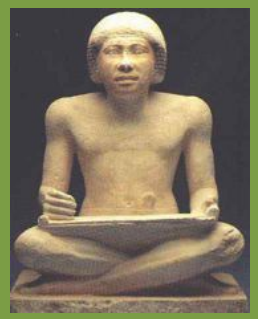
UC Berkeley School of Information

What follows from writing?

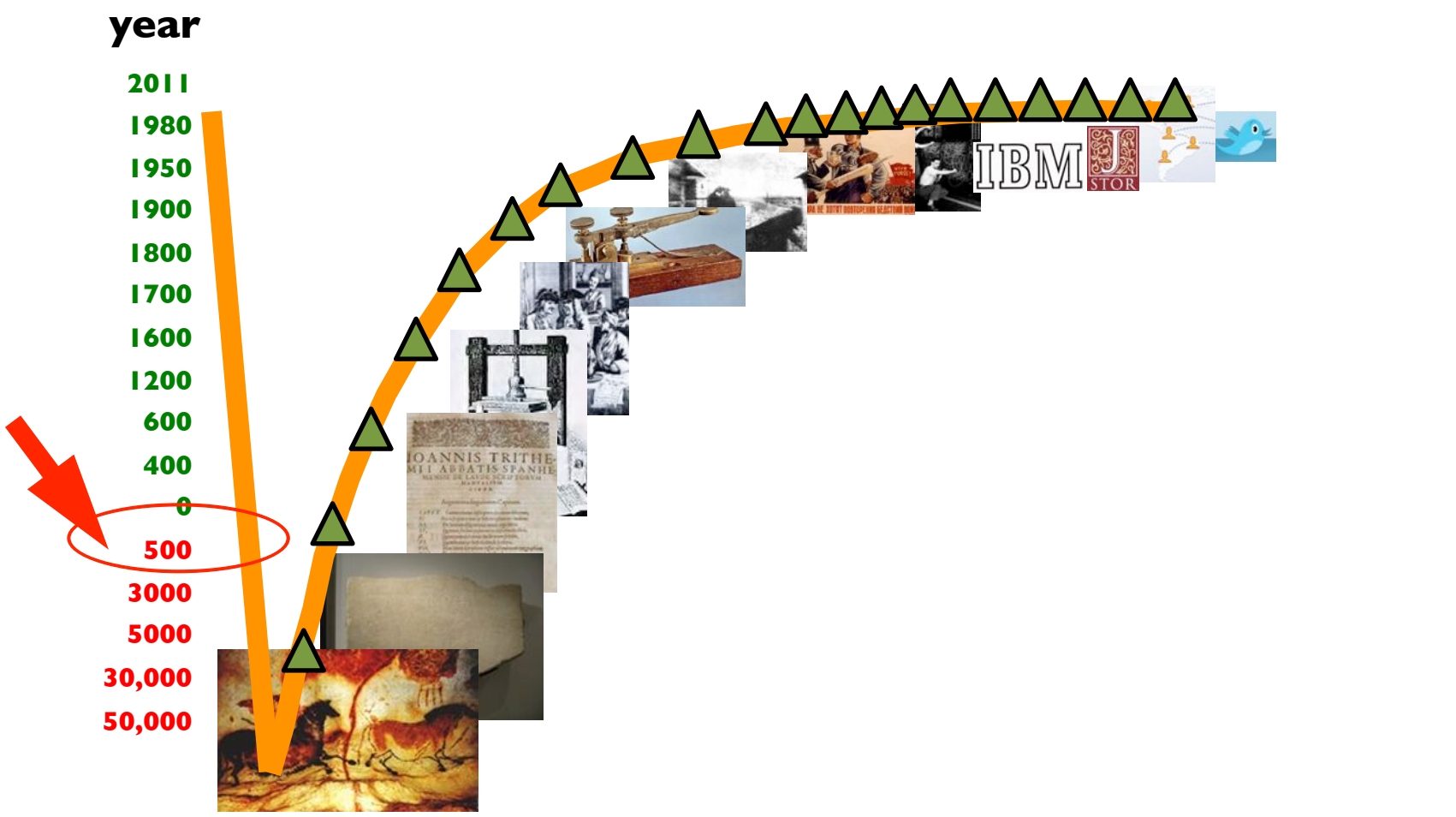


Geoff Nunberg

IS 103
History of Information

Feb 5, 2013

The emergence of literate societies



Itinerary, 2/5

(from 2/1): invention of writing: later developments

Writing & Technological Determinism

Writing and the Stages of Culture

Consquences of Writing

Alphabets vs logographic systems

Cognitive implications of literacy

Leapfrogging literacy?

Later Developments

Subsequent development of further orthographic elements: word-spacing, punctuation, paragraphing, etc.

Not fixed till early age of print. Reduce ambiguity, make writing increasingly accessible to wider community or in absence of immediate context,

Later Developments

boustrophedon

```
   The licenses for most software are designed to take
   away your freedom to share and change it. By contrast,
  the GNU General Public License is intended to guarantee
  your freedom to share and change free software--to make
sure the software is free for all its users. This General
Public License applies to most of the Free Software
Foundation's software and to any other program whose
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Independent Invention of Writing Systems

Independent writing systems: The Cherokee Syllabary

Sequoyah [George Gist] and the "talking leaves": 1819

a	e	i	o	u	v [ə]
D a	R e	T i	Ꭷ o	Ꮼ u	i v
S ga Ꮳ ka	Ꮁ ge	Ꭹ gi	A go	Ꭻ gu	E gv
Ꮄ ha	Ꮒ he	Ꮉ hi	Ꮋ ho	Ꮗ hu	Ꮆ hv
W la	Ꮮ le	Ꮲ li	Ꮻ lo	M lu	Ꮅ lv
Ꮇ ma	Ꮍ me	H mi	Ꮥ mo	Ꮉ mu	
Ꮎ na Ꮧ hna G nah	Ꮑ ne	h ni	Z no	Ꭿ nu	Ꮕ nv
Ꮵ qua	Ꮷ que	Ꮹ qui	Ꮿ quo	Ꮾ quu	Ꮶ quv
Ꮝ s Ꮥ sa	Ꮞ se	Ꮟ si	Ꮠ so	Ꮡ su	R sv
Ꮣ da W ta	Ꮥ de Ꮦ te	Ꭵ di Ꭶ ti	V do	S du	Ꮧ dv
Ꮤ dla Ꮮ tla	L tle	C tli	Ꮬ tlo	Ꮭ tlu	P tlv
G tsa	Ꮼ tse	Ꮻ tsi	K tso	Ꭻ tsu	Ꮯ tsv
G wa	Ꮾ we	Ꮿ wi	Ꮼ wo	Ꮹ wu	Ꮶ wv
Ꮸ ya	Ꮰ ye	Ꮱ yi	Ꮸ yo	G yu	B yv

Independently invented writing systems:
The Cherokee Syllabary


ᏣᎳᎩ ᏧᎴᎯᏌᏅᎯ

PROTECTION

CHEROKEE PHŒNIX.

VOL. I. NEW ECHOTA, THURSDAY MARCH 6, 1828. NO. 3.

EDITED BY ELIAS BOUDINOTT.

ISAAC H. HARRIS,

CONSTITUTION OF THE CHEROKEE NATION.

Cherokee Phoenix: First American Indian newspaper (1828)

Independently invented writing systems: Korean Hangul

Hunmin Jeong-eum Exemplar (1446): Earliest Hangul text

Writing system invented in mid-15th c. to replace hanja (Chinese-based writing system). Invention credited to King Sejong ("the Great"), who introduced it to increase mass literacy. Possibly influenced by central Asian scripts.

Only "featural" system: symbols representing sounds as features (i.e., "labial,' etc.) are clustered into a single "block" representing a syllable.

Writing & Technological Determinism

Writing & Technological Determinism

Teachers say text messages r ruining kids' riting skills

Text and instant messaging are negatively affecting students' writing quality on a daily basis, as they bring their abbreviated language into the classroom. As a result of their electronic chatting, kids are making countless syntax, subject-verb agreement and spelling mistakes in writing assignments. *American Teacher*

Will text messaging produce generations of illiterates? Could this—OMG—be the death of the English language? *Newsweek*

Writing & Technological Determinism

The accelerated automation of word-processing makes possible a new immediacy in the creation of public, typified text. ….

Digital writing… invites the formulation of thought directly in the electric element... There is not only a new technology available in word processing but a gradually emerging sense of a new kind of community. And in such a community, psychic life will be redifined. Michael Heim, *Electric Language: A philosophical study of word-processing,* 1987

Writing & Technological Determinism

The Swackhamer Doctrine

> Telegraph requires brevity & directness. Forces users to discard the verbosity and complexity of the prevalent English style. "The telegraphic style terse, condensed, expressive, sparing of expletives, and utterly ignorant of synonyms will propel the English language toward a new standard of perfection."
>
> "Influence of the Telegraph upon Literature," by Conrad Swackhamer, *United States Democratic Review*, 1848

Writing and the Stages of Culture

Writing and the Stages of Culture

"primitive" societies	→	"advanced/"developed" societies
"simple"/"closed"/ "savage"	→	"complex"/"open"/ "domesticated"
Anthropology	→	Sociology
Prehistory	→	History
Orality	→	Literacy

(after Jack Goody, *The Domestication of the Savage Mind*)

Modes of Cultural Transmission in Oral Societies

Milman Parry

Oral societies: pass on culture in "long chain of interlocking conversations…" (including rituals, etc.); culture stored in memory.

> In [oral] culture, storage and transmission between the generations can be carried on only in individual memories. Linguistic information can be incorporated in a transmissible memory,… only as it obeys two laws of composition: it must be rhythmic and it must be mythical. Eric Havelock, *The Coming of Literate Communication to Western Culture*

Cf the complex metrical formulas of oral poetry…

Jack Goody: In oral cultures, no fixity, "dictionary meanings."

The "past" is simply a way of interpreting/explaining the present. CF Tiv (Nigeria), Gonja (Ghana).

Emergence of Literate Societies

Egyptian scribe, ca. 1500 BCE

In early literate societies, literacy restricted to small priesthood or guild.

(association of literacy w/ magic)

Functions of literacy restricted to record-keeping, administration, rituals, laws, monumental inscriptions, etc.

Consequences of literacy: "What's in a List"

Writing makes possible lists/arrays of inventories, geneologies, words, plants and animals, administrative categories, registers, etc. Make complex administration possible.

List = "locational sorting device."

Creates awareness of distinct possibilities of order. Cf varieties of lexical lists, catalogues, etc.

But cf also existence of complex lists in oral societies (Panini's grammar of Sanskrit -- 6th c. BC)

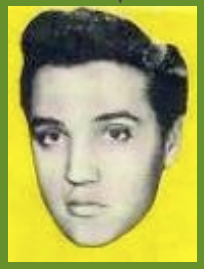
Development of Written Symbols

Simplification of sign →

E

E

E



[ɛlvIs]

/ɛl/

/ɛ/

Iconic

Semasiographic/ ideographic

Rebus extension

logographic

syllabic

alphabetic

Proto-writing

"True" (glottographic) Writing

Origins of Alphabetic Writing

Alphabetic system derived from application of syllabic system to different phonological structures.

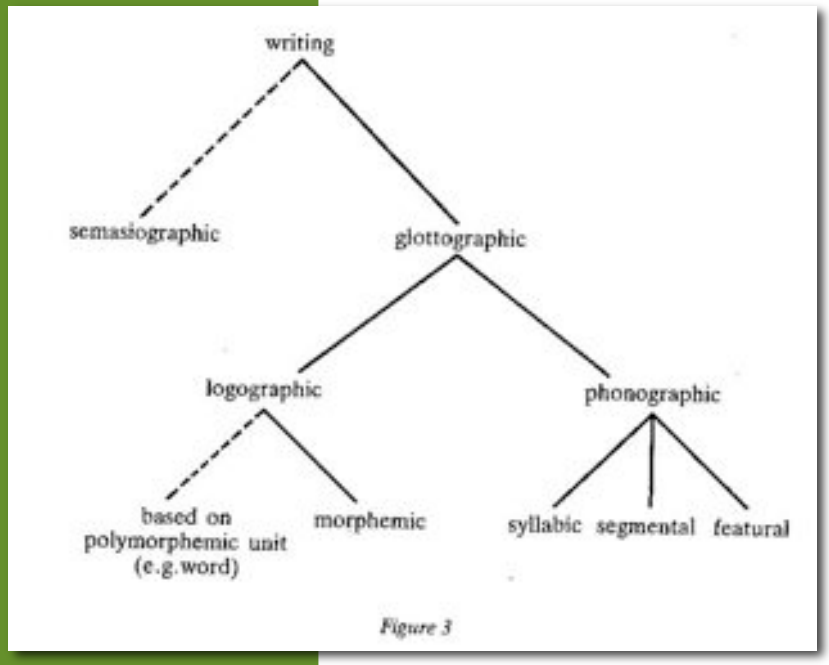


Figure 3

Logographic: mod. Chinese, Japanese (mixed)

Syllabic: Linear B, Cherokee, Korean Hangul (featural)

Alphabetic: Roman, Cyrillic, Gk, Hebrew, etc,

Emergence of the Alphabet in Greece

First "true" alphabetic script emerges in ca. 750 BC in Greece: revises Phonecian script by providing symbols for both individual consonants and vowels.

"Cup of Nestor" ca. 750 BC, with earliest known Greek inscription; found near Ischia in Italy

Changes accompanying literacy in Greece

Writing as the "technology of the intellect"

Transition from "mythical" to "logico-empirical" thought

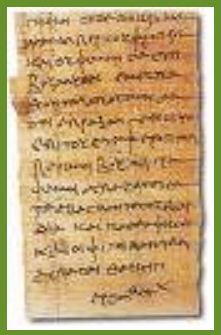
Emergence of logic & philosophy, history, etc.

Past is no longer mutable -- multiple versions exist. Possible to question inconsistencies, etc.

Writing detaches words from context, makes critical consideration of meanings possible. Emergence of "systems of rules for thinking"

Systematization/compartmentalization of fields of knowledge.

"Alphabetic Societies"



Alphabetic scripts are easier to learn, facilitate development of widespread literacy.

"This invention… could be learned by a majority of the population, thus creating the possibility of a popular literacy." Havelock

Aided by introduction of papyrus from Egypt.

Expansion of functions of literacy to other genres -- poetry, history, letters, etc.

By 5th century BC, Greece is an "alphabetic society" (Havelock)

Does the alphabet drive societal development?

At social level: Does writing facilitate or determine cultural & cognitive changes?

E.g., Geoffreys Lloyd on development of Greek and Chinese science: role of debate in political life, testing of ideas, patronage

> "The Chinese norms, were identification with a group and aspiration toward an imagined orthodoxy.... They were the mirror image of the Hellenic emphasis on a thinker's own ideas even when he belonged nominally to a group" Chinese scholars "discouraged open disputes with contemporary rivals over concepts….Compared with their Chinese counterparts, Greek intellectuals were far more often isolated from the seats of political power"

Assignment for 2/5

Havelock writes:

> The introduction of the Greek letters into inscription somewhere around 700 B.C. was to alter the character of human culture, placing a gulf between all alphabetic societies and their precursors. The Greeks did not just invent an alphabet, they invented literacy and the literate basis of modern thought [55]….It is no accident that the pre-alphabetic cultures of the world were also in a large sense the pre-scientific cultures, pre-philosophical and pre-literary. [58]

Consider just one aspect or element of this broad claim. On the basis of the specific evidence presented by Havelock and Gough, would you say it is largely true, largely false, or true in some respects?

Don't be a mugwump!

Be like him!

Not like her!

Bear in mind:

1. Don't just summarize the reading – come down on one side or the other!
2. Do NOT write more than 500 words or one page! Try to write less.

Paul Dubovsky

I agree with Havelock …. The arbitrary and combinatorial nature of the Greek's writing system allowed for easier cataloguing of important events and stories. I also strongly agree of the Greek's invention of the "literate basis of modern thought"[55] because the increased feasibility to acquire and learn more was due in part to the alphabet and allowed the Greeks to keep visual records, "contributing to an immense expansion of knowledge available to the human mind."[57]

[Gough], on the other hand, misses the point in our question of the Greeks creating a gulf between all alphabetic societies and their precursors. While Gough and Havelock both agree that ancient societies such as the Semites exhibited "craft literacy"[Havelock 55 & Gough 45], I again side with Havelock since he explains that "the Greek system by its superior analysis of sound placed the skill of reading theoretically within the reach of children at the stage where they are still learning the sounds of their vocabulary"[Havelock 55].

Joseph Martin

Havelock contends "the alphabet, making [a complete visual record], abolished the need for memorization and hence rhythm." [Crowley, p. 57] He rightly points out the mnemonics had hitherto placed severe constraints on what information could be recorded. Once societies were freed of these constraints, the amount of information, its accuracy, and the ability to build upon it meaningfully flourished. This substantiates his claim that the psychology of people changed in light of this new technology….

Gough argues that China rejected an alphabet and the Indian Vedas are still propagated verbally. However, she undermines herself by saying that most of the verbal cultures don't full appreciate what they are communicating. Plus the Chinese have begun switching to a phonetic alphabet to deal with arbitrary words from other languages.

Kathryn Hoffman

Havelock makes assertions that insinuate the historical effects produced by the alphabetic structure were pre-destined. For example, Havelock asserts: "alphabetic literacy, in order to overcome...limitations of method and so achieve its full potential, had to await the invention of the printing press" (58). By surmising it was actually the alphabetic literacy itself that was both influencing and awaiting progressive techno-scientific developments, Havelock abstracts the relationship between social, political and ecological processes in the production of literacy within and across societies. In fact, as Gogh asserts, literacy was and still is an "enabling factor" rather than a driving factor of historical change (54). Gogh further argues that an alphabetic society is a not a precondition for widespread literacy, skepticism and scientific inquiry--ideographic writing can also yield widespread literacy, as was the case in China since antiquity (46). Dating back at least to B.C. 3rd century, the Chinese had complex cartographic systems illustrating a level of literacy and sophistication in the geographic sciences comparable to the ancient Greeks despite never adopting the Hellenistic alphabet (50-51).

Keien Ohta

Havelock glorifies the creation of the Greek alphabet, …. In particular, he claims that the Greek alphabet caused a transformation in human thinking; abstract informational structures such as description and situation did not exist in the human mind before the invention of the Greek alphabet… I find several problems with this claim. Havelock states that "speech...is the only perceptible evidence that thought exists"[79] and questions whether "an oral culture could think [in terms of connections between abstractions like description and situation]" [79]. A counterexample to this claim can be seen in multilingual individuals. It is clear that some languages are able to express things that others cannot. By Havelock's argument, the people who do not speak that language would not be able to think about such concepts; yet people do learn new languages after their thoughts have shaped from their native tongue, and they rarely have problems understanding concepts that did not exist in their native language. Technology may "control the content of what is communicated" [79], but it does not control the possible range of content that can be thought of. "Pre-alphabetic" people would very well have understood concepts such as descriptions, thought they may not have been able to express it as concisely.

Rebecca Neumann

Havelock grossly overstates the impact of the alphabet in my opinion, mistaking it for an independent cause rather than mere facilitator of literate society. He attributes literacy itself to the invention of the Greek alphabet, but China's ideographic system and India's semi-syllabic system show that a society need not necessarily have alphabetic writing in order to have widespread literacy (55). Gough points out, "an alphabet, coupled with easily used writing instruments, greatly facilitates literacy", but this falls far short of Havelock's claim that alphabetic writing "invented" or caused literacy to exist (46). … Havelock also claims… that the alphabet created "the literate basis of modern thought" (58). Here too, I have to agree with Gough, who argues that "ecology and external political and economic relations" are more likely than literacy (alphabetic or otherwise) to control societal development, though the uses of literacy may play a role in this development, and that "the distribution of literacy" is largely a "result" of social and political structure rather than the cause…(52).

Mondee Lu

Havelock's argument … is convincing in some respects, but not in many others. …Havelock seems to privilege a Eurocentric and Enlightenment-influenced understanding of science. Havelock claims that the alphabet, by making transcription and translation easy, planted the seeds of scientific advancement in Greece that flowered in later European societies. He argues that …the alphabet encouraged the "production of unfamiliar statement [and] stimulated the thinking of novel thought" (Havelock 58) in ways that oral transmission and calligraphy could not (Havelock 57, 60). Out of Havelock's many statements, the preceding seems the most plausible, in large part because there is no way to prove or disapprove it in a scientifically rigorous way. …Havelock notes that the 'energy of the alphabet' (in this case, scientific advancement, along with the closely linked spread of democratic literacy) could not be fully realized without the advent of the printing press. He does not mention that the printing press has its earliest roots in Chinese civilization, one with a long history of non-alphabetic writing.

Ultimate triumph of the alphabet?

Chinese Typewriter has 72 keys and 576 characters. You press two keys at the same time, one for the top part of a character and one for the bottom. This puts eight words into printing position. You select and print the word you want by pressing one of the eight white keys.

Chinese Typewriter 1947

"To become significantly learned in the Chinese writing system normally takes some twenty years. Such a script is basically time-consuming and élitist. There can be no doubt that the characters will be replaced by the Roman alphabet as soon as all the people in the People's Republic of China master the same Chinese language ('dialect'), the Mandarin now being taught everywhere. The loss to literature will be enormous, but not so enormous as a Chinese typewriter using over 40,000 characters."
Walter Ong, "Writing Restructures Consciousness," 1982

Is Romanization Inevitable?

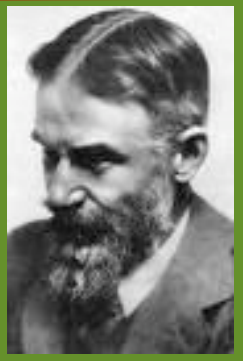
Barriers to shift to Pinyin:

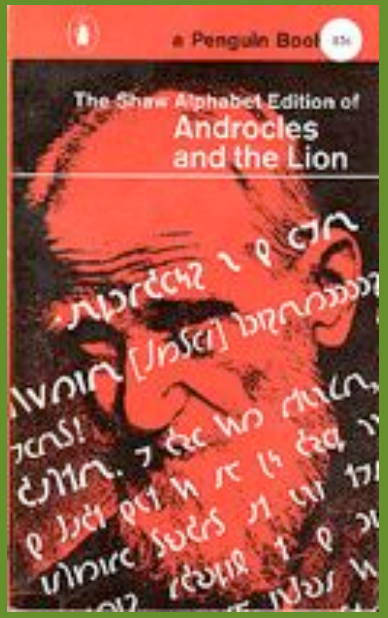
- Attachment to tradition and to characters
- Loss of symbols of Chinese identity
- Foregrounding of dialect differences/reshaping of national identity?
- Apprehension about radical change

Favoring shift:

- Ease of learning
- Technological advantages (data imput, texting, etc.)
- Emerging digraphia/multilingualism
- Spread of Mandarin

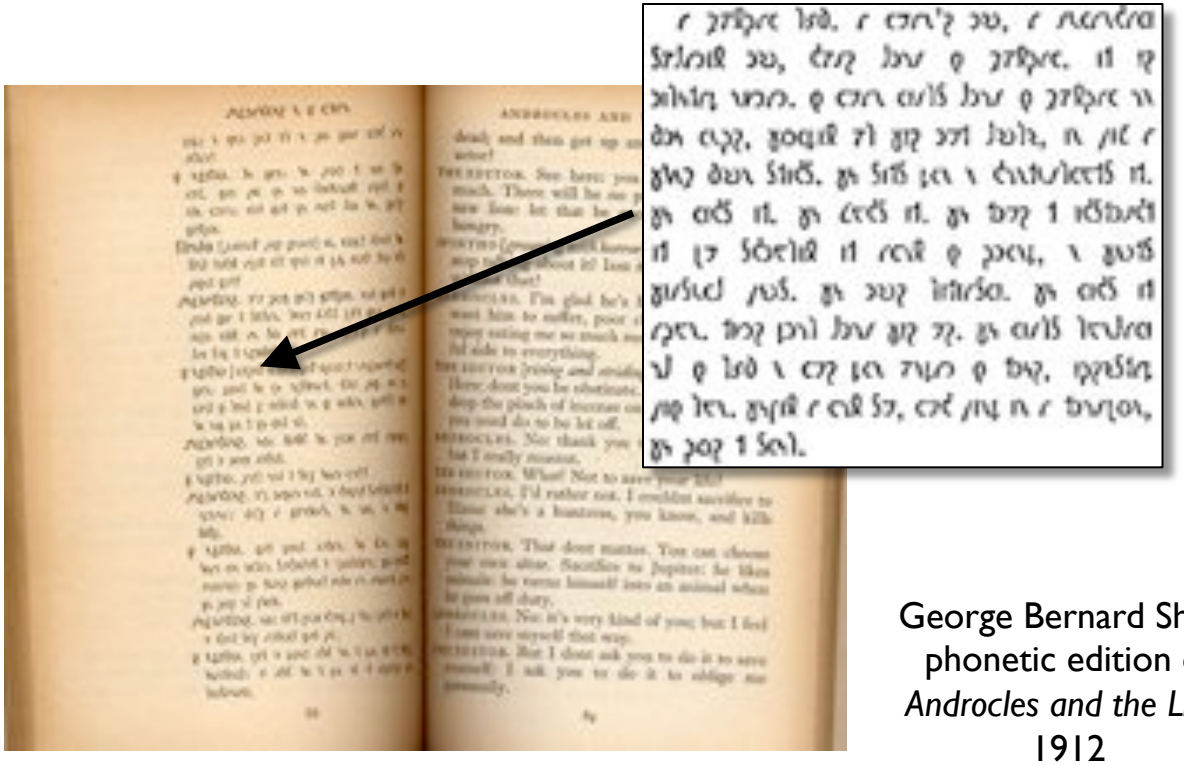
Contrasting alphabetic and logographic systems





Virtues of "pure" or "phonetic" alphabetic writing:

Ease of learning. Typographic simplicity. Ease of processing.



George Bernard Shaw, phonetic edition of *Androcles and the Lion*, 1912

Contrasting alphabetic and logographic systems

Virtues of (semi-)logographic systems

Doesn't privilege one dialect. Symbolic importance for linguistic community -- cf irregularity of English spelling.

"Purely" phonetic systems can lead to ambiguities; Cf French *os, ô, eau, eaux, haut, hauts, au, aux,* etc.

How "phonemic" is English?

famous: uh
journey: er
loud: ow
should: U
you: oo
_____?: y___

through –oo
though – oh
thought – aw
_____?: -uhp
…

bough -- ow
cough -- awf
tough – uhf

Contrasting alphabetic and logographic systems

Virtues of logographic systems

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How "phonemic" is English?

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loud: ow	Ouija: w_

through –oo	*bough* -- ow
though – oh	*cough* -- awf
thought – aw	*tough* – uhf

And uhp in _____

Contrasting alphabetic and logographic systems

Virtues of logographic systems

Doesn't privilege one dialect. Symbolic importance for linguistic community -- cf irregularity of English spelling.

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journey: er you: oo

loud: ow Ouija: w_

through –oo *bough* -- ow

though – oh *cough* -- awf

thought – aw *tough* – uhf

And uhp in *hiccough*

Social and Cognitive Effects of Literacy

The Ideology of Literacy

Universal literacy seen as tool for cognitive and social development.

> "The illiterate man's thought… remains concrete. He thinks in images and not in concepts… His thought rarely proceeds by induction or deduction. The result is that knowledge acquired in a given situation is hardly ever translated to a different situation to which it might be applied." — 1972 UNESCO report

> "Writing maketh an exact man" -- Francis Bacon

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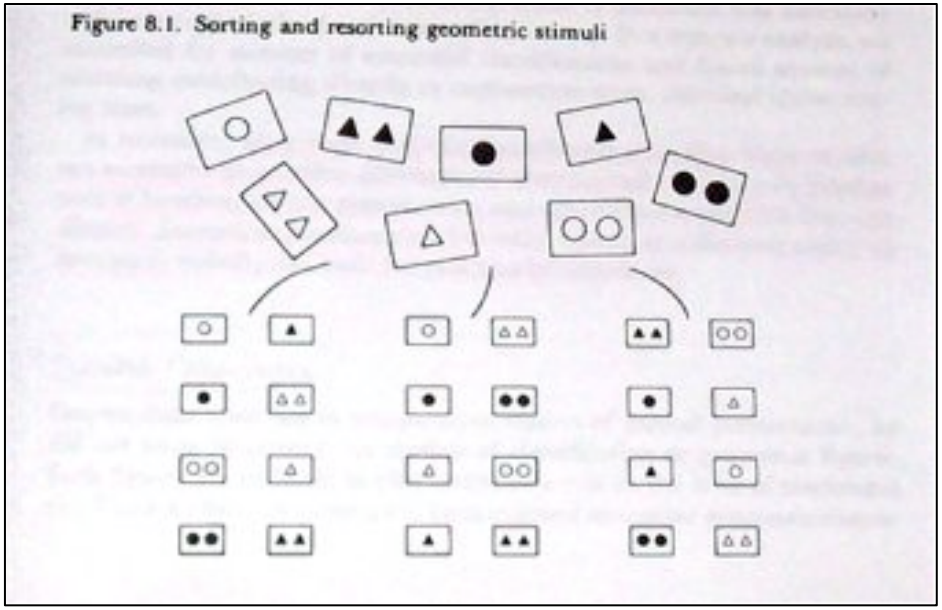
Napoleon -- literate soldiers can march in step.

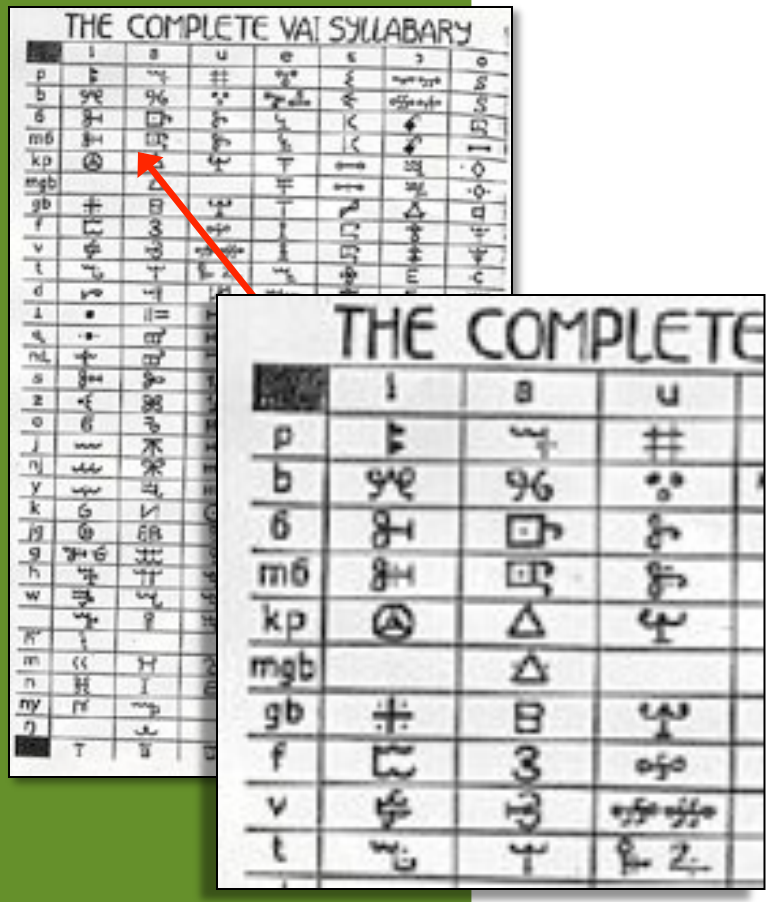
Cognitive Consequences of Literacy

Cognitive differences between literate and illiterate people in devleoped societies. Literate speakers tend to do better on logic problems, tests of abstract thinking (ability to recategorize objects).



But are differences due to literacy, schooling, or independent social differences?

Cognitive Consequences of Literacy



Cf Work by Cole & Scribner among the Vai (western Liberia)

Syllabic writing system, independently invented in 19th c. by Dualu Bukele

Used for letters, commercial records. Taught at home

Many Vai are also literate in Arabic (Koranic schools) and English (state schools)

Vai-literate adults do no better than illiterates on most cognitive tests (resorting) unless tests were directly related to writing (rebus puzzles)

But different for English-literate Vai.

E.g. be careful in ascribing cognitive benefits to "literacy" itself.

The Complexity of Literacy Practice

After Operation Head Start "failures": Research on "early literacy" (Shirley Brice Heath, Yetta Goodman. Etc.)

- Learning the functions of literacy
- Bedtime stories and other rituals of literacy: building expectations, postponing questions, "reading" in pre-literate children: "talking like a book"
- Discourse structure -- topic shifts. Oral precursors in religious services
- How literate parents talk to infants…

Moral: "Literacy" involves a broad range of social practices…

Leapfrogging literacy

Co-existence of writing with other forms of transmission

Cf Somali oral forms (gabay-- alliterative 21 syllable form)

(U) UU UU U UU UU U UU | UU U UU UU U

Romanized alphabet introduced in 1972; developed by Shire Jama Ahmed in collaboration with Italian linguists.

But written Somali has not replaced the gabay as means of political discourse.

Leapfrogging Literacy

New forms of transmission can obviate the transition to writing

Readings for 2/7

Manuscript Culture: Required Readings

Plato. 1973 [c. 360 bce]. *Phaedrus & the Seventh & Eighth Letters*. W. Hamilton, trans. Harmondsworth: Penguin.
read "Prelude," pp. 21-26; & "The Inferiority of the Written to the Spoken Word" & "Recapitulation and Conclusion" pp. 95-103.

Trithemius, Johannes. 1974 [1492]. *In Praise of Scribes.* R. Behrendt, ed. Lawrence, KA: Coronado Press. read Chapters I-III, V-VII, XIV.

Note: We are now going back to "primary texts," texts that discuss the changes we are interested in as they happened. As you read these texts, one almost 2500 years old, the other more than 500 years old, ask yourself whether these have anything to tell us about information in the modern world. Be prepared to discuss your reactions in class. (The Trithemius is a "parallel text" with Latin facing English. Only those fluent in Latin need read the Latin pages.)