

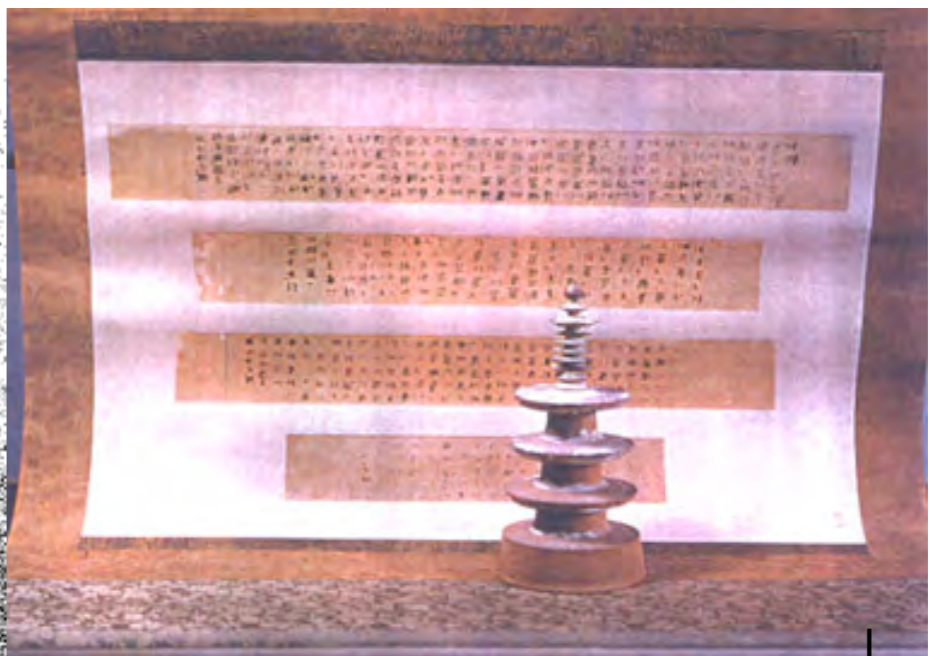
ingredi; aliud neca verbum querere.
 Apollonius fuit ille magus ut vulgus
 loquitur. fuit plus ut pythagora ca-
 dunt. ita ut plus praefuit caelesti-
 albano. foras. molligerao. opu-
 lantissima inde regna penetravit: et
 ad regnum janitimo phison amne
 ratiſſimo puenit ad heaguanas: ut
 hyarum in eorum fedate auco. a de
 rantiſſi font potantem. inter paucos
 diſcipulos de natura de moribus ac de
 curſu dicit: fidei audire docentem.
 Hinc p flammao. babylonio. chalde-
 os. yfidos. aſſimo. parthos. hros-
 pherico. arabos. palatinos. truce-
 ſus ad alexandria. peruenit ad reſpo-
 nſantur gignoſophiſta. a ſanctiſſi-
 uary ſolis meſam videtur i ſabulo.
 Inuenit ille ut ubiq: quod diceret:
 itaq: profano. ſemper ſe melior ſit
 ter. Scripſit ſuper hoc plenissime odo
 voluminibus. philoſophico. II.
 Quid loquar de ſeculi hominibus:
 Num apoſtolus paulus oas e-
 lectiois. et magister gentium. qui de
 conſuetudine rati in ſe hoſpino loque-
 batur. dicitis. An repetendum que-
 ritus eius qui in loquitur eſt: ſus-
 poſt dantiam arabiaq: luſtaram.
 aſcendit iheroſolimã ut videtur petri
 et matris apud eum duſus quatuor.
 Hoc enim iuſticia ſedomadis et o-
 ydoadis. ſicut genium predicatoe
 inſtutibus erat. Rurſumq: paſt au-
 nos quatuordecim aſſumpſit bama-
 ba et tyro. reſpoſit cum apoſtolo eu-
 angelium: ne forte i uacuum cureret
 aut curuſſet. Habet neſcio quid la-
 tentis curie uire uocis adus: et in
 auro diſcipuli de audoſis ore tranſ-
 ſula. ſonit. Unde et ſequitur cu-
 rodi regulare. et legitur illa dnoſtina.

print culture

history of information
 feb 10, 2009

An Almanack
 for the yere. M. D. lxiij.
 Compoſed by M. Michael
 Maſtradamus Doctour
 in Phiſicke/ of Salbn of
 Craux in Prouince.

Whã the ſonne ſayleth þ ſieſt/ then ſhal
 the monſter be ſeene in the playne day
 Men ſhall interprete it ſarre otherwiſe
 derth hath no reſpect/ none ſhall pro-
 uide for it.

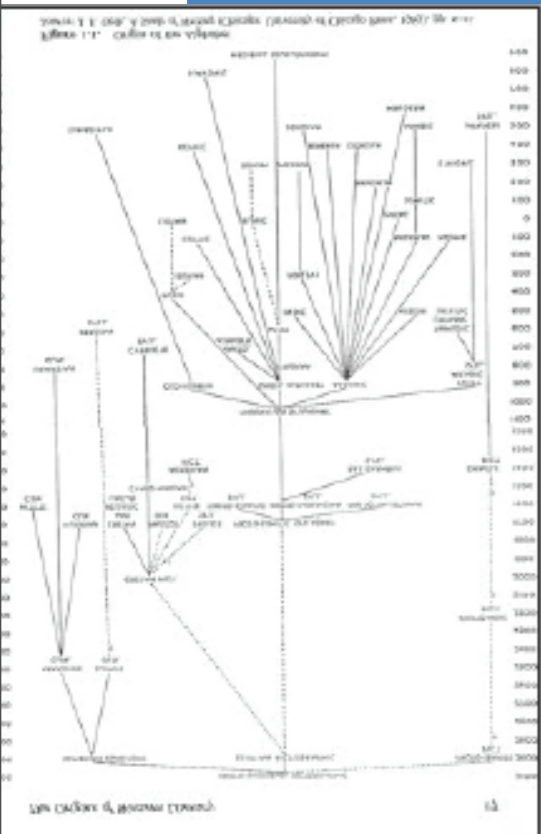




where we are

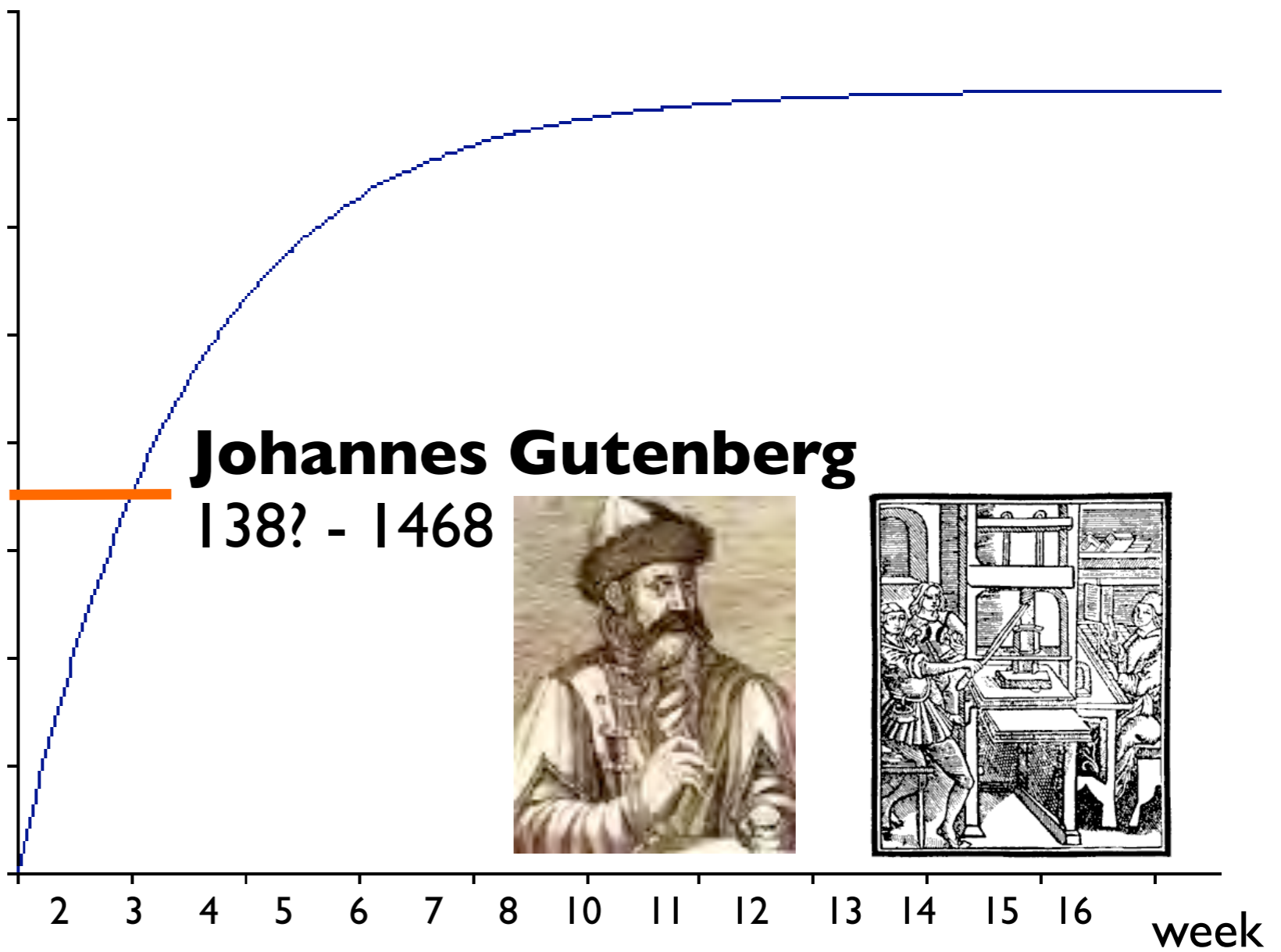
Trithemius
1462-1516

Plato
427-347 bc



2009
1980
1950
1900
1800
1700
1600
1200
600
400
0
500
3000
5000
30,000
50,000
1

Johannes Gutenberg
138? - 1468





where we're going

print culture

Eisenstein:
readers respond

assessing a revolution:
what happened, what came before,
what came after, who was involved
what was necessary, what was sufficient,
what was incidental

what to make of it all



cultures & causality

scribal culture

Clanchy: from memory to written record

"Up to the eleventh century, western Europe could have returned to an essentially oral civilization. But by 1100 the die was cast".

--Brian Stock

print culture

"the shift from script to print entailed a large ensemble of changes ... but to say that ... is not the same thing as saying that nothing changed. To the contrary!"

--Elizabeth Eisenstein

necessary and sufficient conditions



agent of change



Eisenstein

"I first became concerned with the topic of this book in the early 1960s after reading Carl Bridenbaugh's ... lament over 'the loss of mankind's memory' ... It seemed unhistorical to equate the fate of the 'common culture of Bible reading' with that of all of Western civilization when the former was so much more recent--being the by-product of an invention which was only five-hundred year's old ...

Gutenberg"



McLuhan is the message

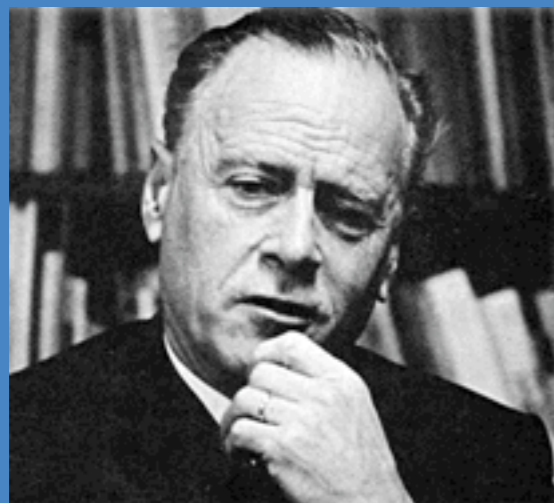


"I ran across a copy of Marshall McLuhan's *The Gutenberg Galaxy* ... He pronounced ... the age of Gutenberg to be at an end ... stimulated my curiosity ... about the specific historical consequences of the fifteenth-century communications shift

"McLuhan raised a number of questions about the actual effects of the advent of printing .."
--Eisenstein



patron saint of *Wired*



McLuhan (1911-1980)

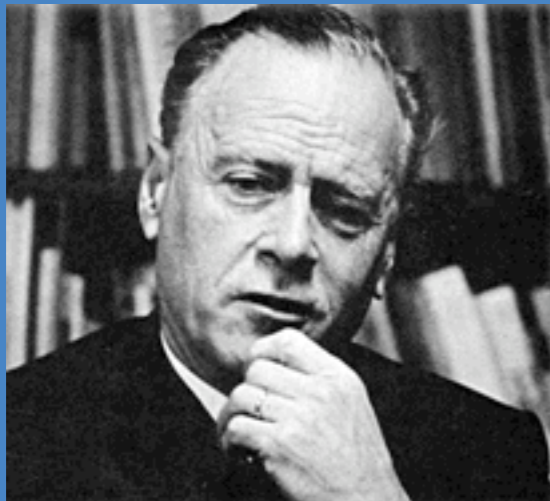
*The Gutenberg Galaxy:
the making of typographic man, 1962*

"Printing ... created the public ...
What we have called 'nations' ... did
not and could not, precede the advent of
Gutenberg technology ... isolation of
the visual faculty from other senses ...

"complementary to ... Albert B.
Lord ... Milman Parry ..."



McLuhan's man



"Science Explores,
Technology
Executes, Man
Conforms"

Chicago World's
Fair

"When the perverse ingenuity of man has outered some part of his being in material technology, his entire sense ratio is altered. ...

In beholding this new thing, man is compelled to become it."

--*Gutenberg Galaxy*



agent of change



Eisenstein

"to my surprise ... no one had yet attempted to survey the consequences of the 15th-century communications shift."
" ... an unacknowledged



agent of change



"Conjectures .. may be sampled below
under headings that indicate my main line
of enquiry"

"some effects produced by ...

"... increased output

"... standardization

"... rationalizing, codifying, cataloguing

"... from corrupted to improved

"... fixity and cumulative change

"... amplification and reinforcement"



Trithemius vs Eisenstein

scriptorium to printing shop

"Trithemius somewhat illogically compare the written word on parchment which would last one thousand years with the printed word on paper which would have a shorter life span. The possible use of paper ... by copyists, or of skin for a special printed version went unmentioned.... Whether he was genuinely worried about an increased use of paper ... is an open question. ... He used one Mainz Print shop so frequently that "it could almost be called the Sponheim Abbey Press".
--Eisenstein, pp 10-11



'the shift from script to print'

"different texts ... were also being brought closer together for individual readers"

"the clerk['s] richer, more varied literary diet than had been provided by the scribe"

"sedentary scholars less apt to be engrossed by a single text"

"knowledge explosion"

"combinatorial intellectual activity"



'the shift from script to print'

"a purification of Christian sources"

"the more standardized the type ... the
more compelling the sense of an
idiosyncratic personal self"

"the printer seems to have taken over
where the clerical scribe left off. But
in doing so he greatly amplified and
augmented older themes"



Eisenstein concludes

"classical revival"

"Christendom disrupted"

"nature transformed"



recurring questions

- 1. what happened?**
- 2. what and who were involved**
- 3. what came before?**
- 4. what came after?**
- 5. what was necessary, what sufficient, what incidental?**



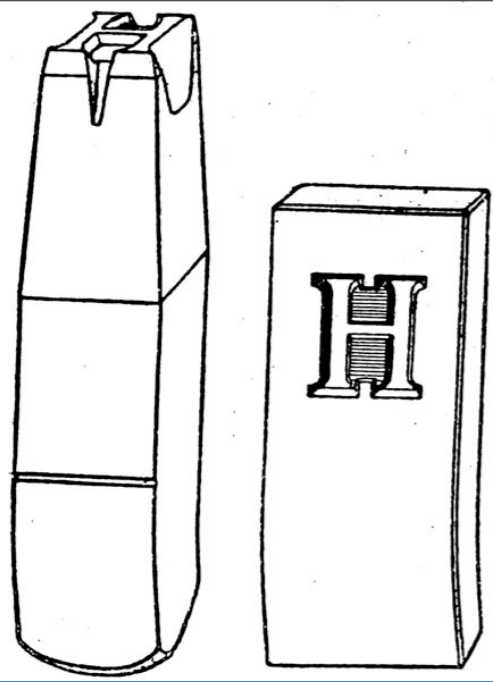
what

technologies

woodblock printing
printing press
moveable type

institutions

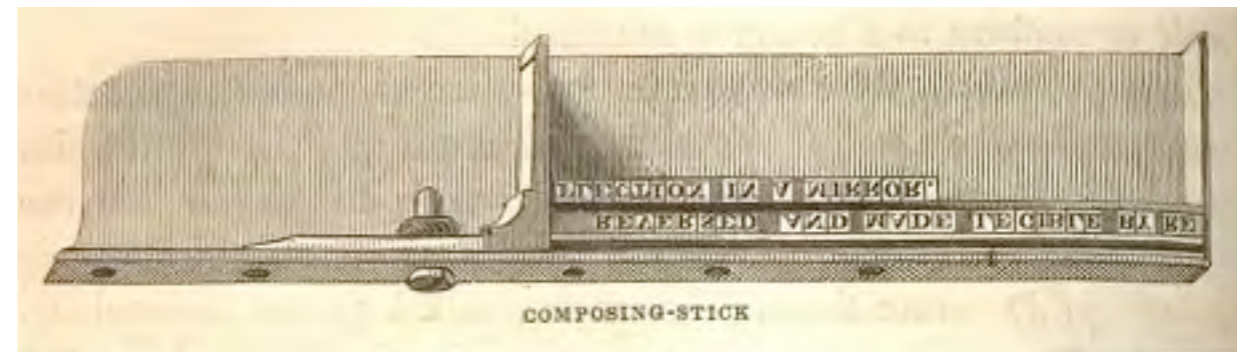
church
nation-state
scientific institutions
humanism
civil society



punch & matrix

technology of type

composing stick



locked down chase



press & chase





who?



Guttenberg:
born Mainz

1438: exile, Strasbourg
partners: Riffe, Dritzehn, Helman

1438, December: Dritzehn dies
"4 pieces to be destroyed"

1439: Dritzehn's heirs sue

1450: back in Mainz
creditor Johannes Fust
employee Peter Schöffer
ally Cardinal Nicholas of Cusa



complete works



1454: Cyprus Indulgence

1455: 42-line bible the Cardinal's connections?



1455: Fust sues, wins new partnership of Fust & Schöffer Mainz psalter



complete works



1454: Cyprus Indulgence

1455: 42-line bible the Cardinal's connections?



1455: Fust sues, wins new partnership of Fust & Schöffer Mainz psalter



spread of print

1455 : Mainz

1465: Subiaco, Italy

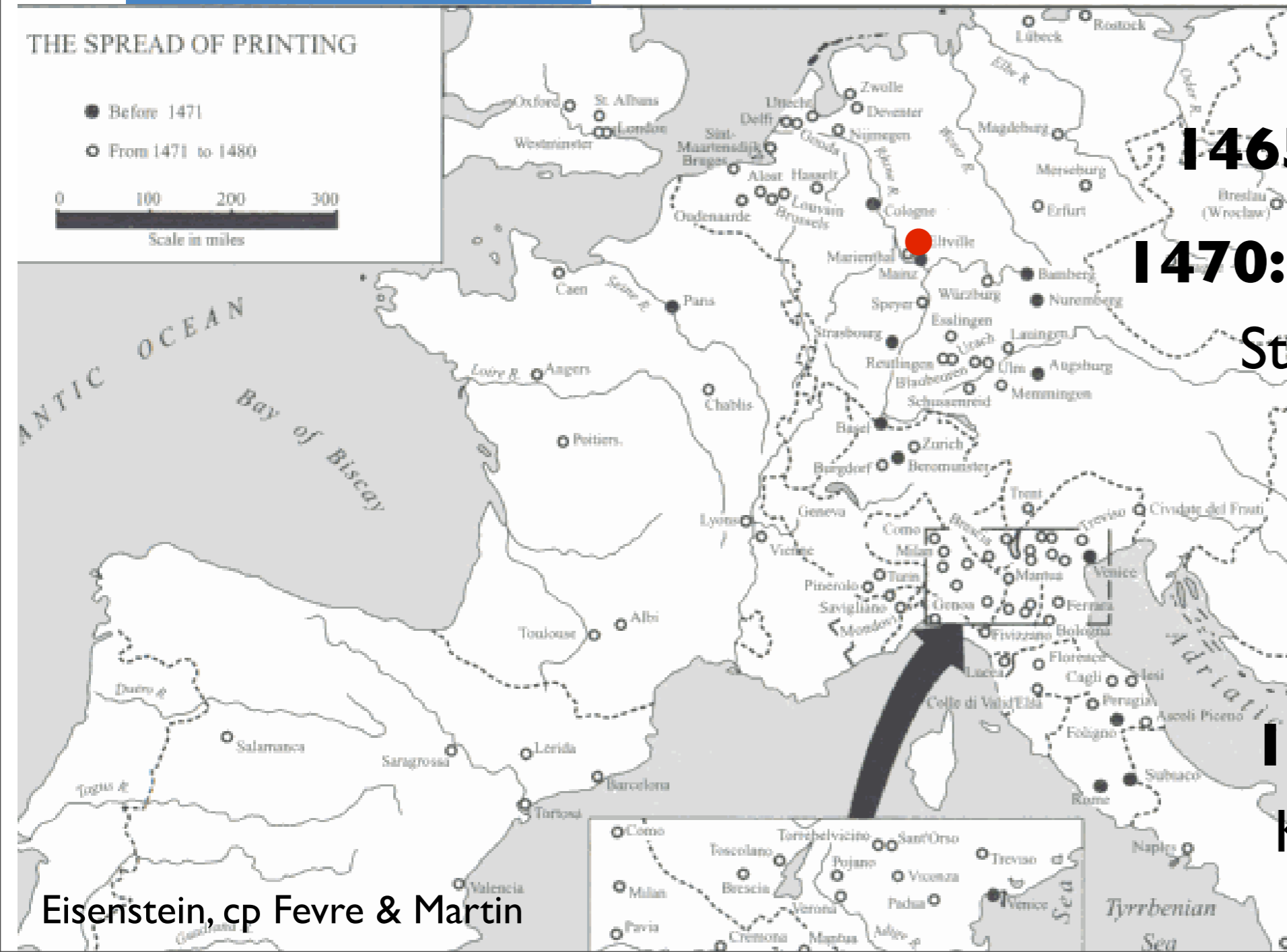
1470: Paris, Cologne, Strasbourg, Basel, Rome, Venice, Bologna, Seville

1476: London

1480: Budapest, Krakow, Prague, Brussels

THE SPREAD OF PRINTING

- Before 1471
- From 1471 to 1480





the revolution(s)

renaissance

reformation

scientific revolution

capitalism

nation-state



causality

cause or cure?

Luther and the indulgences of Mainz, 1517

Gutenberg and the indulgence, 1455



Letterae indulgentiarum, 1455



causality

cause or cure?

Luther and the indulgences of Mainz, 1517

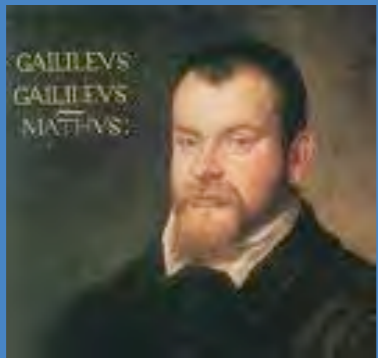
Gutenberg and the indulgence, 1455



Letterae indulgentiarum, 1455

For Catholics, a Door to Absolution Is Reopened





questions of timing?

Gutenberg, d. 1468

Bacon, 1561-1626

Galileo, 1564-1642

Descartes, 1596-1650

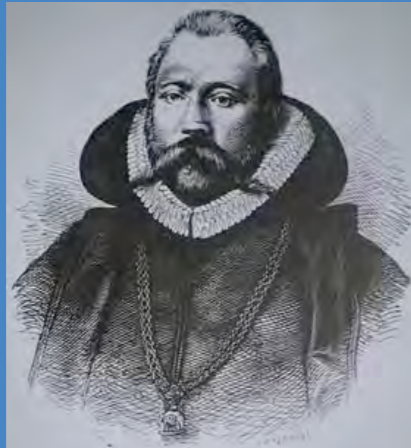
Newton, 1642-1727



central players



Copernicus 1473-1543



Tycho Brahe 1546-1601



Johannes Kepler 1571-1630



pseudo-science

almanacs

"for three-and-a-half centuries, the Almanack has been the most popular book in the English language"

1492-1600, probably 600 published

Bosanquet, *English Printed Almanacks and Prognostications*, 1917

400,000 a year

William St Clair, *The Reading Nation*, 2005

--diary, encyclopedia, calendar

Mother Shipton
Nostradamus

An Almanack
for the yere. M. D. lviij.

Composed by M. Michael
Nostradamus Doctour
in Physicke/ of Salbn of
Graue in Proutnce.

Whā the soune sayleth y fiesst/then shal
the monster be seene in the playne day
Men shall interprete it farre otherwise
derth hath no respect/none shall pro-
uide for it.





stability, reference, and comparison

"Spectacular innovation .. should not divert attention from much less conspicuous, more ubiquitous changes. Increasing familiarity with regularly numbered pages, punctuation marks, section breaks, running heads, indexes, and so forth helped to reorder the thought of *all* readers, whatever their profession or craft."

--Eisenstein, p. 73



"The expectation of readers was changed, and this was reflected in changes in the physical appearance of books. A writer organized his work for publication, and if he did not ... then a scribe would .. The production of books became more sophisticated ... The most spectacular example ... the Ellesmere manuscript of the *Canterbury Tales*."

Parkes, "Influence"

dividing up

changing book, changing church beyond the monastery

"The late medieval book differs more from its early medieval predecessors than it does from the printed book."

--Parkes, "Influence" 1976

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



compare

alphabetical indexing Alexandria

ms: "*Sacra Parallela* of John Damascene [8th century] ... an alphabetic subject index to the Bible and the Fathers."
Witty, "Early Indexing"

print: "The first known dated [printed] index appeared in 1468 in *Speculum vitae*, a moral treatise printed by Sweynheym and Pannarts in Rome."

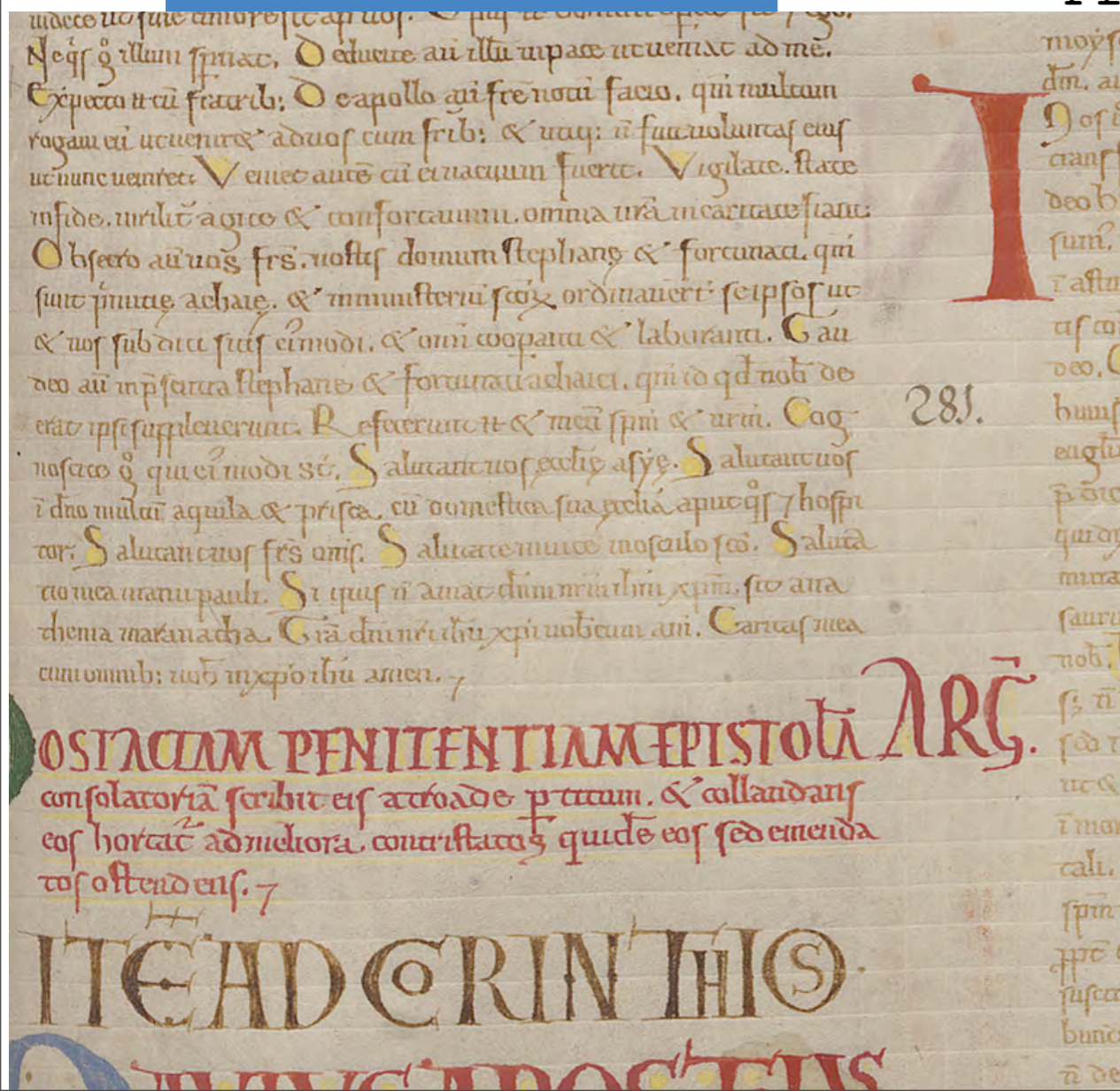


moreover ...

Codex Gigas, 13th century

"From about 1300 very many scribes, librarians, and book owners provided their volumes with leaf numbering ... [by the fifteenth century] the numbers were overwhelming ..."

--Smith, "Printed Foliation"



Il est pourtant hors de doute que l'usage des chiffres dans l'imprimerie était déjà connu en 1471, puisque dans cette année Arnoldus Ter Hoernen, un des plus anciens et des plus célèbres imprimeurs de Cologne, les employa pour la première fois dans un ouvrage peu connu, dont voici la description :

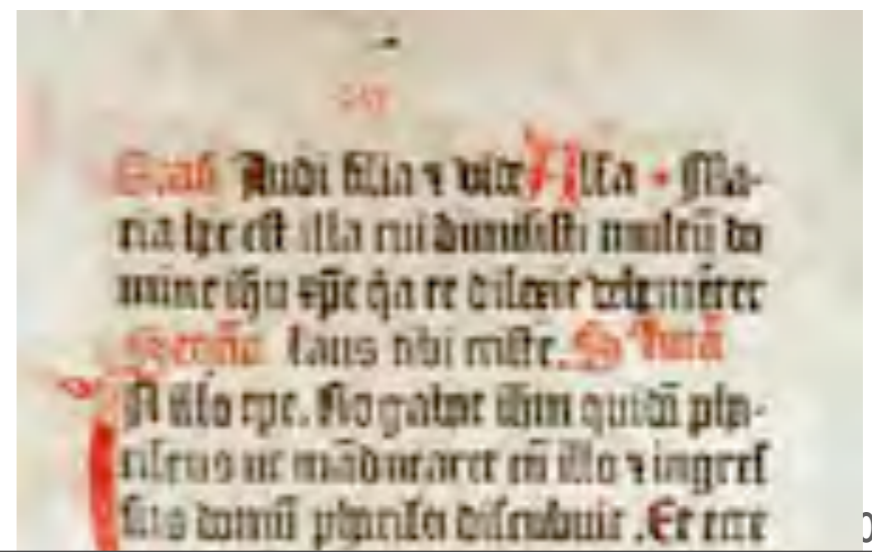
*LIBER DE REMEDIIS UTRIVSQUE FORTUNÆ.
Coloniæ, Arnoldus Ter Hoernen, 1471,
in-4^o, (8).*

Edition très-rare, imprimée à longues lignes, au nombre de vingt-sept sur les pages entières, avec des chiffres,

incunable:
printed book
from before 1500

foliation:
providing leaf
numbers

1470: incunable
with ms foliation
Missale
"Constantiense"



moreover ...

1470: first printed folios
--Serna, *Des Signatures et des Chiffres*, 1798.

"of 4194 incunables ... only 10.3 percent use printed foliation, none use page numbers ... nearly half ... in the period 1495-1500"
--Smith, "Printed Foliation"



in print

pagination:
providing page
numbers

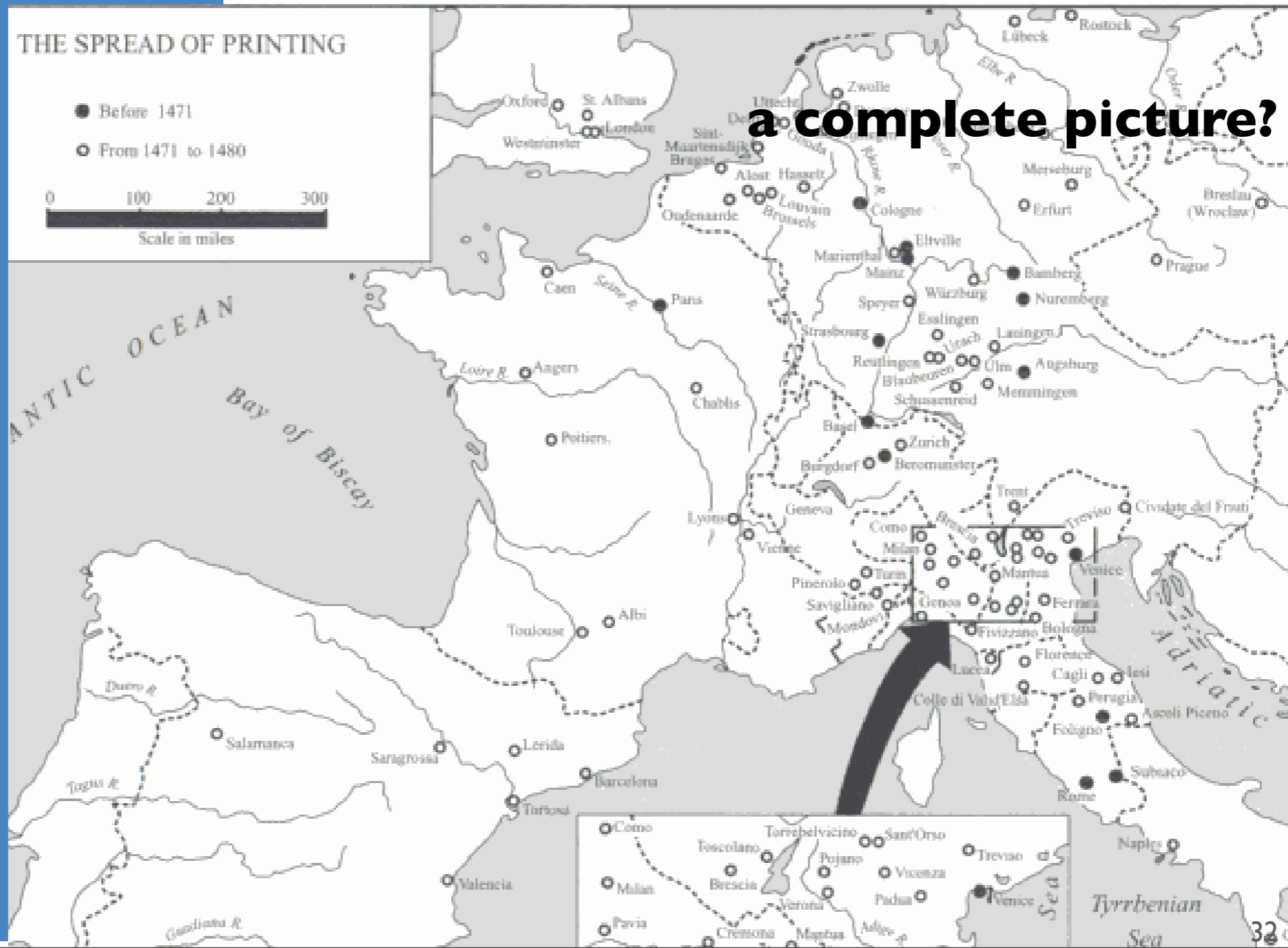
"pagination ... became common only in
the second quarter of the 16th century"
--Fevre & Martin, *Coming of the Book*

"After examining about 80,000 Dutch books
from the 16th and 17th century I think
that printers did not care for page
numbers ... 60-70% contain mistakes in the
page numbers"
[some printed books with 50% of the
page numbers wrong]

Verkruijse, "Wacht u voor de
bladwachter!"



what came before?





questions of geography

xylography:
printing with
carved wood
blocks

letter press:
printing with
metal type

RAND, "printing & the internet"

"The idea of reducing 'printing and publishing' to the Western case alone is not upheld by anyone. On the other hand there are differences between xylography and letter press printing (as there are between alphabetic and ideographic languages). ... two quite different duplicative technologies."

--Eisenstein, RAND 2000



printing in china

lithography:
printing from
stone



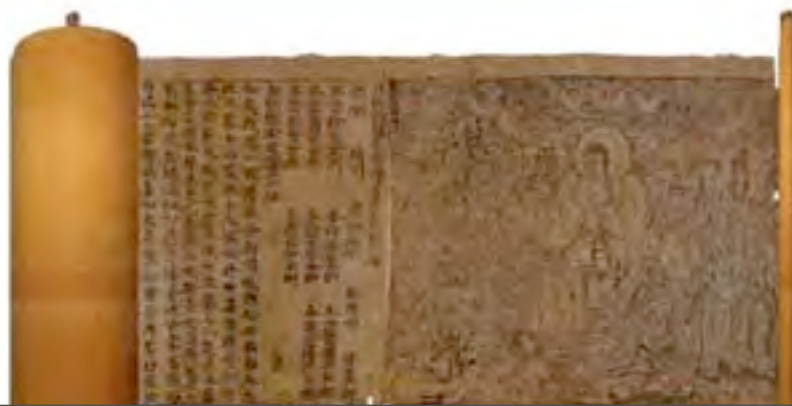
xylography: wood
carving

c. 200 bc: the use of seals
yin = seal and print

175 ad: printing of Confucian classics from
stone carvings

868: earliest surviving Chinese printing

972-83: *Tripitaka*,
5,048 volumes, 130,000





furthermore ...



1041: Pi Sheng clay moveable type

"in the Northern Song in the eleventh century ... there were some thirty printing centers ... and some two hundred in the Southern Song" (twelfth century)"

Lucille Chia, *Printing for Profit* 2002

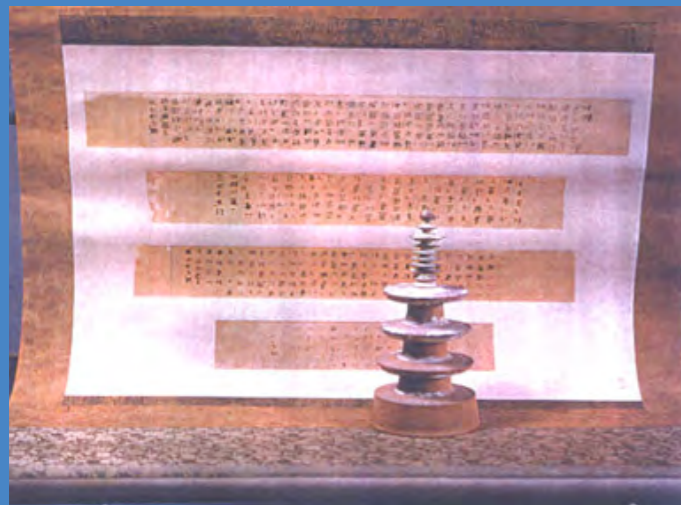


10th century? playing cards
printed textiles
paper money





Japan



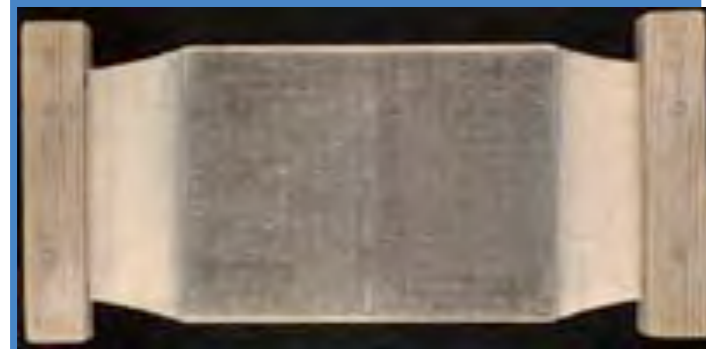
Empress Shotoku, and her charms

770: xylographic printing

? 1,000,000 copies



Korea: undetermined



8th century: xylography

918-1392: Koryo Dynasty

three methods of publishing
transcription, xylography, typography

transcription: Royal library; practice

xylography: Buddhist temples

typography: civil service

1087: *Tripitaka Koreana* (xylography)



Korean printing

"demand side"

949-975: King Kwangjong
Guagou competitive civil service exams

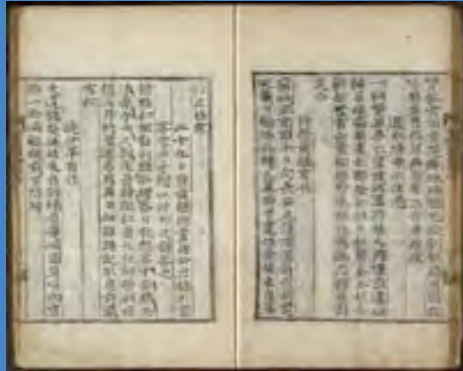
"supply side"

1231: Mongol invasion
destruction of archives

moveable type



Korean printing



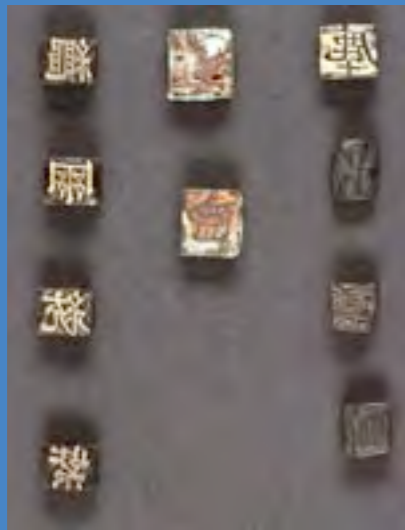
1241: *Yi Munsun Chip*

1337: *Jijki*



1392: Kyosugam (dept. of publishing)

1403: Jujaso (type foundry)



1446: Hangeul alphabet and typography



western ways

"[Theodore]De Vinne, in his book [*The Invention of Printing*, 1789] writes, 'The inventor of printing did not invent paper .. did not originate engraving on wood. He was not the first to print upon paper, he was not the first to make printed books, it is not certain that he made the first press, it is not probable that he was the first to think of or make movable type. What he did was to invent the type mold'



western ways

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"... it was the *type mold* that the Koreans developed."
--Carter, *The Invention of Printing in China*, 1955.



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"... it was the *type mold* that the Koreans developed."
--Carter, *The Invention of Printing in China*, 1955.

see also Paul Needham and Blaise Aguera y Arcas,
"What did Gutenberg Invent?"



when?

"Europe reckons the date of the invention of printing from the time when typography was invented, and considers block printing as merely an important step in preparation. The far East reckons the invention of printing from the time when block printing began and considers movable type as rather an unimportant later addition."

Carter, The Invention of Printing in China



contact?

c. 1290:

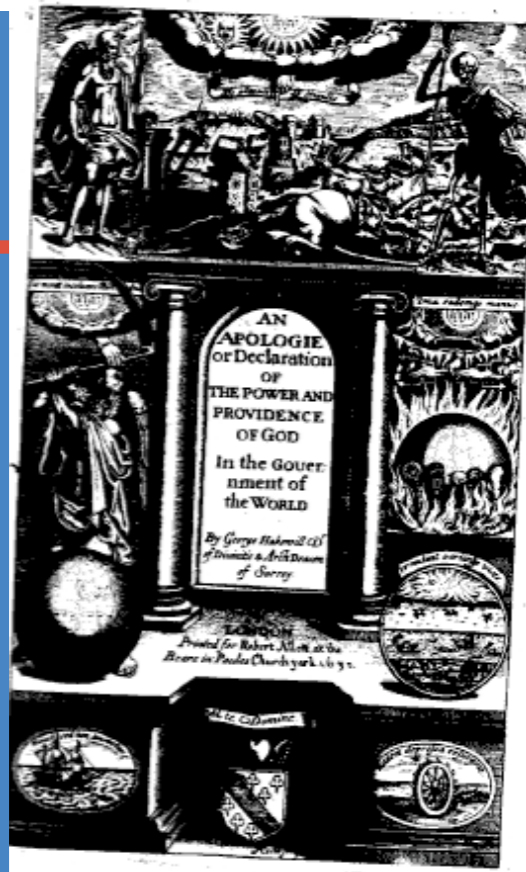
"HOW THE GREAT KAN CAUSETH THE BARK OF TREES, MADE INTO SOMETHING LIKE PAPER, TO PASS FOR MONEY OVER ALL HIS COUNTRY

"All the grand Kaan's subjects receive this paper money without hesitation because wherever their business may call them, they can dispose of it again in the purchase of merchandise they have occasion for."



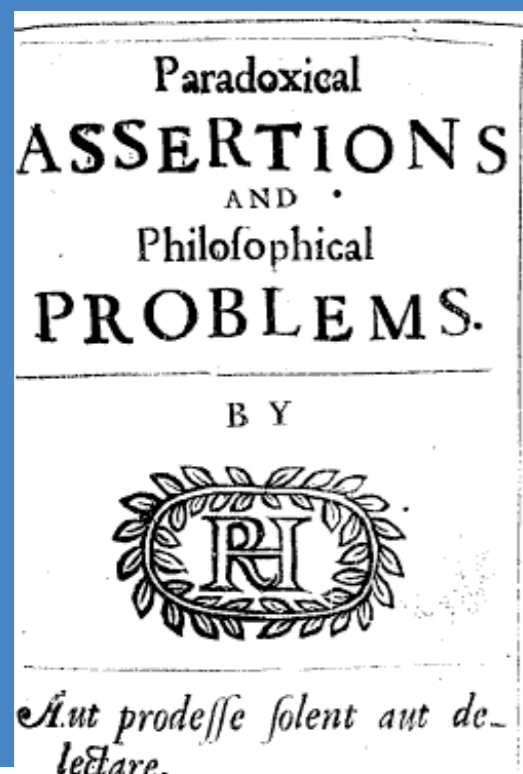


secret history?



"[E]ither the Germanes borrowed this Invention from the Chineses, or at leastwise the Chineses had the practise & vse of it long before them.

George Hakewill, *An Apology of the Power*, 1627

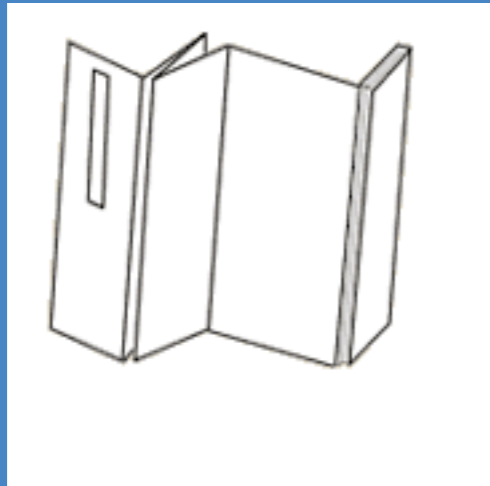


"Whether the Germans first borrowed this Invention from the Chineses, or whether amongst the Germans (who undoubtedly lay best claim to it) Iohn Gutenberg the Knight of Mentz, or Iohn Fust a Moguntine, was the first Inventor thereof, it matters not."

Robert Heath, *Paradoxical Assertions*, 1659



linear history?



Christian codex, 2d century

Islamic codex, 8th century

Hebrew codex, 9th century

Chinese sutra fold, 10th century





and now?

technological diffusion

	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

Search and find magazines on Google Book Search

12/09/2008 09:47:00 AM

The word "magazine" is derived from the Arabic word "makhazin," meaning storehouse. Since Daniel Defoe published the world's first English magazine back in 1704, millions of magazines catering to nearly every imaginable taste have been created and consumed, passed from person to person in cafes, barber shops, libraries, and homes around the world. If you're wondering what cars people drove in the eighties or what was in fashion thirty years ago, there's a good chance that you'll find that answer in a magazine. Yet few magazine archives are currently available online.

why?



Theuth
Moses
Lord Kulaba
Ts'ai Lun
Daniel Defoe
Morse
Edison
Bell
Marconi
Bill Gates



print culture

the reliability of print vs the search for copy

"Book-sellers follow their own
judgment in printing the ancient
Authors according to such Text as
they found extant ... Errors
repeat & multiply in every
Edition".

-- John Evelyn, 1666



problems of authenticity

piracy and plagiarism

"Martin Luther's German translation of scripture was actually beaten into print by its first piracy."

Johns, The Nature of the Book, 1998

church & government responses

copyright
censorship

sedition acts



problems of fixity

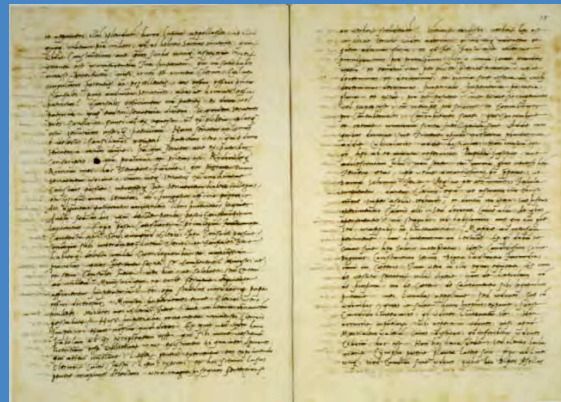


"[Shakespeare's] first folio [1623] ... boasted some six hundred different typefaces along with nonuniform spelling and punctuation, erratic divisions and arrangements, mispaging, and irregular proofreading. No two copies were identical."

--Johns



the search for truth



"donations of Constantine"

"false decretals"

"Historical criticism became a Protestant weapon, and documents were used as missiles."

James Thompson, "The Age of Mabillon,"
1942





historical criticism

"A certain band of fellows existed, some centuries ago, who had undertaken the task of concocting ancient history as we now have it, there being at that time none in existence; ... they had as aids the works of Cicero, Pliny, the *Georgics* of Vergil, the *Satires* and *Epistles* of Horace. These alone ... [are] the genuine monuments out of the whole of Latin antiquity."

Grafton, "The Antiquary as Pariah", 1999



detective work

back to the monastery

"the Reformation era ... bringing to
light thousands of documents ..
hitherto inaccessible and
unknown. ... France pioneered in this
new historical research ...
Mabillon Montfaucon."

--Thompson



science of diplomatics

Jean Mabillon (1632-1707)

De Re Diplomatica, 1681

opposing

Paperbroche

Acta Sanctorum 1675

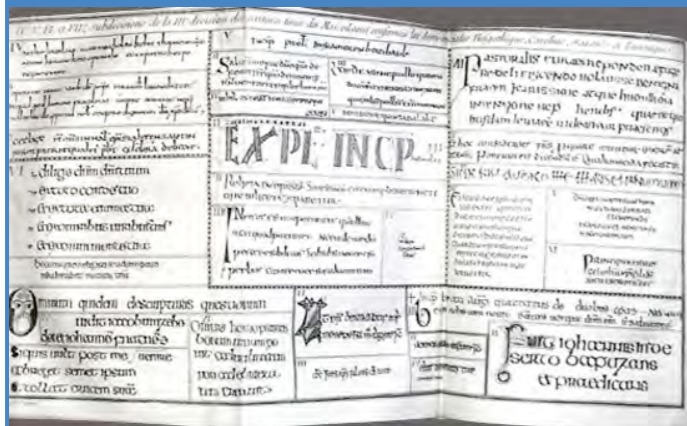
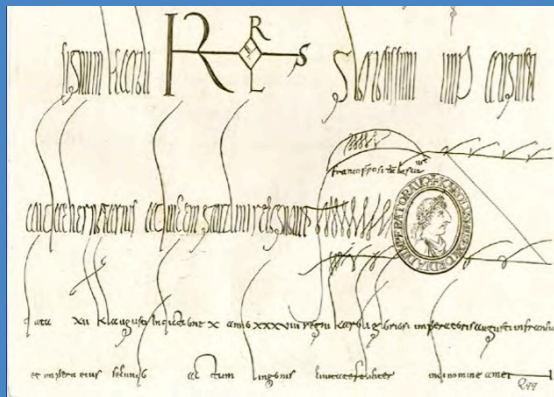
"The Benedictine order ... regarded Paperbroche's work as ... an attack on their property rights."

--Thompson





beyond the page



"Mabillon frankly admitted that the authenticity of a charter could not be proved by any metaphysical or a *priori* argument; a decision could be reached only after the expert had examined a whole series of different indications -- the material used, the seal, the signature, the grammar and orthography, the modes of address, the plausibility of the dating, the intrinsic consistency of the whole document."

David Knowles



a guide to forgery

the charter of La Tour d'Auvergne

"skilfully forged [using Mabillon's principles] by a sublibrarian who ended his days in the Bastille"

--David Knowles



summary

revolution(s)?

what did & did not come before?

what happened?

what came after?


technology, practices, & institutions

(un)reliability



next time

12 Feb: Emergence of the Public Sphere

 Cowan, Brian. 2005. "Inventing the Coffee House" and "Penny Universities," pp. 79-112 in *The Social Life of Coffee: The Emergence of the British Coffeehouse*. New Haven. Yale University Press.

 Darnton, Robert. 2000. "[An Early Information Society: News and the Media in Eighteenth-Century Paris](#)." *American Historical Review* 105.1.