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The Helmasperger Notarial Instrument

 6 November 1955
 Dispute was over Gutenberg's "Work of the Books"

 Account of Fust and Gutenberg's business relationship as described by Fust



The notary

"Ulrich Helmasperger, cleric of the diocese of Bamberg, notary public and lay judge of the holy seat at Mainz by imperial authority...

marking it with his usual sign."

Src: http://www.gutenbergdigital.de



Image source: http://www.royalcollection.org.uk/egallery/object.asp? object=1071478&row=0&detail=magnify

Gutenberg's bio:

- 1457 Mainz Psalter
 printed by the capable
 technician Schoeffer
- 1465 Gutenberg is
 made a nobleman
- □ 1468 Gutenberg dies



PROJET DE STATUE

- A ÉRIGER DANS LA COUR PRINCIPALE DE LA BIBLIOTHÉQUE ROYALE

A L'INVENTEUR DE L'IMPRIMERIE

...not since Gutenberg

- "...the biggest technological revolution journalism has seen in years, "probably not since Gutenberg," in the words of Orville Schell, dean of the Graduate School of Journalism at UC Berkeley."
- Matthew B. Stannard, San Francisco Chronicle, April 9, 2006



Source: http:// commons.wiki media.org/ wiki/ File:DBPB_19 61_201_Joh annes_Guten berg.jpg

It matters not?

- "Whether the Germans first borrowed this Invention from the Chineses, or whether amongst the Germans (who undoubtedly lay best claim to it) lohn Gutenberg the Knight of Mentz, or lohn Fust a Moguntine, was the first Inventor thereof, it matters not."
- Robert Heath, Paradoxical Assertions, 1659

Eisenstein

The features of print culture

Quiz time – in groups of 1-3

- Pick one feature of print culture that Eisenstein describes. How did the technology of printing press contribute to that feature of print culture?
- Other than the printing press itself, what people, practices, artifacts or institutions also explain this feature?
- What is the significance of this feature to ONE of the following
 - Reformation
 - Renaissance
 - Scientific Revolution
- □ Summarize your response to EACH question in 3-4 sentences.
- Be thoughtful, concise, make an ARGUMENT, and use EVIDENCE

Eisenstein: increased output; altered input

- combinatory reading
- spread of inaccurate knowledge
- increase in both religiosity and secularism
- Ibraries came quickly, but organizing them came later

Eisenstein: standardization

- -errors were corrected with standard texts
- style of copyists ceases
- polarization of fonts (gothic and roman)
- made people aware of the roles in society by making something "typical" to the public
- printers had multiple roles beyond printing

rationalizing, codifying, cataloguing

- reorganize the thinking of readers with alphabetic ordering, indexes, etc.
- intellectual and commercial activities brought together in the print shop
- pagination with Arabic numerals
- □ you could print lists of statutes

from corrupted to improved

- quality of work improved in competition
- the "drift" of scribal culture is halted when new forms of feedback helped to correct errors which are a "prerequisite for modern scholarship and science")p76)

fixity and cumulative change

- Preservation easier with more copies
- preserving texts and reproducing them is a democratizing force
- standard vernaculars
- national identity
- "drive for fame" encouraged by print
- authorship

Amplification and reinforcement

- Language and cultural customs can be spread
- Differences also become more apparent

The non-European context

China Korea Six controversies

Three similarities

Overview of adoption of printing-related technologies

	Paper	Codex	Printing	Typography
China	3d cent bc	10th cent *	8th cent	11th cent
Korea	4th cent ad	19th cent	8th cent	15th cent
Japan	7th cent ad	19th cent	9th cent	17th cent
India	5th cent ad	6th cent*	19th cent	19th cent
Islam	8th cent ad	8th cent	19th cent	19th cent
Europe	12th cent ad	2d cent	15th cent	15th cent

Image src: Paul Duguid, "Print Culture" – Hofl09

Explaining the different order?

- Clearly different cultures adopted these technologies in radically different ways
- □ Why?
 - Religion?
 - Geography?
 - Political organization?

The role of Geography and Religion

- Papyrus in Alexandria
- Silk in China
- Palm in India
- Parchment in Europe





China – early printing

- □ 450 stamp printing
- 175 ad printing of
 Confucian classics from stone carvings
- 868 the diamond
 sutra oldest surviving
- 972-83 Tripitaka,
 5,048 volumes,
 130,000





China – 10th and 11th

10th c. printed money and playing cards

1041 Pi Sheng - Early clay movable type





Korea



918-1392: Koryo
 Dynasty three methods
 of publishing

- transcription: Royal library; practice
- xylography: Buddhist temples
- typography: civil service
- 1087: Tripitaka Koreana (xylography)
 - 160,000+pages

Korea



1377 –

Baekunhwasang Chorok Buljo Jikji Simche Yojol – or Jikji – First book with metal type

An unacknowledged unrevolution?

-Duguid, 2007 -RAND in 2000

Six perspectives on printing

Source:	Six Perspectives in the History of Printing Seong-Rae Park Gutenberg-Jahrbuch
	Volume 73.1998 / 1998 / Journal Part / Article

Xylography v. movable type

Xylography is advantageous:

- Preservation: Can do a "run" at any time
- Better for logographic writing (Chinese)
- Better when there are multiple scripts (Japanese)
- Wood easier to come by
- No issues with "fixing the plate"
- Metal type is advantageous:
 - Once you have a set, you can print anything
 - Easier with a limited number of characters (42-line bible had 270)

Alphabets v. Ideographs

🗆 In Korea: Chinese v. Hangul

- Is this about printing popular text?
- formal v. vernacular
- □ (in Europe, the problem was Latin v. Vernacular)

Gutenberg. But, according to his comment, the Korean invention had failed to take advantage of it to develop further, largely because Koreans could not turn book publishing into lucrative business. According to his interpretation, the Koreans' failure was due to their limited use of the new technology in publishing Chinese classics, without printing the more widely circulatable novels for the grassroot people. In short Korean metal type printing had

Wine press v. wax tray

- Details about technology actually matter
- Issue of holding pieces in place while printing

composing stick



locked down chase



Money v. Monarch

- □ Or, where does your funding come from?
 - Gutenberg's research paid for by business ventures
 - Other places, by the state
- What are the implications for what gets printed and how it is distributed?

Clay/Wood v. Metal type

Depends who is telling the story of printing
 Metal type is more durable for many runs

Chinese v. Korean

Who has the oldest printing technology?

Really about nationalism?

The history of printing told us that although woodblock, wooden-type and metal-type techniques were first developed in China, but the peoples of all other countries and areas made their own contributions to the further development of printing in the world, such contributions should be well recognized and written in the history. To study the history of printing from the angle of world history and comparison between the East and the West may be helpful to deepen the mutual understanding and the friendship among peoples in various countries.

A Comparative Research of Early Movable Metal-type Printing Technique in China, ... Jixing Pan Gutenberg-Jahrbuch Volume 73.1998 / 1998 / Journal Part / Article



International features?

"In China as in the West, discourses on written culture reveal three dominant obsessions."

> Roger Chartier, and Jill A. Friedman, trans. "Gutenberg Revisited from the East," Late Imperial China 17.1 (1996) 1-9

Concern over Loss

Multiplication of libraries and collections

□ "preserve the written patrimony"

Corruption

Two different concerns

- Competition creates incentives for "values which are not those of learning"
 - E.g. Piracy: Martin Luther's German Bible
- The authority of official interpretation

Excess

□ How to manage all this information?

- Libraries
- Indexes
- Cataloging

Not new to printing

- Concern over Loss
 - Paper v. parchment
- Corruption
 - Notion of textual drift in manuscripts
 - Plato's concerns about text: "your pupils will have the reputation for [wisdom] without the reality; they will receive a quantity of information without proper instruction."
- - Cataloging, indexing -> not new to print

Next time:

Eisenstein wrap-up; conclusions about print culture

"the public"

Virtuosi

Coffeehouses

"the news"

Penny universities

science