THE STORY OF WRITING

Sasha Nikolaev (CAS)

The Map of the Talk

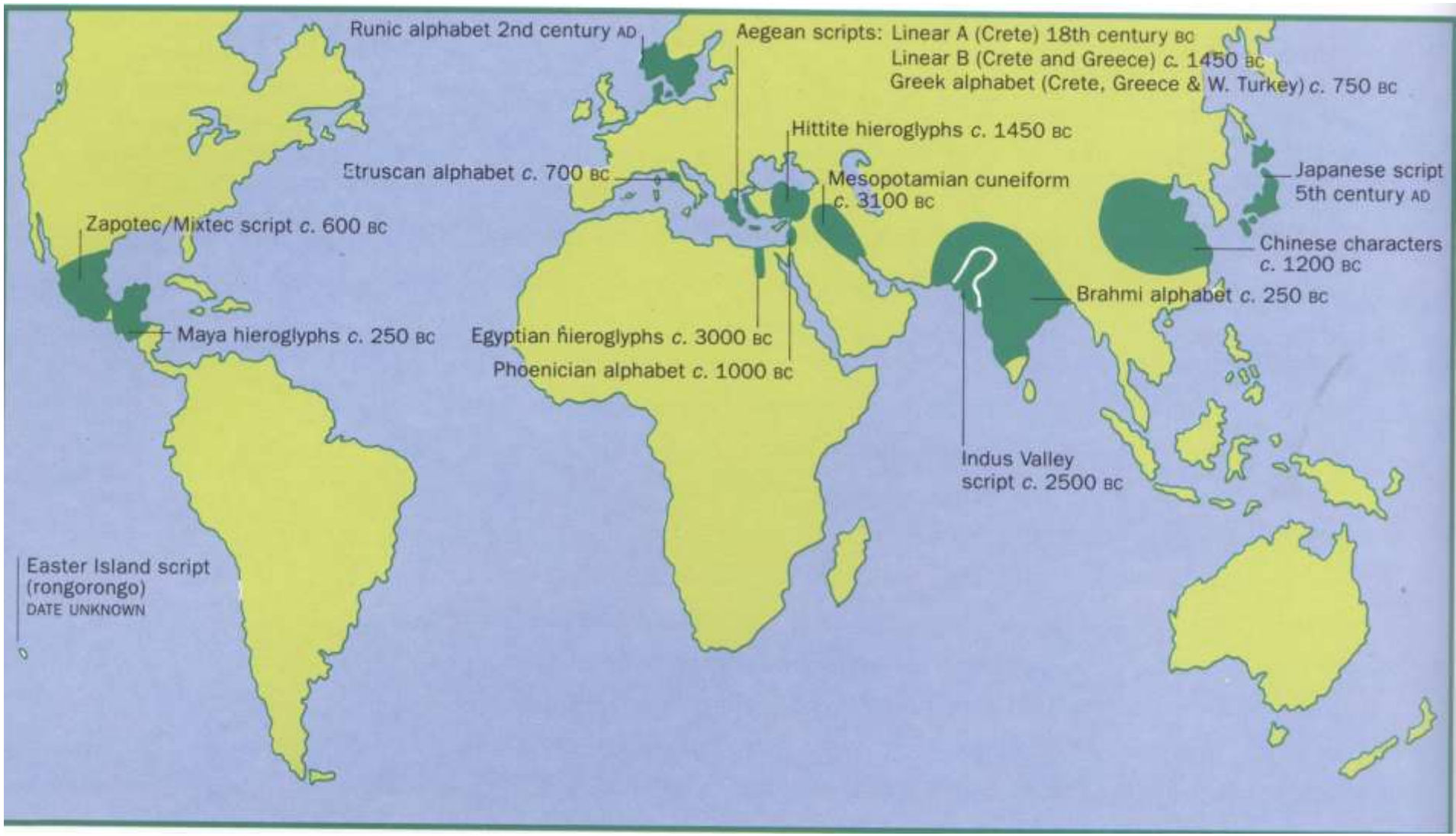
origin of writing

historical overview of the major types of writing systems and their evolution

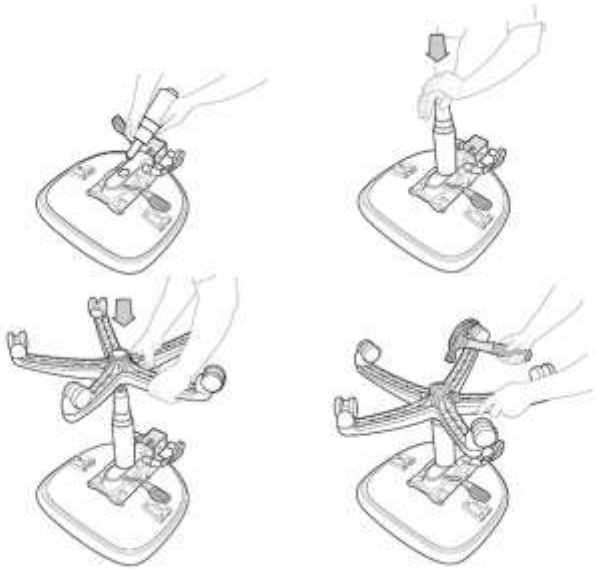
- logographic scripts (sign = one word)
- syllabaries (sign = one syllable)
- abjads (sign = one consonant)
- alphabets

some (yet) undeciphered scripts

The Real Map

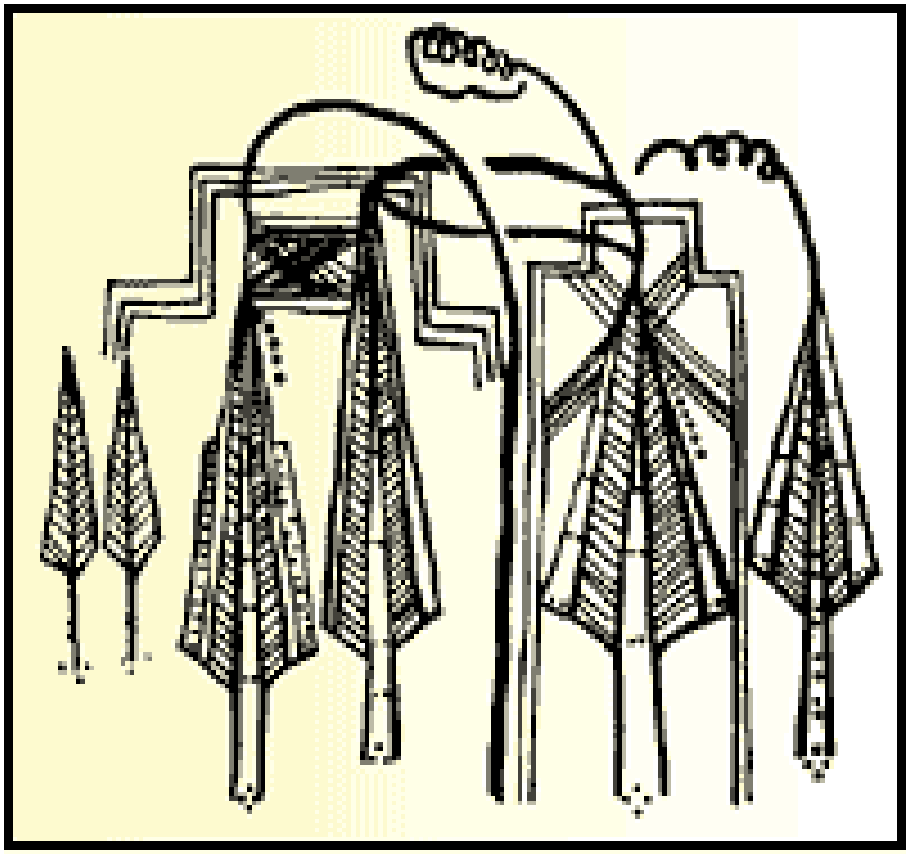

Runic alphabet 2nd century AD
Aegean scripts: Linear A (Crete) 18th century BC
Linear B (Crete and Greece) c. 1450 BC
Greek alphabet (Crete, Greece & W. Turkey) c. 750 BC
Hittite hieroglyphs c. 1450 BC
Etruscan alphabet c. 700 BC
Mesopotamian cuneiform c. 3100 BC
Japanese script 5th century AD
Zapotec/Mixtec script c. 600 BC
Chinese characters c. 1200 BC
Brahmi alphabet c. 250 BC
Maya hieroglyphs c. 250 BC
Egyptian hieroglyphs c. 3000 BC
Phoenician alphabet c. 1000 BC
Indus Valley script c. 2500 BC
Easter Island script (rongorongo) DATE UNKNOWN

What is and what isn’t writing

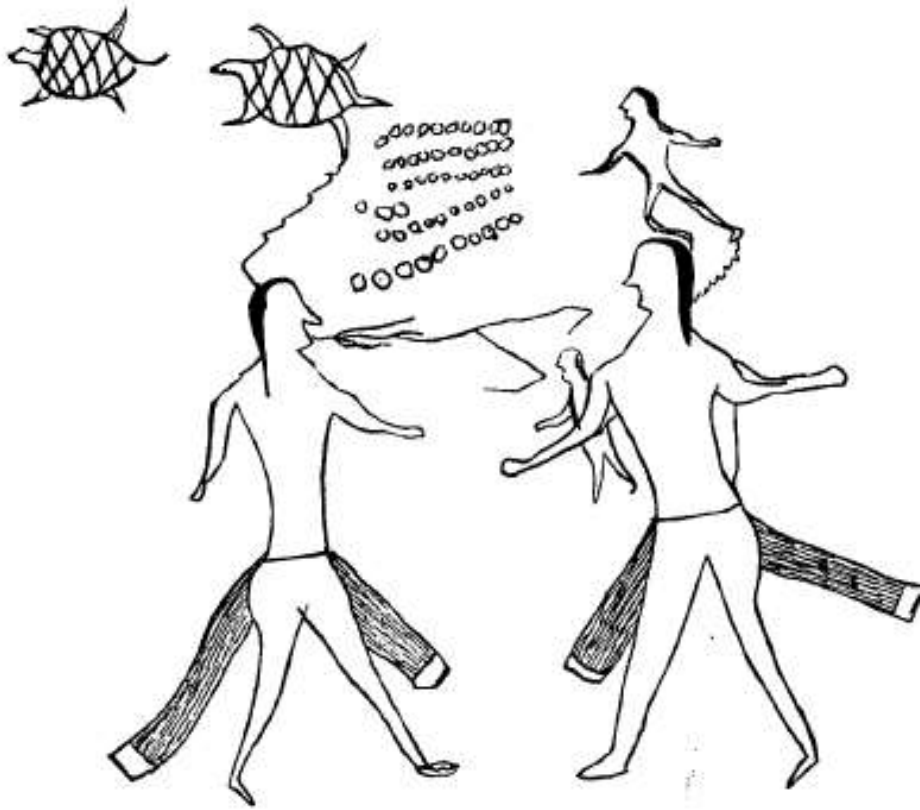


What is and what isn't writing

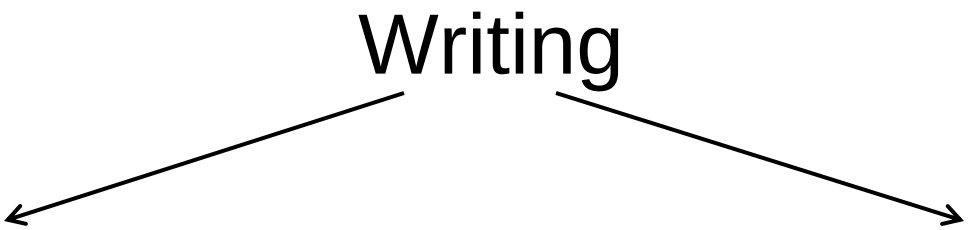
Yukaghir love letter



Cheyenne Indian Letter



What is and what isn’t writing

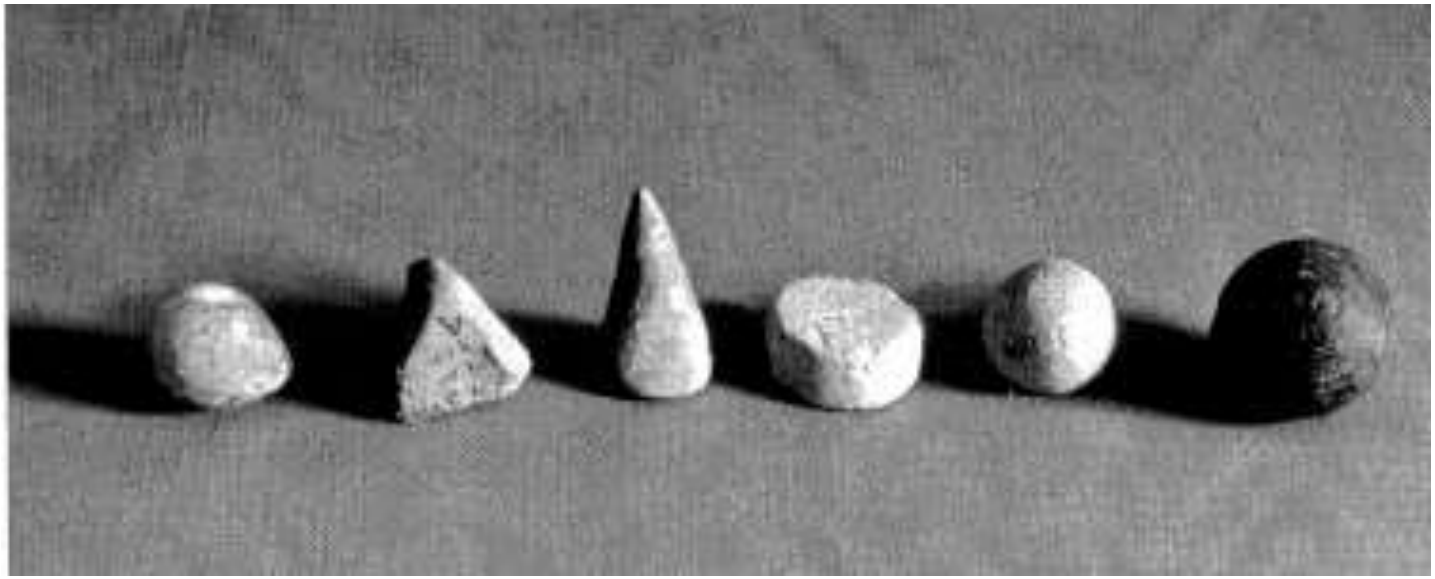


Semasiographic
(represents concepts
by material marks with
a conventional reference)

Glottographic
(relies on systematic
linguistic basis)

The beginning of glottography

The tokens: system of record-keeping

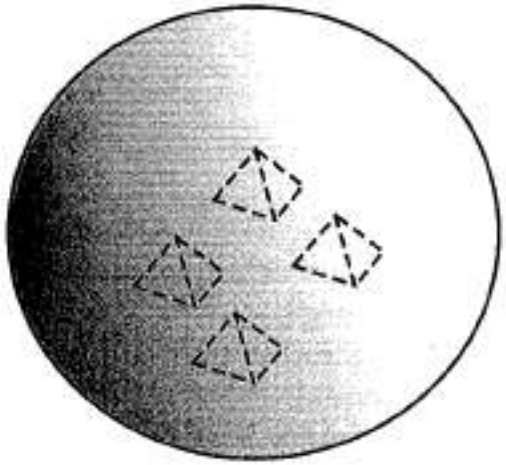


starting around 8000-7500 BCE

The Beginning

Denise Schmandt-Besserat

Tokens sealed in an envelope (*bulla*) safeguarded the contract



Next step: impressions of tokens on the clay envelope = table of contents

The Beginning

Archaeological finds:

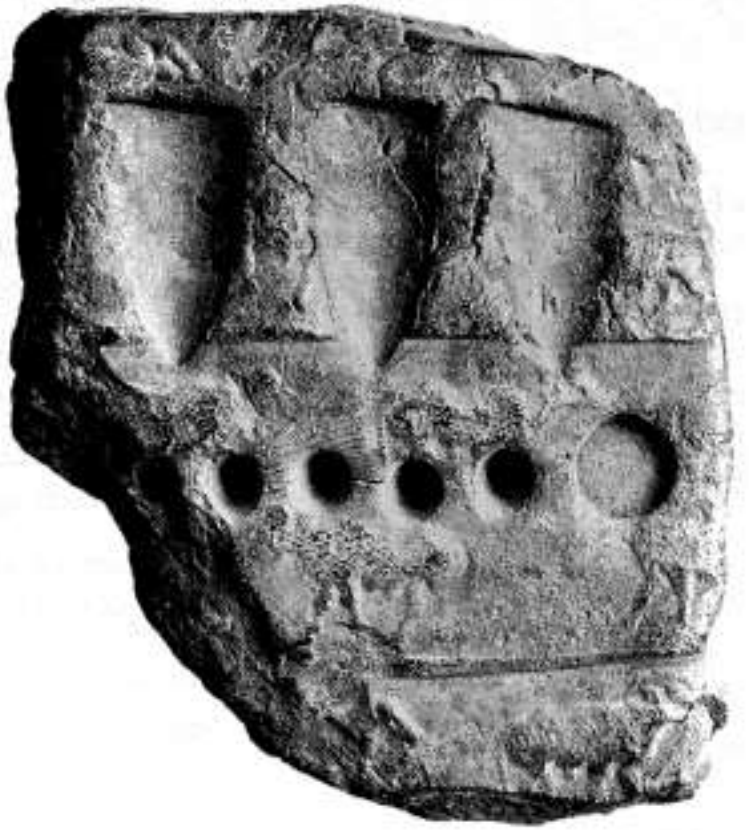
X-Ray

The Beginning

Later version of a *bulla*:
a cuneiform tablet in an
envelope repeating the text

The Beginning

Next step: no token, just an impressed tablet



The Beginning

Next step: pictographic tablets

10 goat 10 sheep

Tell Brak (4000 BCE)

The Beginning

Record-keeping system gives rise to writing:

tokens

→ plain envelopes holding tokens

→ impressed envelopes

→ impressed tablets

→ pictographic tablets

What's next?

Next step: logographic script

basic principle of logography:

1 sign = 1 word

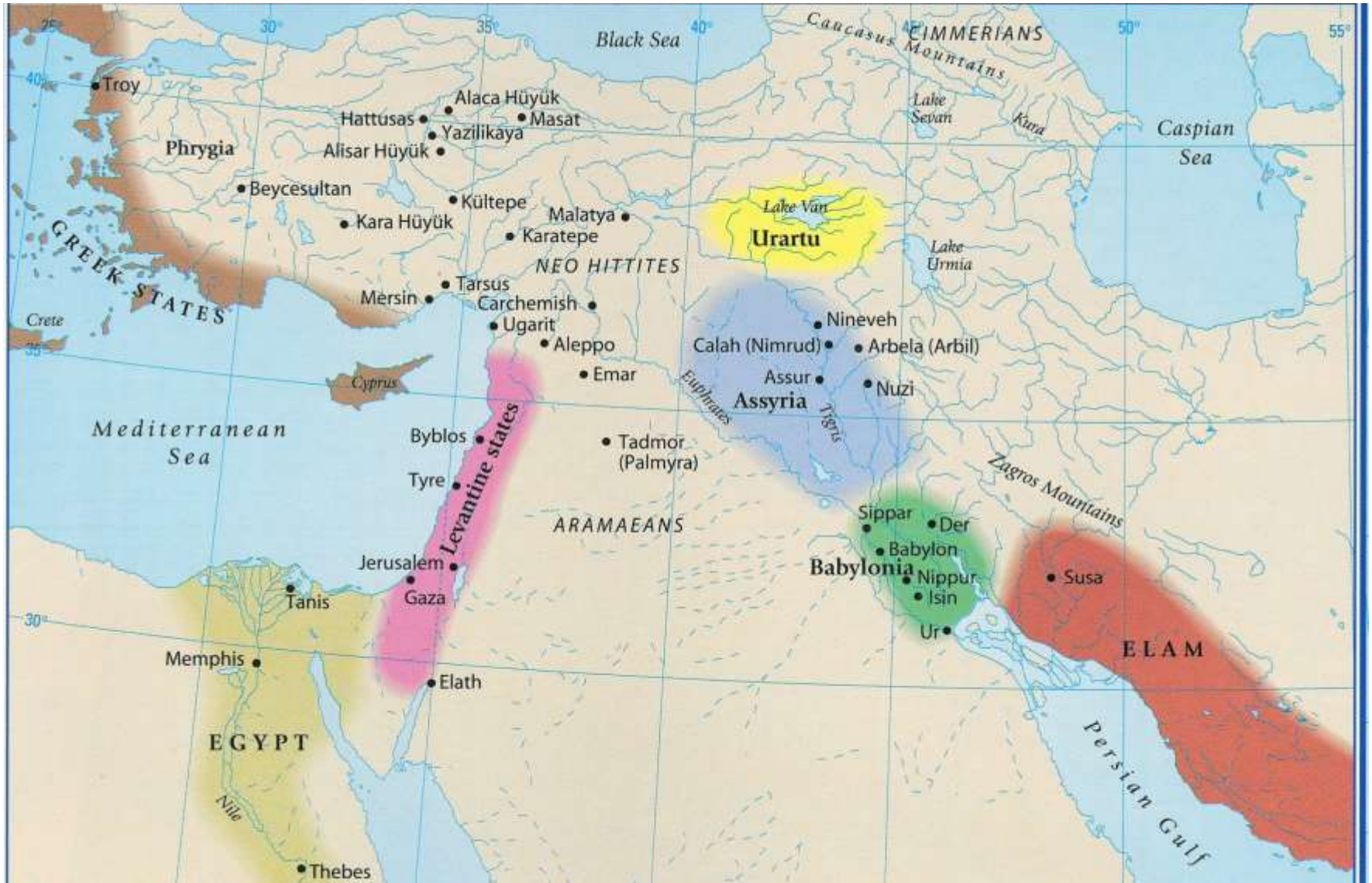
We will look at two oldest systems today:

Egyptian hieroglyphs

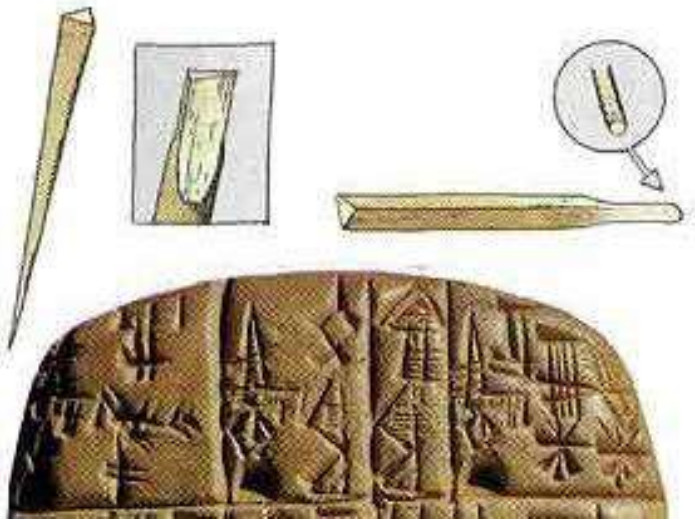
and Sumerian-Akkadian cuneiform

(Other logographic systems are Chinese and Mayan hieroglyphs)

Cuneiform


Black Sea
Caucasus Mountains
CIMMERIANS
Troy
Alaca Hüyük
Hattusas
Masat
Yazilikaya
Phrygia
Alisar Hüyük
Lake Sevan
Kura
Caspian Sea
Beycesultan
Kültepe
Malatya
Kara Hüyük
Karatepe
Lake Van
Urartu
Lake Urmia
GREEK STATES
NEO HITTITES
Tarsus
Mersin
Carchemish
Crete
Ugarit
Nineveh
Aleppo
Calah (Nimrud)
Arbela (Arbil)
Emar
Assur
Nuzi
Cyprus
Euphrates
Assyria
Tigris
Mediterranean Sea
Byblos
Tadmor (Palmyra)
Levantine states
Tyre
Zagros Mountains
Sippar
Der
ARAMAEANS
Babylon
Jerusalem
Babylonia
Nippur
Susa
Gaza
Tanis
Isin
Ur
ELAM
Memphis
Elath
EGYPT
Persian Gulf
Nile
Thebes

Cuneiform



Egyptian hieroglyphs

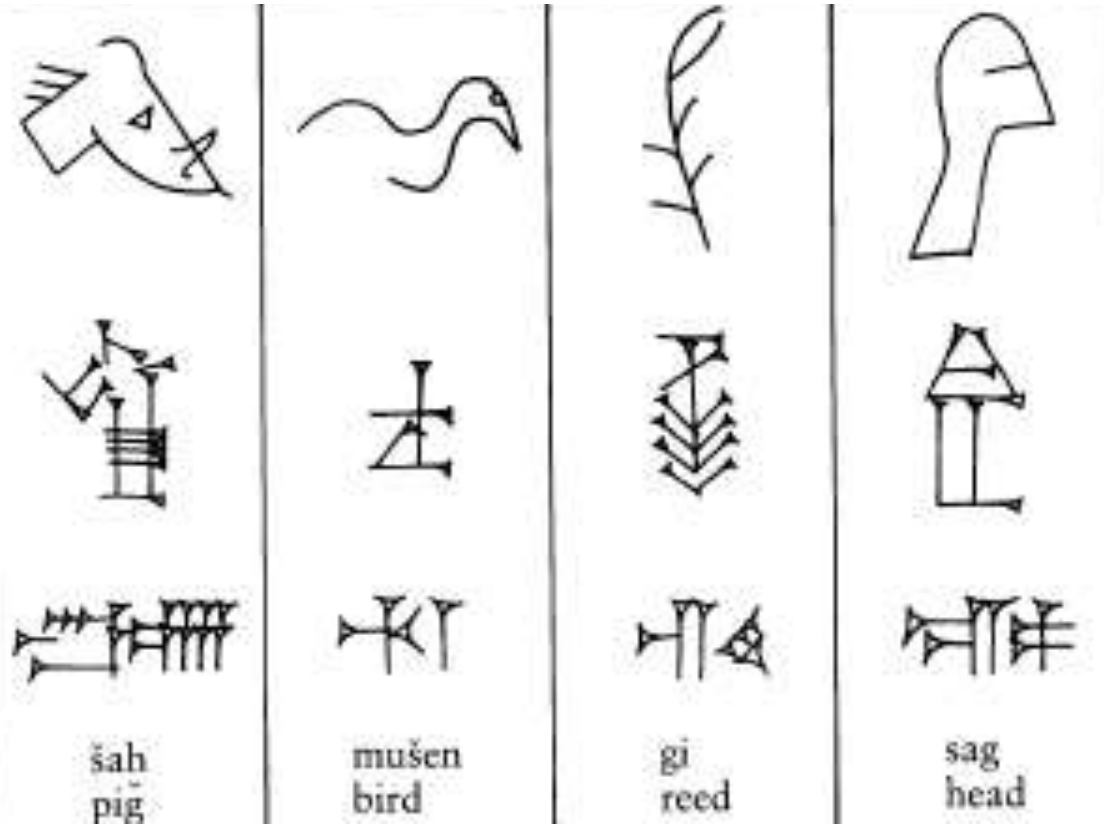
hieroglyphs “sacred carvings”

Development from pictograms

Sumerian

picture

90ºrotated



Development from pictograms

Egyptian:

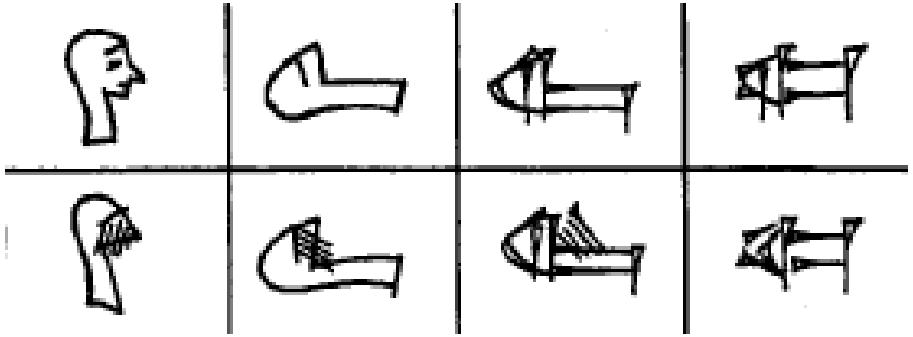
⊙𓇋 /*r3*/ ‘sun’, 𓂝𓇋 /*msḏr*/ ‘ear’

hieroglyphic script

hieratic script

Elaboration of the signs

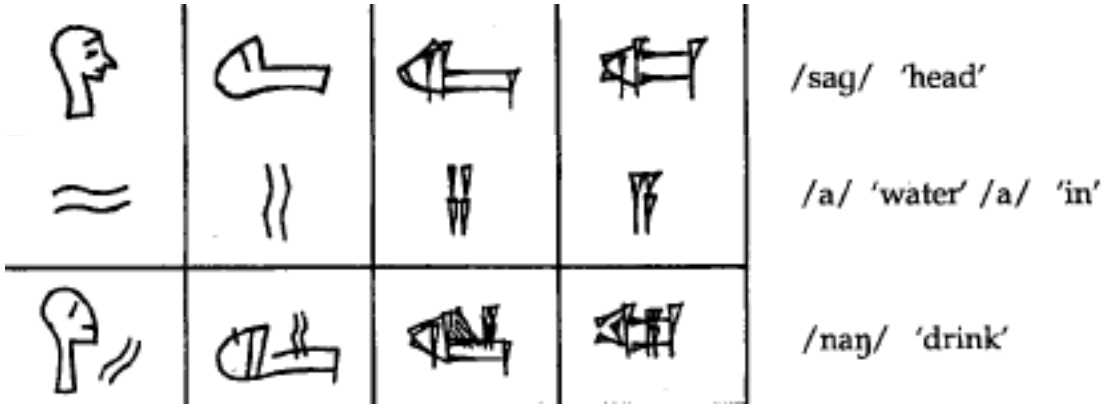
Structure of the writing system:
differentiation:



A diacritic mark is added to the symbol for ‘head’ in order to produce ‘mouth’

Elaboration of the signs

Structure of the writing system:
semantic compounds:



/naŋ/ 'to drink' is formed by adding 'water' to 'head'

Expanding the code

1. Semantic extension

Egyptian:

 /*r3*/ 'sun' → /*hrw*/ 'day'

 /*msḏr*/ 'ear' → /*sḏm*/ 'hear'

Sumerian:

 /du/ 'to go' →  /gub/ 'to stand'

 /an/ 'heaven' →  /diŋir/ 'god (of heaven)'

Expanding the code

2. phonetic extension or rebus

4 = 'before'

Egyptian:

/ḥr/ 'face' > /ḥr/ 'upon'

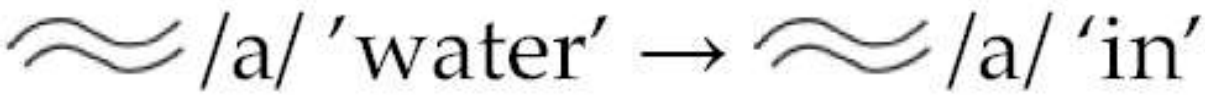
/r/ 'mouth' > /r/ 'towards'

Sumerian:

/a/ 'water' → /a/ 'in'

Expanding the code

The result of these processes: loss of pictographic element and increasing amount of **phonography** in the script.



could have become the Sumerian letter “a”, but did not

Cuneiform

Phonographic script: **syllabary**

one sign = one syllable

template: (C)V(C)

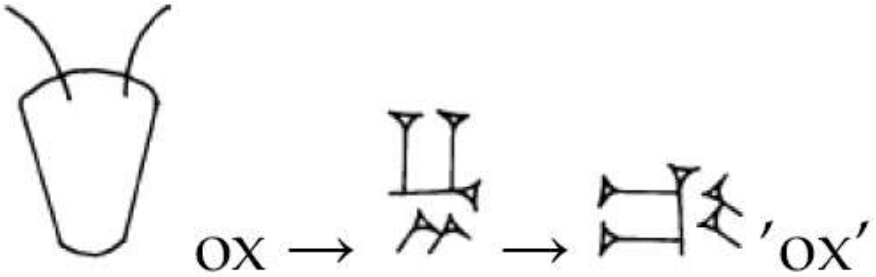
 /u/

 /ma/

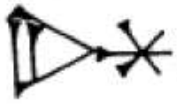
 /tab/

Cuneiform

In cuneiform a lot of redundancy



in Sumerian 'ox' is /gu/

Now,  'thread' is also /gu/

hence: two ways of writing /gu/

(in transliteration: gú, gù, gu_3, gu_4…)

Egyptian

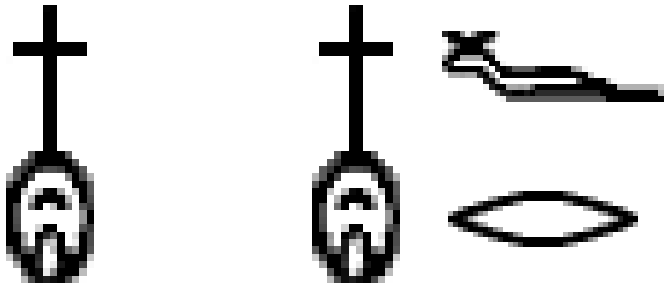
Egyptian has developed tri-, bi- and monoconsonantal phonetic signs using the process called ***acrophony***

the writing symbol no longer stands for one (or several) concepts, but it has the phonetic value of the **initial sound**(**s**) of the name of this object

Egyptian

logogram ‘hand’, Egyptian *drt* becomes a symbol for [d]

nfr ‘beautiful’ can be written as *nfr-n-f*



Mayan

Another example of a mixed logographic system is Mayan script

(1)

Balam

Ba Balam

Balam
Ma

Ba Balam
Ma

Ba La
Ma

Mayan

Japanese

Another example of this mixture: Japanese

Three writing systems:

kanji (Chinese characters; Chinese writing is logographic): roots

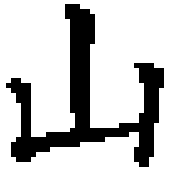
hiragana: inflectional morphemes

katakana: loanwords, telegrams, etc.

Japanese

kanji characters (Chinese)

How do speakers of Japanese read them?

 ‘mountain’

Chinese *šan*

Japanese *san* or *yama*

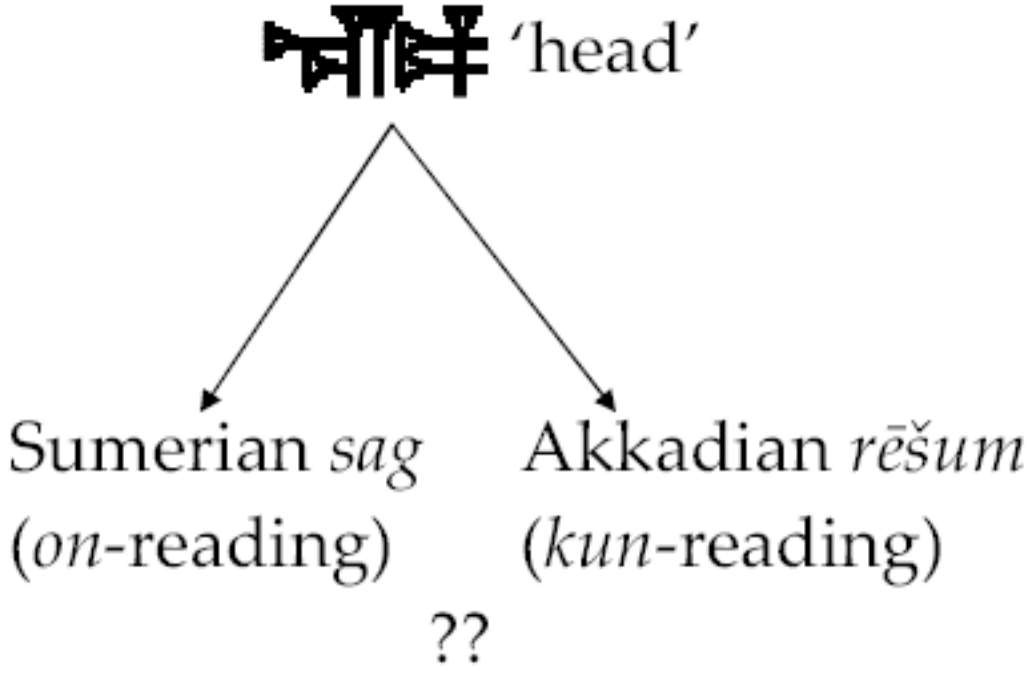
= *on* and *kun* readings

Fuji Yama = Fuji San

On and Kun

Sumerian to Akkadian: the script designed for one language is used to write another one

on- and *kun* readings in Akkadian



Consonantal script (*abjad*)

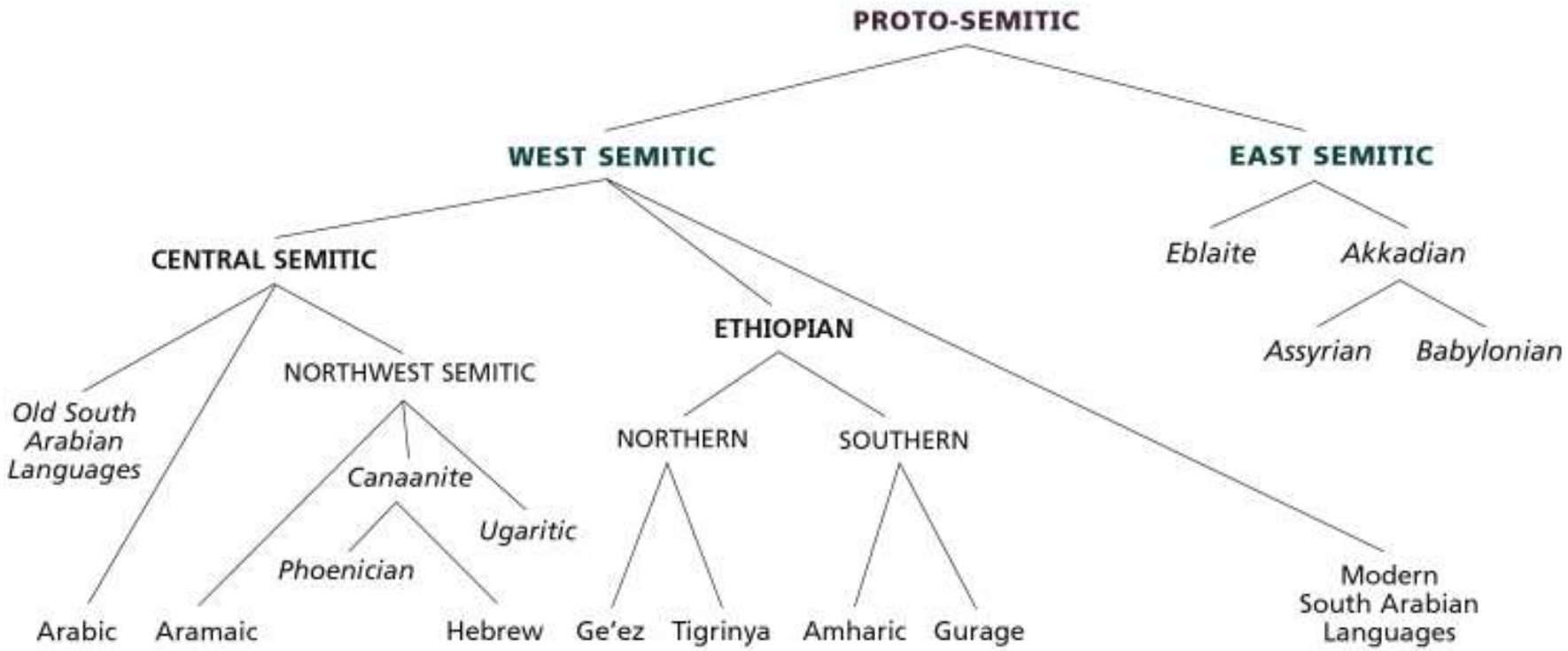
Another type of script: **consonantal script** or ***abjad*** (one sign = one consonant, no vowels written)

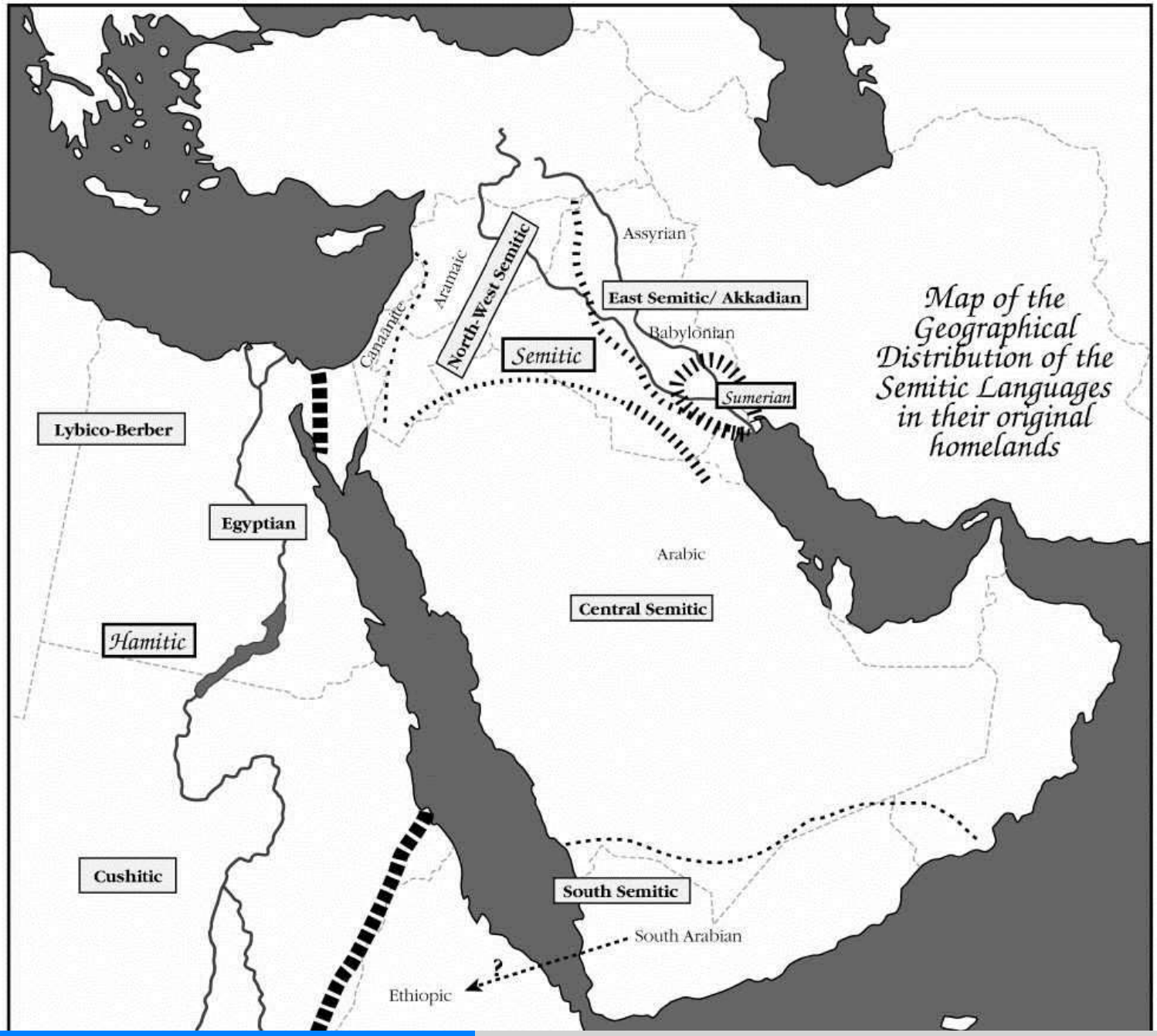
Phoenician, Aramaic, Arabic, Hebrew…

(and ultimately all not-Chinese based writing systems used today)

Emerged around 1500 BCE somewhere in Syria or Palestina

Semitic languages




Map of the Geographical Distribution of the Semitic Languages in their original homelands
Semitic
North-West Semitic
Canaanite
Aramaic
East Semitic/ Akkadian
Assyrian
Babylonian
Sumerian
Central Semitic
Arabic
South Semitic
South Arabian
Ethiopic
Lybico-Berber
Egyptian
Hamitic
Cushitic

Origin of consonantal script

From Egyptian hieroglyphic script or from Akkadian cuneiform syllabary?

both have morphographic component which *abjads* do not have

but Egyptian did not write vowels

and it would have been possible to write Egyptian using only monoconsonantal symbols

How Semitic languages work

Classical Arabic:

verbal stem forms:

katab-a 'wrote'

kattab 'caused to write'

kaatab 'corresponded'

ʔaktab 'dictated'

takaatab 'kept up a correspondence'

ktatab 'copied'

noun forms:

kutub-un 'books'

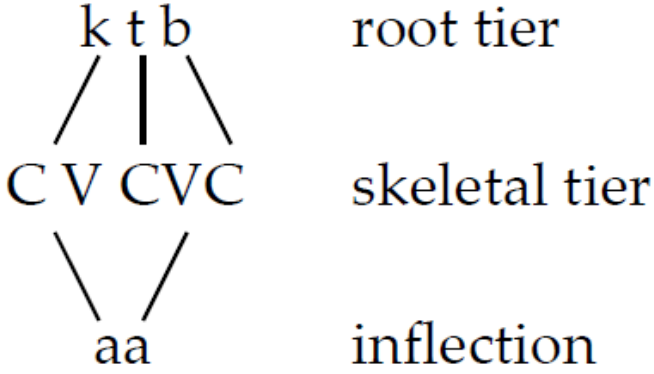
katb-un 'writing' (document)

kaatib 'writing' (process)

kitaabah 'writing profession'

kattaab 'author'

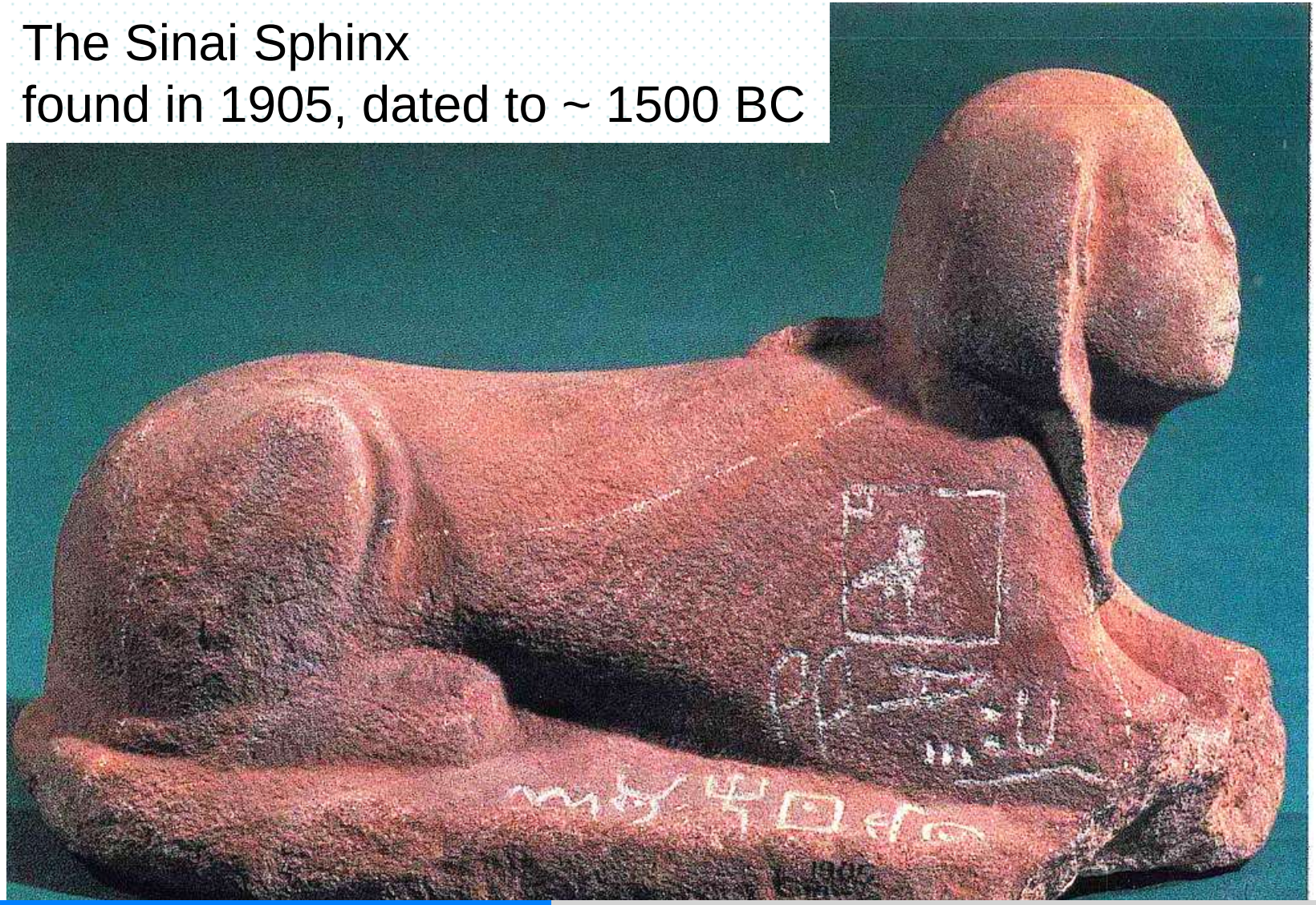
miktaab 'writing instrument'



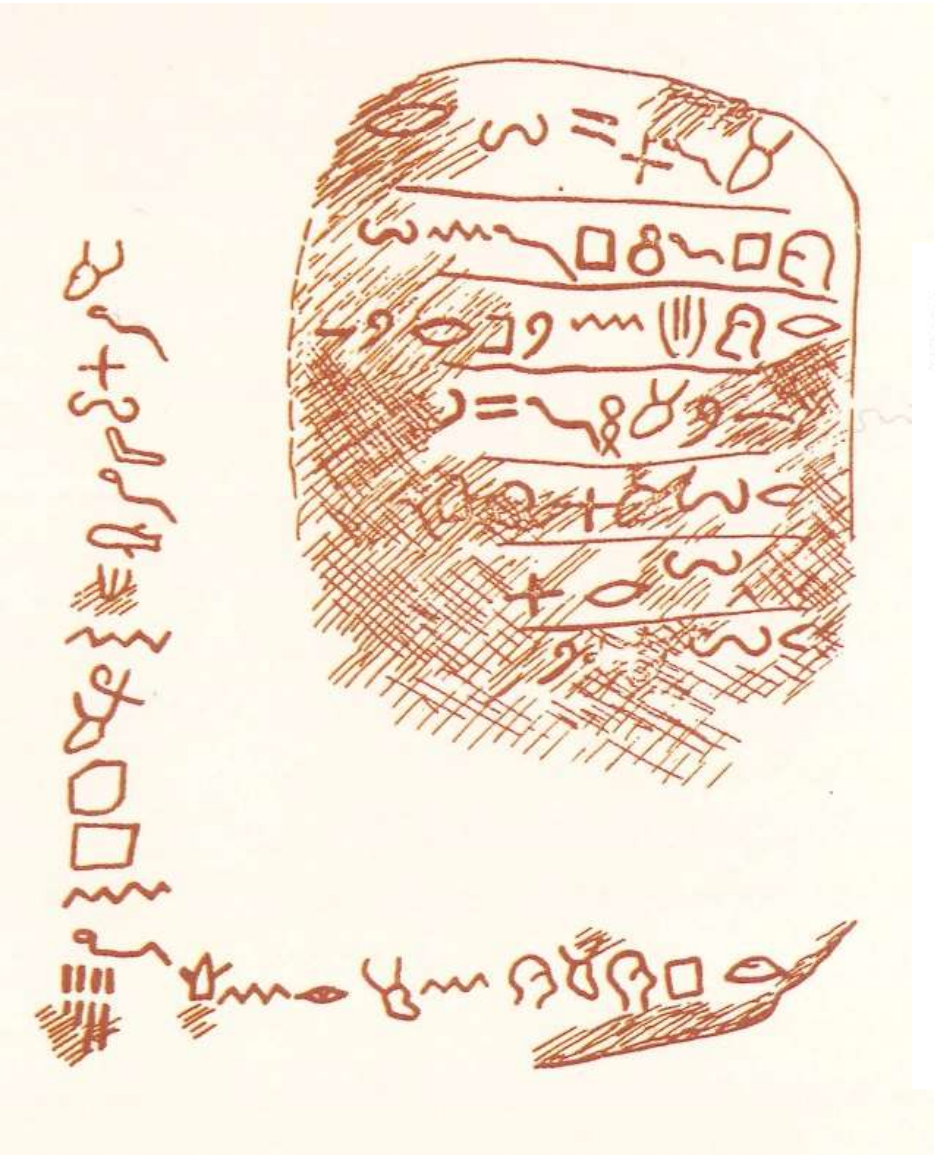
"root-and-pattern morphology = non-concatenative morphology perhaps there is a correlation with the type of the script

Proto-Canaanite script

The Sinai Sphinx
found in 1905, dated to ~ 1500 BC



Proto-Canaanite script



Similarity with Egyptian hieroglyphs?

Egyptian hieroglyphic	Sinai script	Early Semitic	Name of letter
			ʔaleph 'ox'
			bet 'house'
			waw 'hook'
			kaph 'open hand'
			mem 'water'
			nahas 'snake'
			ʕajin 'eye'

Proto-Canaanite script

The Proto-Sinaitic signs match nicely the later Phoenician script:

Origin of *abjad*

Scenario: a Semitic speaker was using Egyptian writing for his language

Principles: 1) translation of signs into Semitic

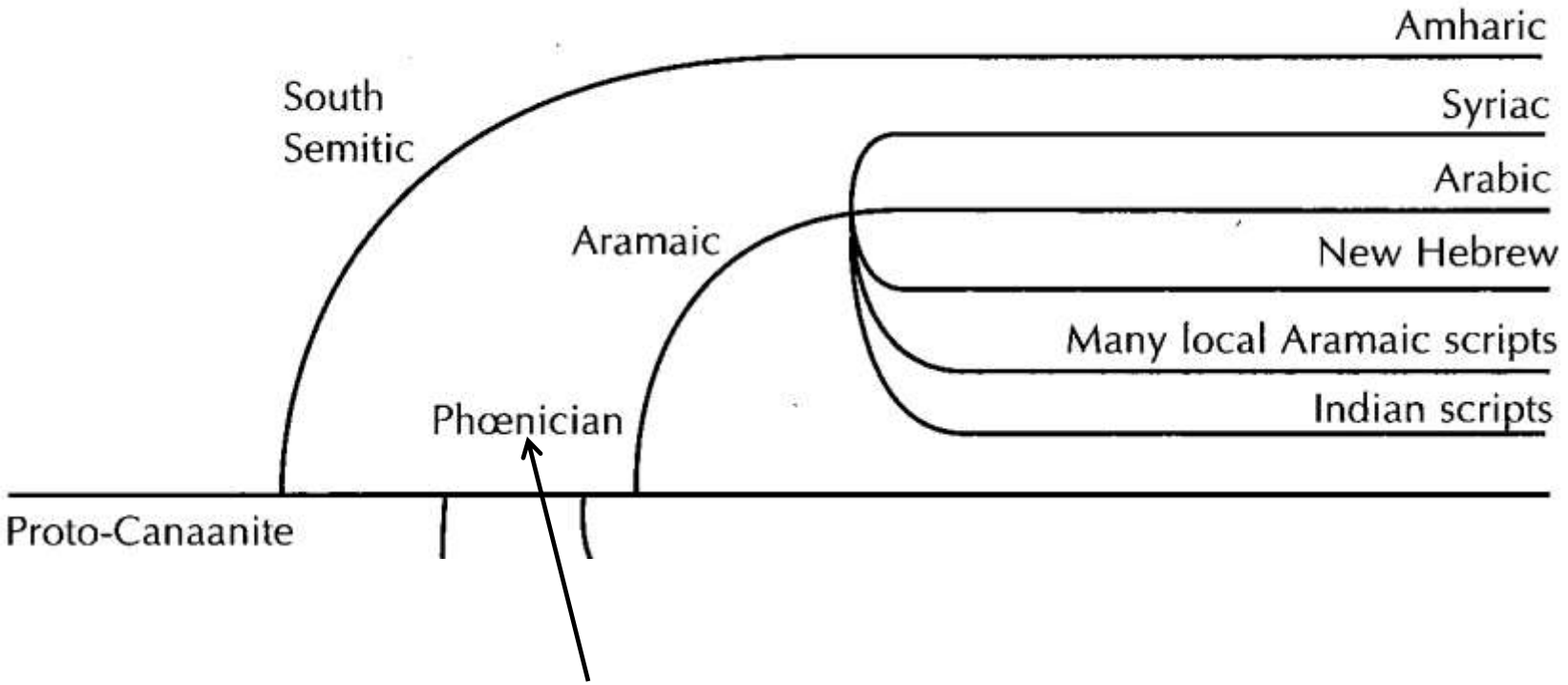
2) *acrophony*

Eg. [per] Sem. [bet]

The result is a symbol for [b],

not /p/, /per/ or /pr/

Further avatars of *abjad*



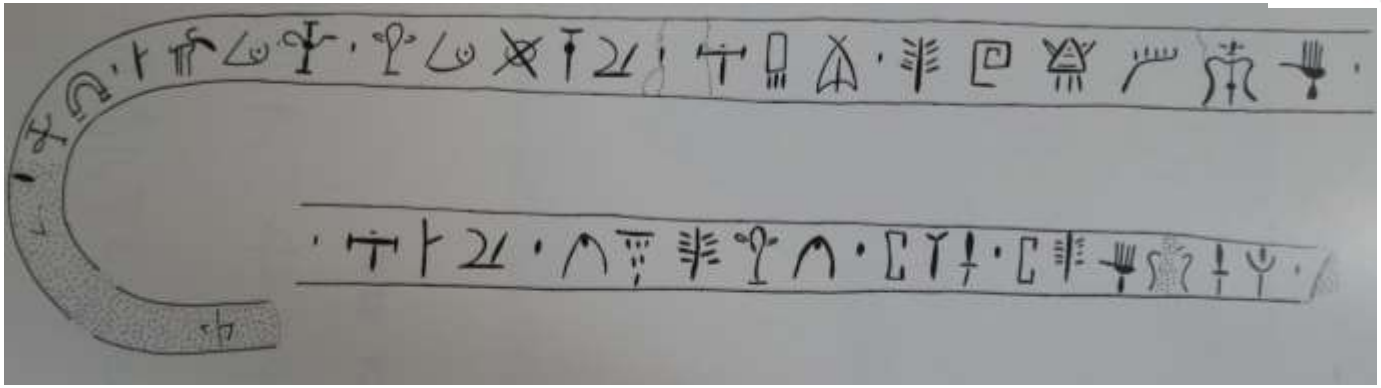
The Phoenicians were to play a pivotal role in the story of the alphabet

Greece before alphabet

Minoan civilization on Crete (2500-1500)

(named after the mythical king)

Undeciphered hieroglyphs and later *Linear A* script



Greece before alphabet

1627-1570 BCE: Santorini volcanic eruption put an end to Minoan civilization

(may have inspired the myth of Atlantis, told by Plato)

Greece before alphabet

Soon the place of Minoans was taken by the speakers of an Ancient Greek dialect, called Mycenaean.

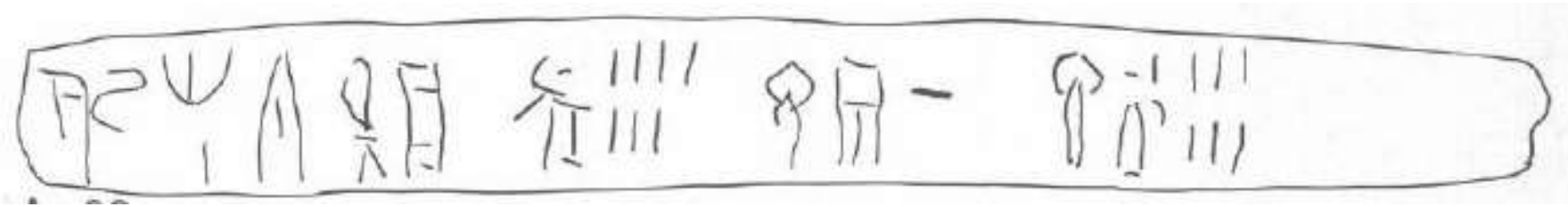
They developed Linear B on the basis of the Minoan script

Greece before alphabet

Linear B was deciphered in 1952

It turned out to be a *syllabary* with 91 syllabic sign (e.g. *da*, *de, di*, *do*, *du*)

In addition: over 100 logograms: sheep, spear, etc.



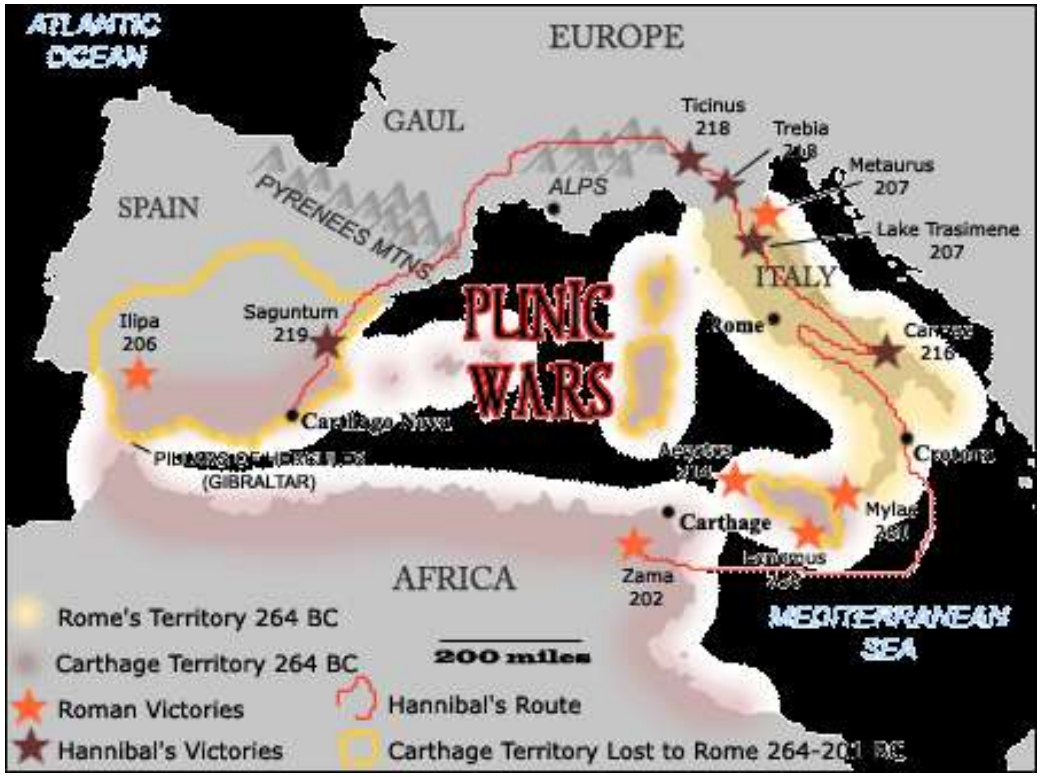
me-re-ti-ri-ja WOMAN – 7 *ko-wa* -10 *ko-wo* 6
"grinders" (not *gu-ne*) "girls" "boys"

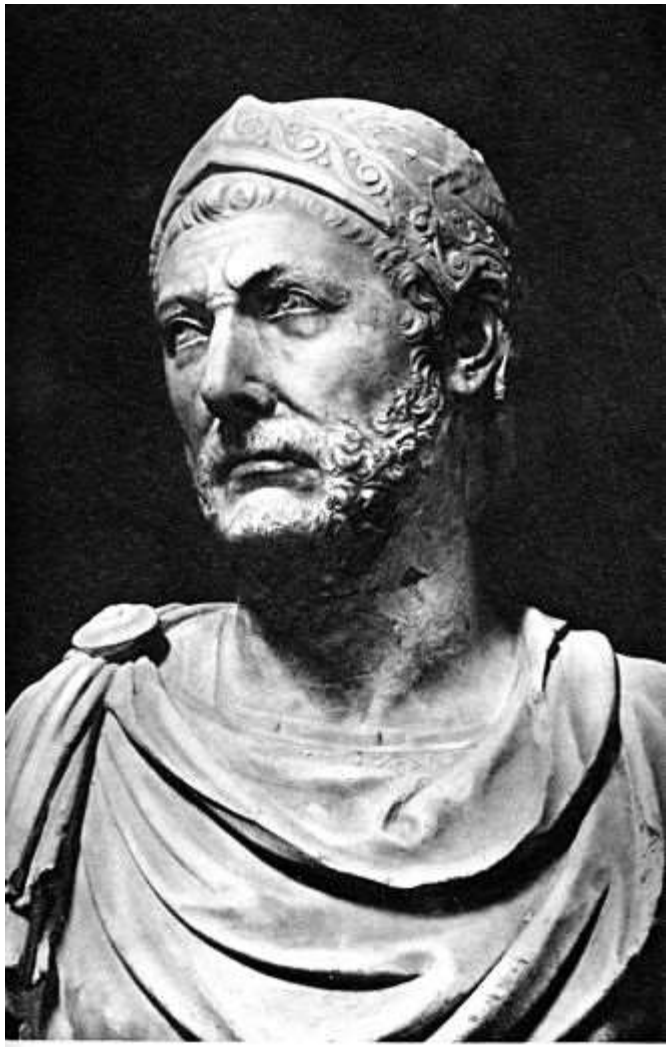
The Phoenicians

Speakers of a West-Semitic language, tireless seafarers and merchants

The Phoenicians

Late form of Phoenician language is *Punic* (Carthage)

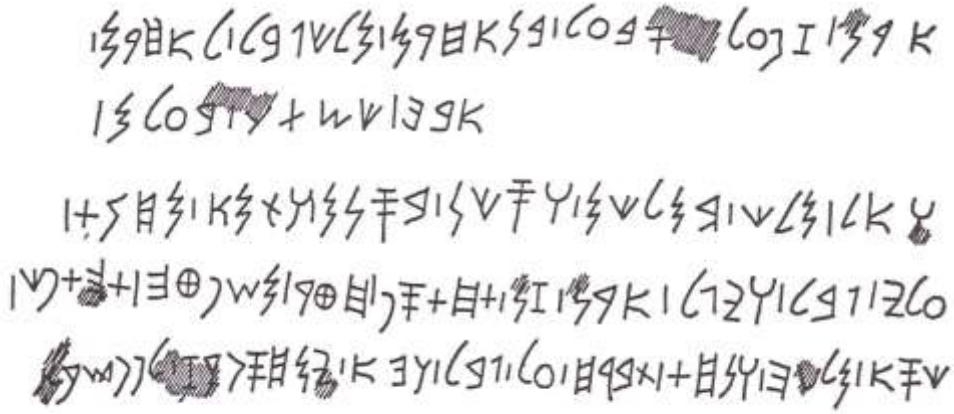




Hannibal. (Neapel, National-Museum.)

The Phoenicians

The Phoenicians used a version of *abjad*, closely resembling the Canaanite and other West Semitic scripts



Sarcophagus of King Ahiram of Byblos

The emergence of the alphabet

Greek alphabet is based on a Semitic **abjad**

Arguments:

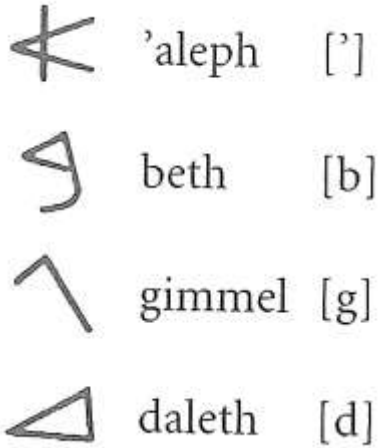
1) the order of the letters

2) the names of the letters:

ἄλφα, etc. are meaningless in Greek,

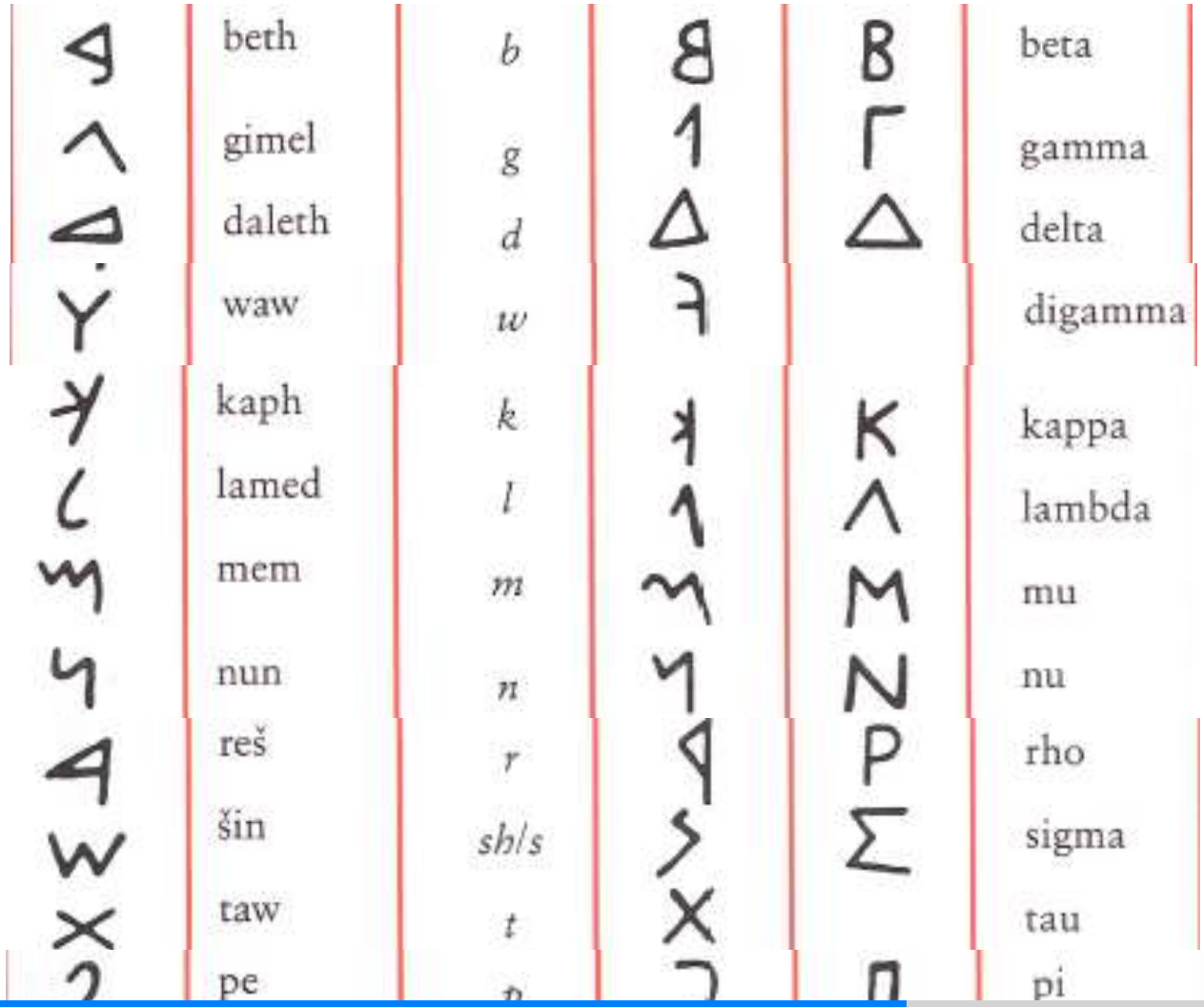
but **acrophonic** in Semitic: 

(Proto-Semitic root ✍-l-f ‘domesticate’ > Ugaritic ʾ*alpu* ‘bull’, Hebrew ʾ*elef*)



Sinai
1850 B.C.

The emergence of the alphabet



beth	*b*			beta
gimel	*g*			gamma
daleth	*d*			delta
waw	*w*			digamma
kaph	*k*			kappa
lamed	*l*			lambda
mem	*m*			mu
nun	*n*			nu
reš	*r*			rho
šin	*sh/s*			sigma
taw	*t*			tau
pe	*p*			pi

The emergence of the alphabet

Some minor adjustments:

⊗	teth	*t*	⊗	Θ	theta
≢	samekh	*s*			xi
I	zayin	*z*	I	Z	zeta

Problems?

Phoenician (as other Semitic scripts) was written right to left, while Greek is written left to right. Problem?
In fact, older Greek texts are often written in **boustrophedon** (‘as an ox ploughs’): alternatingly from left to right and right to left

THIS TEXT IS
FO ELPMAXE NA
BOUSTROPHEDON,
GNINRUT XO EHT
METHOD OF WRITING
EREHWESLE DNA ECEERG TNEICNA NI

Problems?

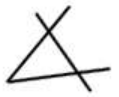
abjad: script without signs for vowels

alphabet: script with signs for V and C

The great adjustment: Greeks invented signs for vowels using leftover symbols for sounds that weren’t in the Greek language but were in the Phoenician language, thus creating the first true alphabet.

Abjad becomes an alphabet

Possible scenario:

Phoenician: (drawing )

"this is alif, it stands for /alif/" ([a])

Greek (no /alif/ in the phonological inventory)

"Gotcha, this one stands for /a/…"

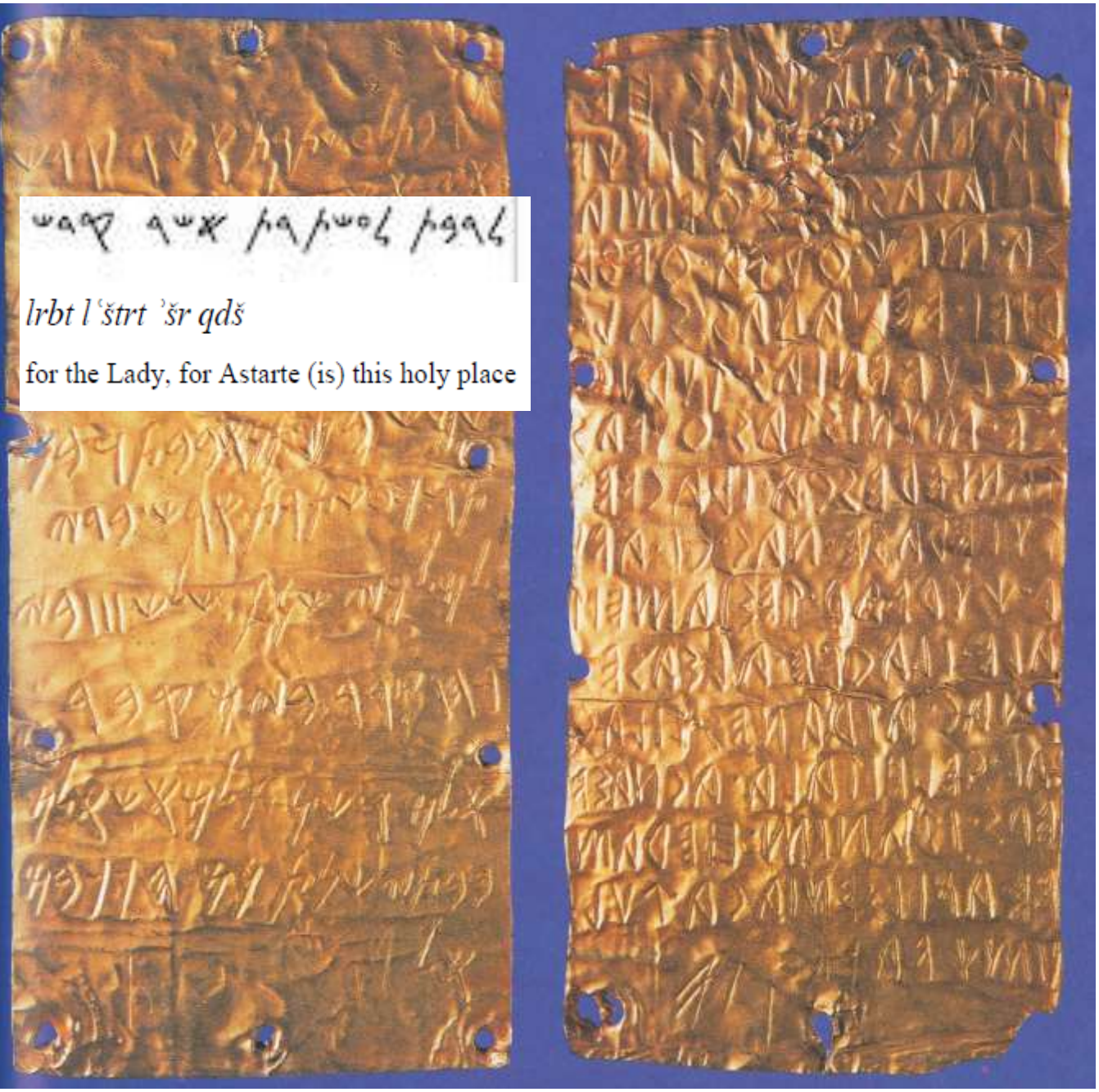
Same story with other vowels:

𐤄	he	h	𐤄	E	epsilon
𐤏	ayin	ʿ	𐤏	O	omicron

From Greece to Rome

Principal intermediaries between Greeks and non-Greeks in the West: *Etruscans*

Etruscans learned the alphabet from the Greeks and transmitted it to the Romans.
Most of their language is unknown and the texts mostly consist of names of people and places



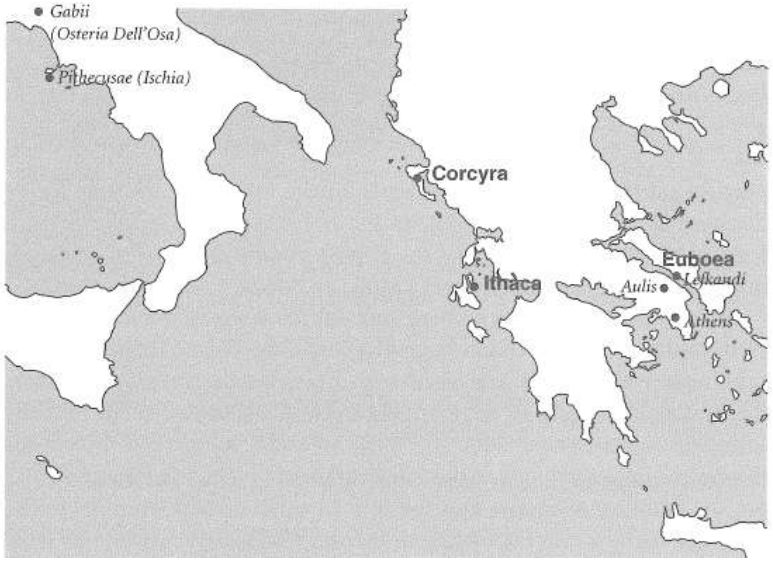
Gold leaves from Pyrgi ~ 500 BCE Bilingual Etruscan and Phoenician

Greeks in Ancient Italy

The Greeks settling in Italy came from different regions of Greece

metropolises:

- Locris (Central Greece)
- Achaea (North.Peloponnese)
- Sparta (Peloponnese)
- Euboea



From the Greeks to Etruscans

Etruscans learned the version of Greek alphabet used by colonists from Euboea (different from the “standard” Attic one!)

	Euboea, etc.	East Ionia, Attica, etc.
Φ	p^h	p^h
Χ	ks	k^h
Ξ	-	ks
Ψ	k^h	ps

The reason why Roman X ≠ Greek X

From the Greeks to Etruscans

Etruscans learned the version of Greek alphabet used by colonists from Euboea

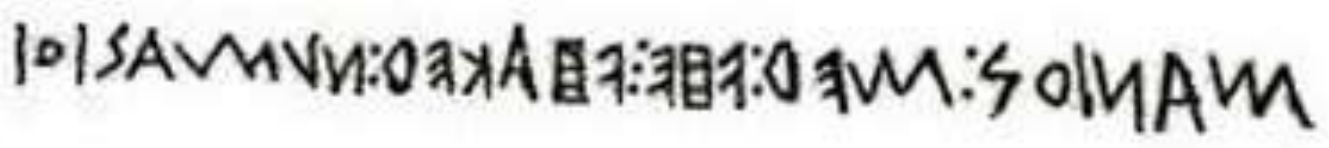
(different from the “standard” Attic one!)

	Euboea, etc.	East Ionia, Attica, etc	
H (*ħēt*)	[h]	[ē]	**The reason why Roman H ≠ Greek H**

The Etruscans

The Etruscan language had a phoneme [f] which Greek did not have (they had [p^h]).

Another case of linguistic intuition in the antiquity: F + 日 ([w]+[h]) = voiceless [ʍ] ≃ [f]:



Hence: F for [f] in Roman alphabet

The Etruscans

The Etruscan language had no distinctive voiced consonants

- B and Δ were not used
- all letters were preserved in *abecedaria*
- Γ (*gamma*, Semitic *gimel*) was used for [k], just as K and Q

Abecedarium

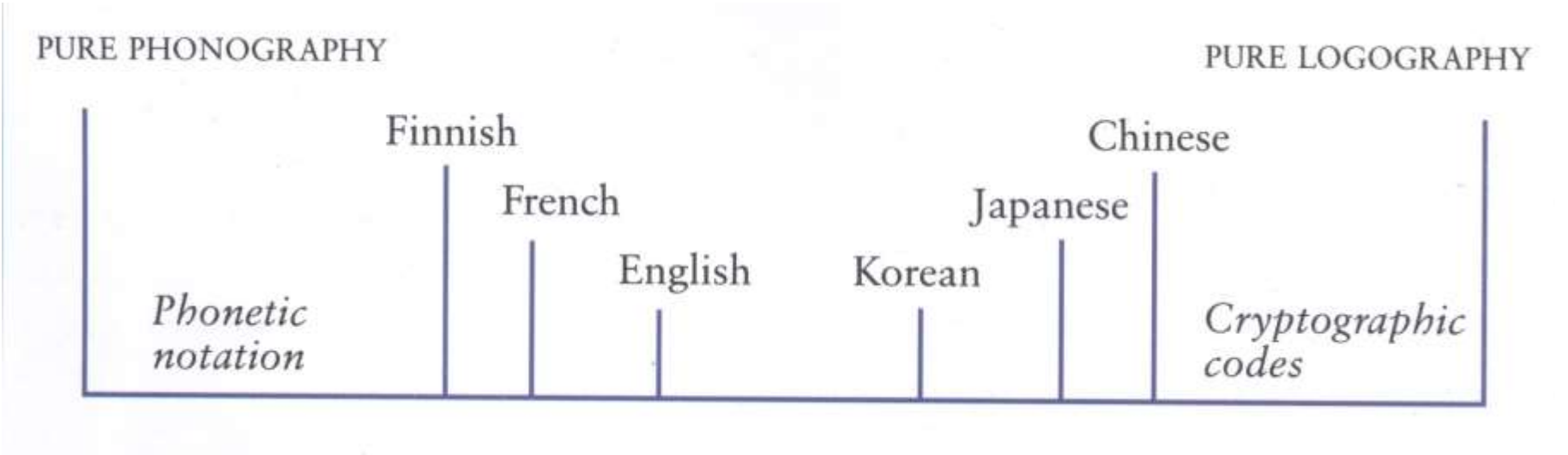
Abecedarium = Alphabet inscriptions

The Romans

Latin had voiced stops, so Romans had to add a stroke to  (letter “C”) to get G for voiced velar stop [g], and kept the Etruscan rule of using Q before [u] and K before [a].

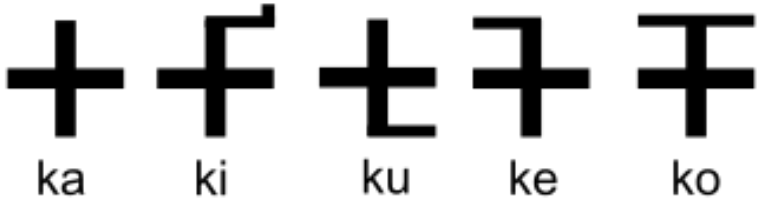
Theoretical recap

No strict division into phonographic and logographic systems. Rather, there is a phonography-logography *continuum*



Theoretical recap

No natural progression from logography to syllabary to alphabet (a.k.a. the principle of unidirectional development)
For instance, Semitic abjad developed into East Asian *brahmi* and Ethiopian *abugida* where each character denotes a consonant accompanied by a specific vowel



Future Challenge: Phaistos disk

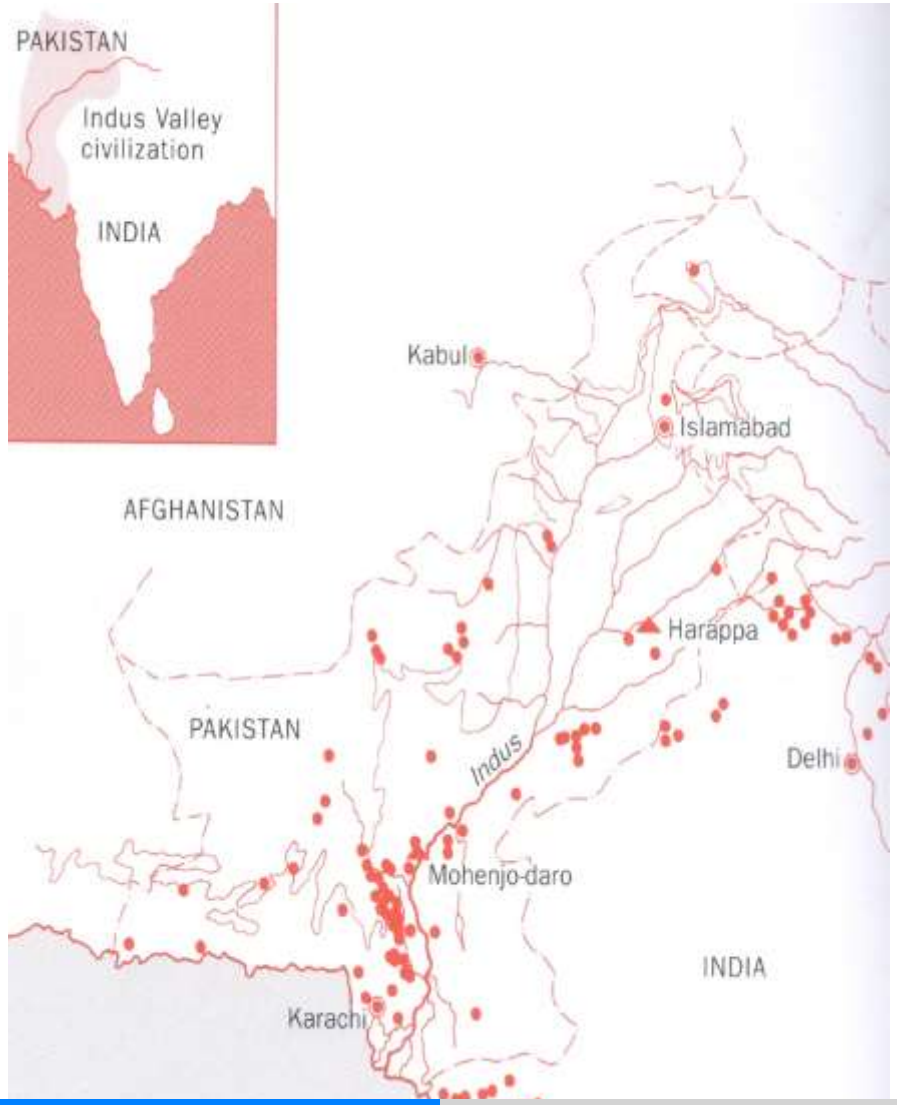
~ 1700 BCE (Crete); 45 different impressions;
2-7 signs in a field

Future Challenge: Indus Valley

Settlements from 3600

Mohenjo-daro and

Harappa



Future Challenge: Indus Valley

Future Challenge: Indus Valley

Frequent symbol: unicorn seal

Future Challenge: Indus Valley

Sample tablets:

Future Challenge: Indus Valley

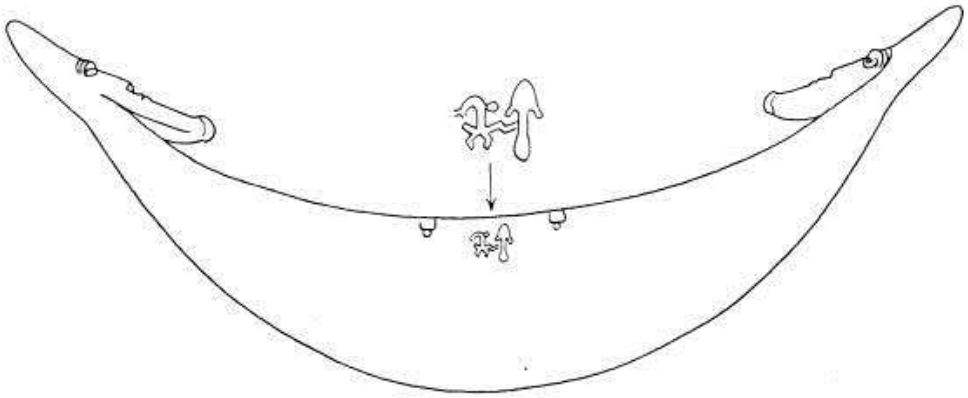
Problems:

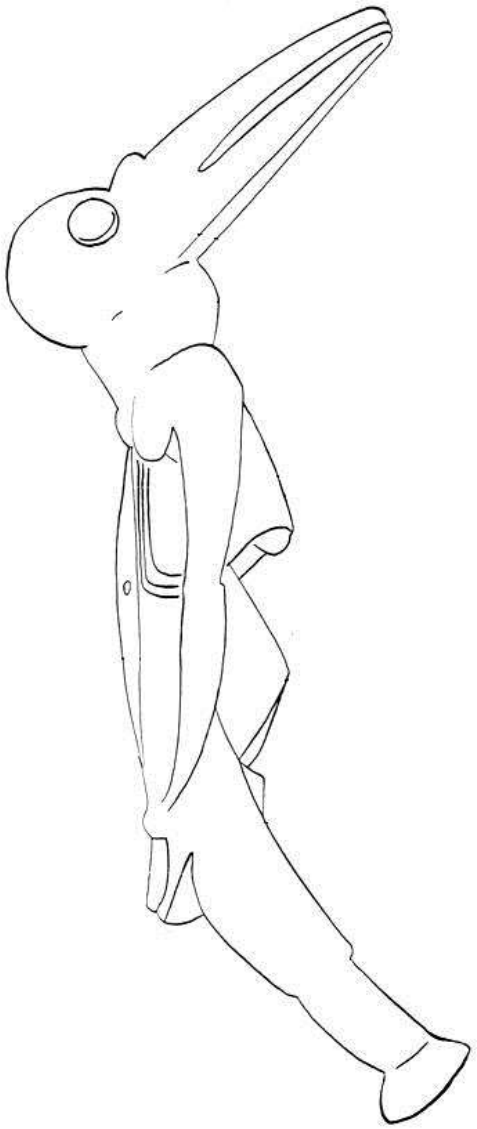
- No bilingual texts
- Mostly very short texts (5 glyphs)
- No assignment to specific language
  (usual hypothesis: Dravidian)
- Over 400 signs,
  40% of which is attested only once

Future Challenge: Rongorongo

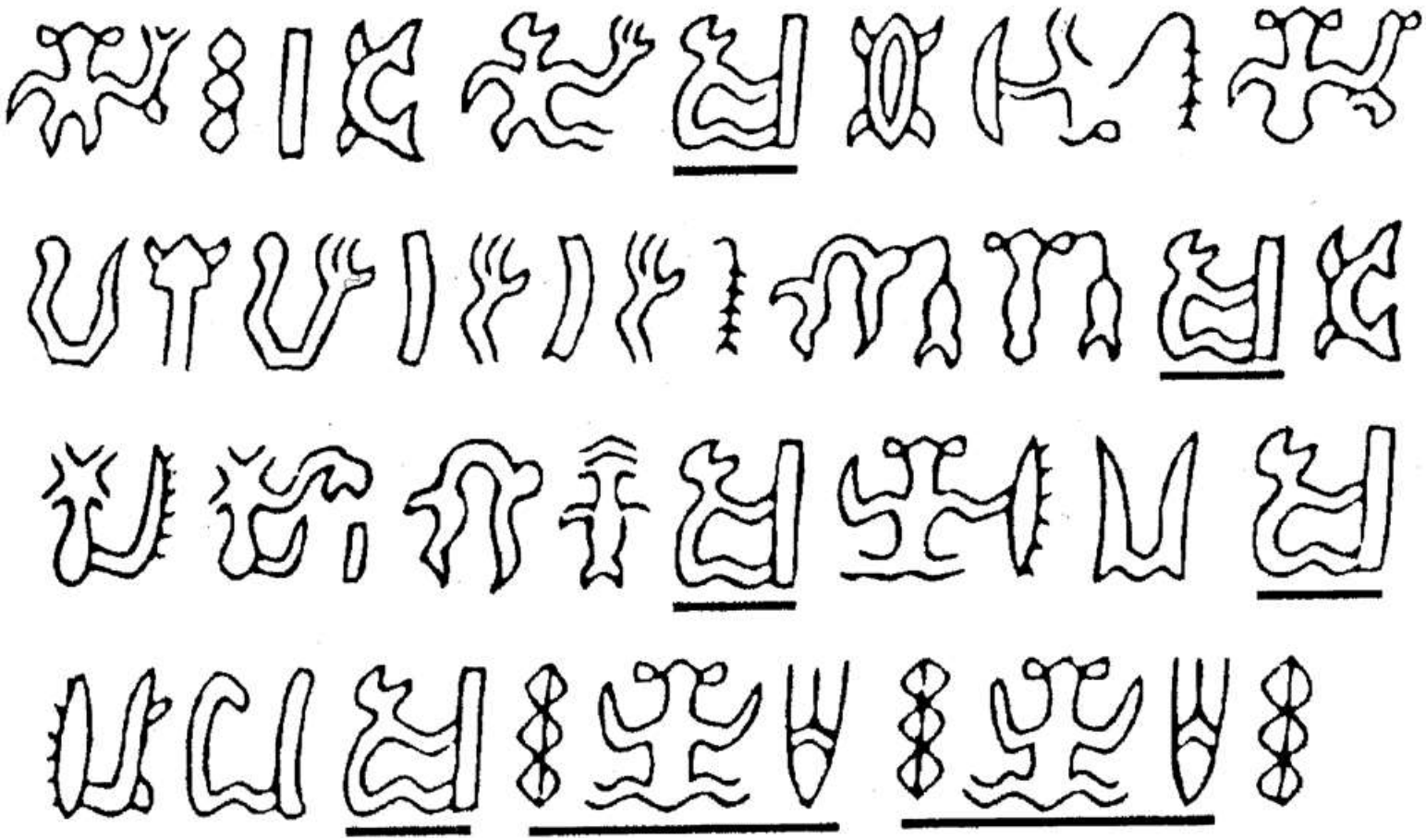
Easter Island (*Rapa Nui*)

Future Challenge: Rongorongo





Future Challenge: Rongorongo



תודה! děkuji merci 谢谢 Ευχαριστώ شكرا

고맙습니다 どうもありがとう gracias

Thank you!

- *to Carol Neidle for organizing*
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- *to Danny Erker for providing the clicker*
- *to all of you for coming tonight*
- *and above all to the mankind*

  for inventing writing