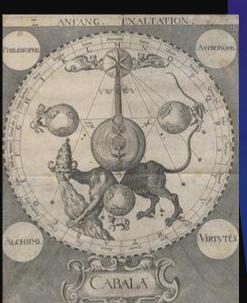




HOW DID PRINT CULTURE CHANGE HOW WE THINK?

- This Eisenstein's major question
- Print is so "old school" that it's hard to imagine how it could be revolutionary—but it was
- Just as social media has had an impact on us in the last decade, so did the printing press impact the way we think and communicate, what we value, how we think about time, and what we can know

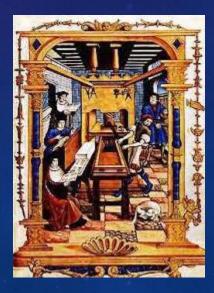
 Looking at print culture helps us to see how media affects our ways of thinking and even creates the paths that we can follow.



WHY FOLLOW PRINT CULTURE?

FROM MAGIC ELIXIR TO COMMON GUIDE

• Prior to the 1500s, "bookish knowledge" was like a "magic elixir conferring new powers with every swallow" (43)



- In the 1500s, printers printed multiple copies of old texts
- This meant that casual scholars could access them.
- This meant casual readers could "cross-reference" between one book and another



BOOKS BECAME MORE PLENTIFUL

- One author, Montaigne, commented how amazing it was that books were becoming plentiful enough that many people might own a copy of the same book.
- Montaigne commented that he "could see more books by spending a few months in his tower study than earlier scholars had seen after a lifetime of travel" (50)

LIKE BEST SELLERS AND TOP HITS AND TRENDS



- Bookish knowledge had been something more like diamonds or pearls—rare and unique objects that only few would have contact with
- The printing press didn't just make "costume jewelry for the masses" though—instead it was as if EVERYONE could now have rare diamonds and jewels

JUST IMAGINE...



EFFECTS OF THE WIDESPREAD ACCESS TO PRINTED BOOKS

- One thing that writers noticed was that there seemed to be much more "conflict and diversity" in the works printed at this time than those from medieval commentators at an earlier era.
- But Eisenstein suggests that this may have been because people could read MORE books (50) than any earlier age had.
- Books had been so rare and so few that it had seemed they were unified. But this may have been simply an effect of the size of the pool of texts available.



WITH MORE EYEBALLS ON MORE TEXTS, PEOPLE STARTED TO NOTICE **ERRORS AND CONTRADICTIONS**

With the emergence of more printed books available to more people, and even multiple versions of the same books—of the Bible, of national maps—the *printing errors and contradictions* became visible.



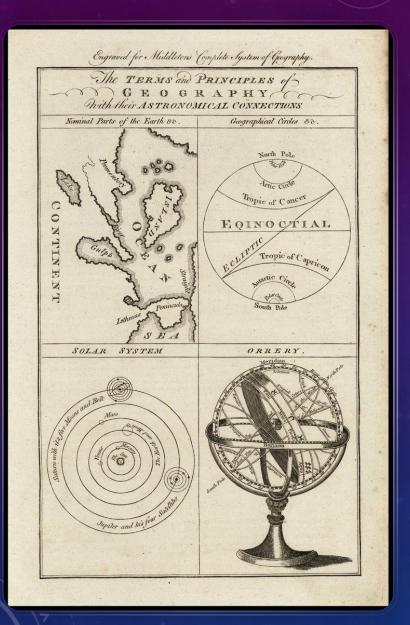
Zaenredam Quantum uno reddunt prala Batava die:

Addidit inventis aliquid Germania tantis:

Hollandus capit Theuto peregit opus.

velde. P. Scriverius? WITH DIVERSITY
CAME NEW
UNDERSTANDING OF
COMPLEXITY

 Think about it: if there's only one map, it's hard to see errors (until you get lost when you use a one with a big mistake in it!)



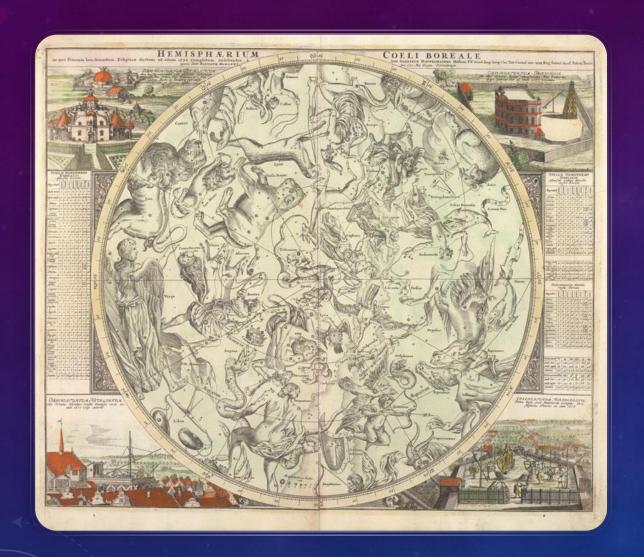
COMPARISON A KEY TO UNDERSTANDING

• But if you have multiple copies of maps available, the possibility of *comparison* emerges. With this kind of comparison you encourage more people to "unscramble the data"—that is, to hone the copies until you have a "perfect" copy (44).



PRINT MADE PUZZLING OVER CONTRADICTIONS POSSIBLE

 "contradictions became more visible" "divergent traditions more difficult to reconcile" (44)



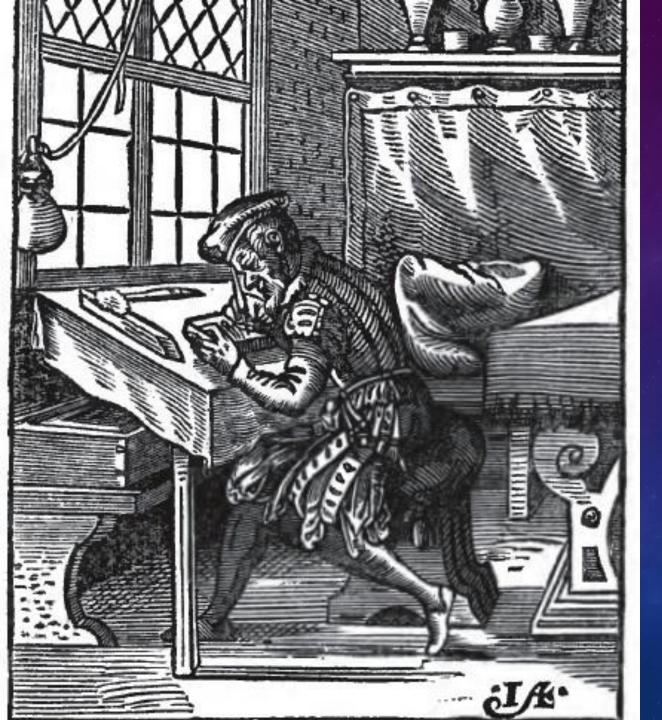
INTELLECTUAL ACTIVITY AND PRINT

- As more people had access to more printed matter, "development of new intellectual combinations and permutations" was made possible (44).
- Such combinations, suggests Eisenstein, supports creative intellectual activity (44).



WHOLLY NEW SYSTEMS OF THOUGHT

And not a trivial amount of creative activity; wholly "new systems of thought" were made possible by increased output of relatively stable markets (44). In other words, the more people were reading the same books, the more people came up with new ideas. At the same time, "confidence in old theories weakened" (44).



"KINKOS" IN THE 1500: PRINTERS WERE SCHOLARS

• The workers who were producing the books themselves had a role in new knowledge production. Cross-cultural exchange was facilitated by the multiple kinds of workers involved in creation and production of books: "typefounders, correctors, translators, copy editors, illustrators or print dealers, indexers" and others (45).



INNOVATIVE PRINTING=INNOVATIVE THINKING

 Think of all the ways that we now automate printing. Before these activities were automated, printers themselves held this knowledge. "Lots of innovative work was done outside academic centers in the sixteenth century" (45). These creative combinations were social as well as intellectual. Relationships between men of learning as well as between systems of ideas occurred as a result of a new abundance of copies of the same texts (45).

SOCIAL
INNOVATIONS
AMONG PRINTERS
AND SCHOLARS

16TH CENTURY: A
BIG TIME OF
OPEN-ENDED
EXPLORATION
AND DISCOVERY

• Eisenstein suggests that during the first century of printing, the intellectual ferment had "a somewhat wide-angeled, unfocused" character (45).

Fourth B O O Occult Philosophy. GEOMANCIE. MAGICAL ELEMENTS of Peter de Abano. ASTRONOMICAL GEOMANCIE. The NATURE of SPIRITS. ARBATEL OF MAGICK. The Species or several Kindes of Magica. Translated into English By ROBERT TURNER, Philo-Med. LONDON: Printed by J. C. for THO. ROOKS, at the Lamb and Ink-bottle at the East end of S. Pauls, 1665.

16TH CENTURY RE-MIX: BOOKS MIXED ANCIENT, MAGICAL WITH EMERGENT RATIONAL THINKING

- What happened to traditional ways of knowing as newly available books began to democratize knowledge?
- Residual links between disciplines from pre-print culture were not severed before new links were created. "Magical arts were closely associated with mechanical crafts and mathematical wizardry" (45).
- "When 'technology went to press,' so too did a vast backlog of occult lore and few readers could discriminate between the two" (45).



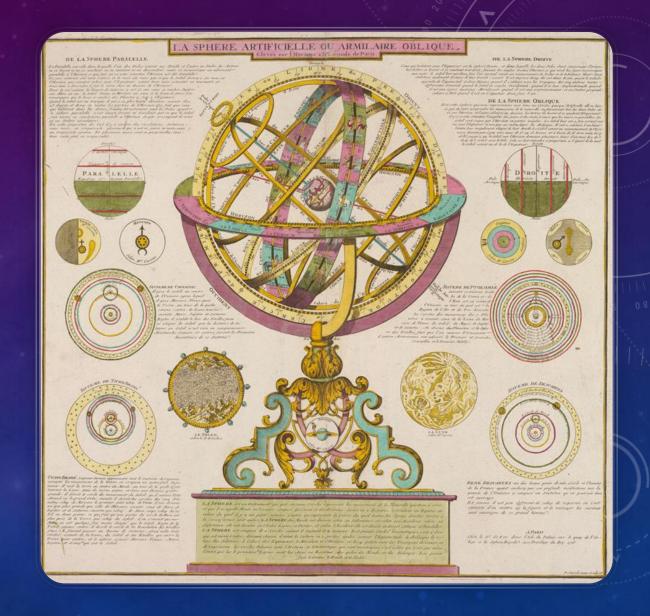
OLD CONTENT IN A NEW MEDIUM: RECYCLING

Eisenstein doesn't mention this, but it's
interesting to observe how much of pre-internet
culture makes up the content circulated on the
internet. The technology got ahead of its own
production, and so material produced with
previous production methods—including print—
still circulates on the web.

http://www.bbc.com/news/blogs-magazine-monitor-24533681

ANCIENT, COOL (BUT MYSTERIOUS) HIEROGLYPHS SENT TO PRESS ALONG WITH NEW SCIENCE AND ARTS

• Eisenstein illustrates how old content was reproduced with new mechanical means before it was even understood: "hieroglyphs were set in type more than three centuries before their decipherment," she writes (46). You might think this is a good idea, but Eisenstein warns us: "The duplication of Egyptian picture writing contributed more to mystification than to enlightenment" (46).



But just because people didn't understand the texts, doesn't mean they didn't project meaning onto them. Instead, they became "loaded with significant meaning by readers who could not read them" (47). Can you think of an example of this misrecognition in our current era?

HIEROGLYPHS AS NEW DESIGNS

- Alternatively, these untranslated texts became ciphers or pictures, "used simply as ornamental motifs by architects and engravers" (47).
- When printers then repurposed ancient texts in new ways they created new texts—still not understanding the originals' meaning. These texts are now "puzzles that can never be solved" (48).

ANCIENT WISDOM TEXTS AS ORNAMENT

- "We must not only think about new forms of enlightenment when considering the effects of printing on scholarship. New forms of mystification were encouraged as well" 48
- Thus we can start to see some of the cultural effects that the proliferation of books of many kinds had: both new "scientific" or cartographic texts and new texts with elaborate borrowings from inscrutable ancient texts. "An enrichment of scholarly libraries came rapidly; the sorting out of their contents took more time" (48).

NEW FORMS OF MYSTIFICATION

• Printers didn't only print ancient texts or scientific discoveries however. The ancestors of our own "self-improvement" texts emerged as "practical guides" for "how to go to heaven" and "how the heavens go." These, Eisenstein informs us, contained much nonsensical and mystifying material, "making them highly impractical" (50). [This seems familiar even today!]

NONSENSE AND MYSTERY ALONGSIDE SCIENCE AND PRACTICAL GUIDES

- But such easily accessible guides created a new cultural knowledge in readers (and a new kind of literacy).
- As people became confident and familiar with the new genres of maps and phrase books, they transferred this familiarity to other texts with less likely themes such as how-to "guides to the soul's journey after death" (50).

A NEW KIND OF LITERACY AND 16TH CENTURY SCAMS

One of the most interesting aspects of Eisenstein's analysis is her revelation that "individual access to diverse texts is a different matter from bringing many minds to bear on a single text" (51). Think about it: when a community all has access to one text—the Bible, for example—their access to new knowledge and new ideas is limited. Instead, the expertise is concerned with that single text.

ONE PERSON + MANY TEXTS = AN EDUCATION

• But when multiple people have access to multiple copies of diverse kinds of texts, you have the beginning of a new kind of scholarship. Printers themselves now had a new capacity to identify errors and transmit this information to scattered readers (51).

MULTIPLE PEOPLE, MULTIPLE TEXTS: AN INTELLECTUAL MOVEMENT

SCHOLARS COULD TALK TOGETHER ABOUT THE SAME BOOKS—ACROSS NATIONAL BORDERS

- Even with errors, the fact that copies could be disseminated began a new kind of correspondence among scholars unknown before the printing press (51)
- All new kinds of texts were printed and on a scale never known before: calendars, dictionaries, ephemerides, reference guides, maps, charts, diagrams, other visual aids.

- Eisenstein suggests that the printing press had a perhaps larger impact on arithmetic, geometry, music and astronomy because of the high value of multiple standard versions of visual texts in those fields (53).
- One fun fact that helps us to imagine the importance of printing and the impacts of errors in printing: The "Wicked Bible" of 1631: the word "not" was eliminated from the commandment against adultery. (see picture)

STANDARD VISUAL TEXTS: A NEW COMMON UNDERSTANDING





Uniformity becomes both more possible and then becomes a value. The concept of "style" itself changed as the combination of hand and stylus was replaced by pieces of type (53).

NEW EXPECTATIONS OF UNIFORMITY

NOTES COMPILED BY DR. MCGRAIL AS COMPANION FOR ELIZABETH EISENSTEIN, "SOME FEATURES OF PRINT CULTURE"—CHAPTER IN MOODLE

SOLUBRICES I FOR PROPERTIES Type

- https://abeautifulbook.wordpress.com/2013/12/25/the-invention-of-the-printing-press/
- http://historicgames.com/gamemakers/cardmaking.html
- https://www.raremaps.com/gallery/detail/17173/The Terms and Principles of Geography with their Astronomical Connections/Middleton.html
- https://www.finebooksmagazine.com/issue/200909/celestial_maps-1.phtml