



Maya Glyphs Without Secrets

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Let's talk about:

- Who are the Maya?
- How to write in syllables?
- Did the Maya have spelling rules?
- How to count in a vigesimal (base-20) system?

40,000-10,000 BC
Bering's Bridge

38,000-25,000 BC
People in Alaska

15,000 BC
Rimrock Draw
Rockshelter

14,000 BC
Old Vero

7,000 BC
Plant domestication

12,500 BC
The Andes

Material culture

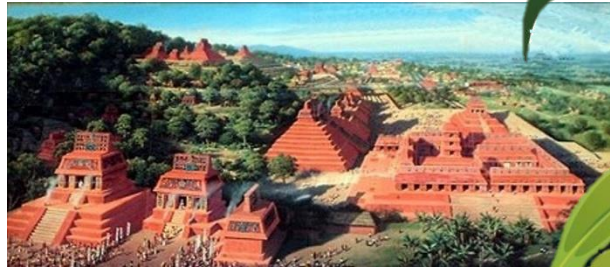


1519-1697 Conquest
(sun eclipse in Dresden Codex redrawn by
A. von Humboldt in 1810)



21c. Maya Revival

Classic Period 250-950 AD
Water management,
underground storage,
bridges, dams, libraries



Historical records
3551 BC - 4000 AD

Pre-Classic 2000 BC-250 AD
Complex societies, monumental
architecture, murals



1,000 BC writing, zero
250 BC first Maya text



7,000 BC First plants
domesticated



13 Aug 3114 BC
Begin of calendar

Mayan Lgs today

Colour - closely-related groups.

Font size - relative number of speakers:

Largest size = over 500,000

Large size = over 100,000

Medium size = over 10,000

Small size = under 10,000

- Southern Mexico
- Guatemala
- Belize
- Northern Salvador
- Western Honduras



Reconstruction of the centre of Palenque, 9th c. AD (National Geographic)





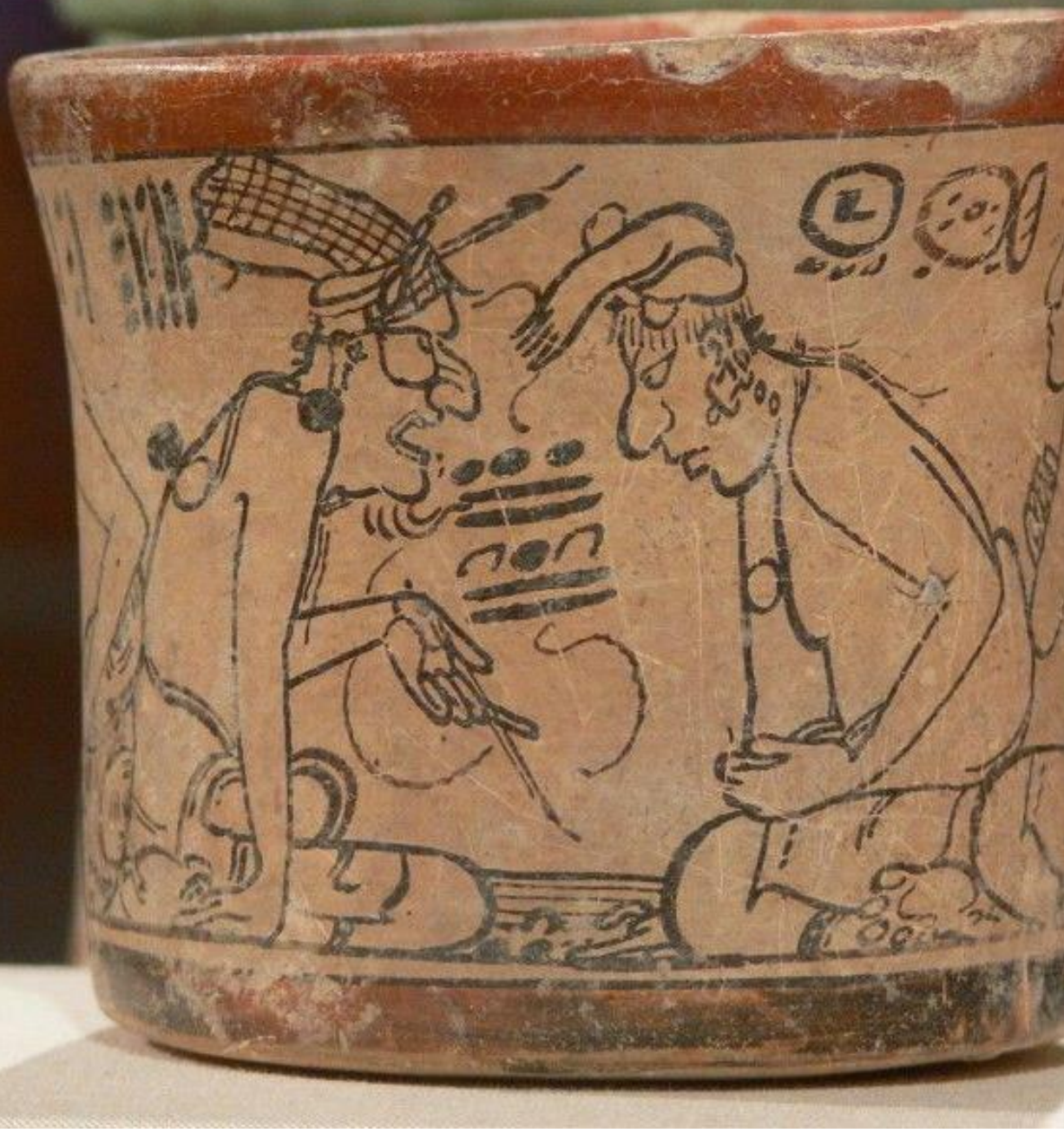
Reproduction of Dresden Codex in Popol Vuh Museum

Fot. Boguchwała Tuszyńska



Phot. B. Tuszyńska





Maya writing

Logosyllabic

One concept of writing / painting



Logosyllabic writing

Logograms – capitals
Syllabograms – small

T'AB'-yi
t'ab'aay
t'ab-aay-ø
erect-MED-3SG.A
it is erected

T'AB'
erect

yi

?



yo

OTOOT
house

ti

yo-OTOOT-ti
yotoot
y-otoot
3E-house
the house of

Variants of signs

Syllable *u*:



Ajaw 'ruler'



Latin transliteration of Maya words

letter	x	stands for sound	/ʃ/	like in	'shell'
	j		/h/		
	w		/w/		'way'
	y		/j/		'yes'
	ch		/tʃ/		'chair'

C' (consonant with an apostrophe) means it is glottalized (pronounced with a pop of air).

V (plain vowel) means it is short.

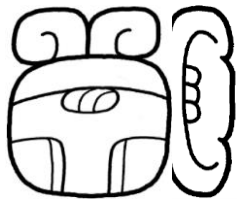
VV (double vowel) means it is long.

V' (vowel with an apostrophe) means it is glottalized (pronounced with a pause sound, like the one in the middle of the word "uh-oh").

Maya spelling rules

chan 'sky'

cha-n~~x~~



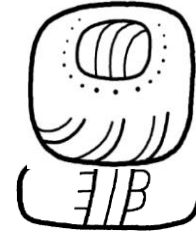
cha'n 'guardian'

cha-n~~x~~



baak 'bone, captive'

ba-k~~x~~



Syllabic flashcards

1. Look at some chosen syllabic signs. Can you see any patterns?
2. In your set identify the following 24 syllabograms:

a ba bu cha ja ka k'a ki ku k'u la lu
ma mi mu na nu o ti to t'u tzu tz'u wa

Maya spelling rules (Lacadena)

	a	e	i	o	u
a	a		aa		a'
e	e'	e	ee		
i	ii		i		i'
o	o'		oo	o	
u	u'		uu		u

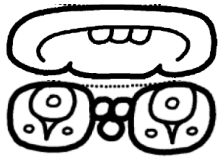
lak 'plate'



la + ka = lak



nal 'maize'



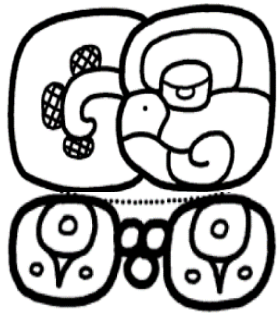
na + la = nal



NAL



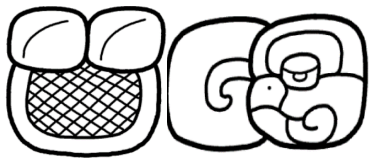
bu'l 'beans'



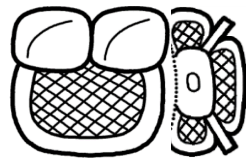
bu + la = b'ul



k'um / k'uum 'squash'



$k'u + mu = k'um$



$k'u + mi = k'uum$

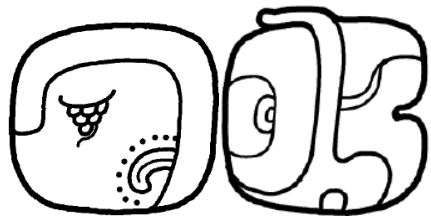


Three Sisters: corn, beans, squash

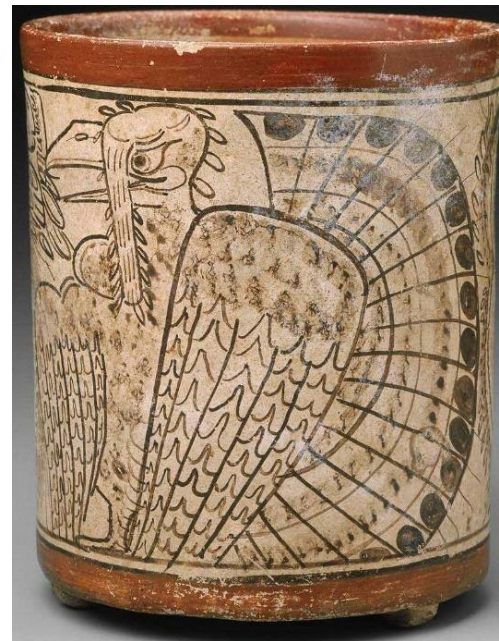
kutz 'turkey'



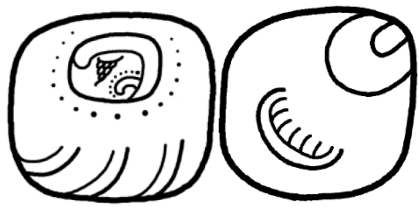
AK'ACH 'turkey hen'



ku + tzu = kutz



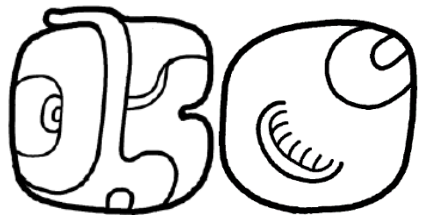
t'ul 'rabbit'



t'u + lu = t'ul



tzul 'dog'



tzu + lu = tzul



Fot. Boguchwała Tuszyńska

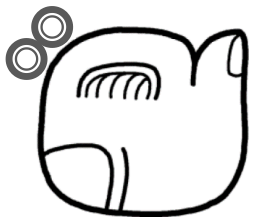


Xolo / xoloitzcuintli

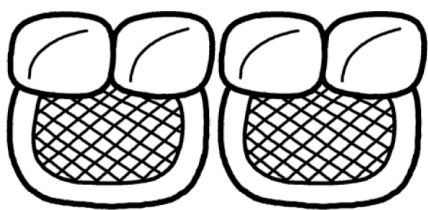
k'ak' 'fire'



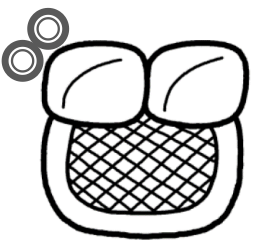
k'a + k'a = k'ak'



k'uk' 'quetzal'



k'u-k'u



kakaw 'cacao, cocoa'



ka-ka-wa



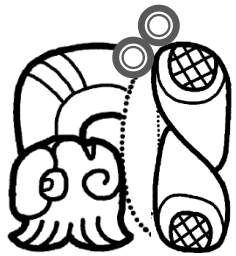
CACAO

/kə'kaʊ/

COCOA

/'kəʊkəʊ/

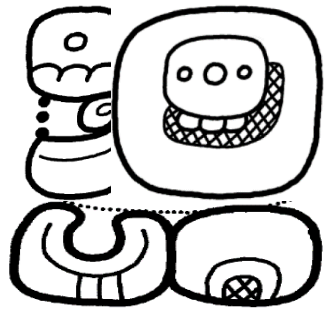
tz'unun 'humming bird'



tz'u-nu-nu



ajaw 'ruler'



a-ja-wa



Fot. Boguchwała Tuszyńska



Fot. Boguchwała Tuszyńska



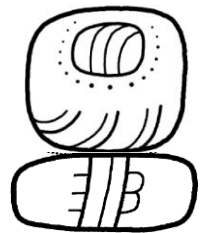
Fot. Boguchwała Tuszyńska

Maya spelling bee

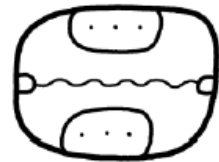
a (a+a)	e (e+e)	i (i+i)	o (o+o)	u (u+u)
<i>k'ak</i> 'fire' <i>nal</i> 'maize' <i>kakaw</i> 'cacao, cocoa'	<i>chel</i> 'rainbow' <i>ek</i> 'star' <i>el</i> 'to burn' <i>tem</i> 'bench'	<i>chij</i> 'deer' <i>pitz</i> 'ballgame' <i>til</i> 'tapir' <i>winik</i> 'person'	<i>chok</i> 'sow' <i>ch'ok</i> 'young' <i>jol</i> 'skull' <i>pom</i> 'incense'	<i>buk</i> 'clothes' <i>k'uh</i> 'deity' <i>chuch</i> 'loom' <i>kuy</i> 'owl'
aa (a+i)	ee (e+i)	ii (i+a)	oo (o+i)	uu (u+i)
<i>baah</i> 'head, image' <i>naab</i> 'waterlily' <i>atz'aam</i> 'salt'	<i>keej</i> 'deer'	<i>*ahiin</i> 'crocodile'	<i>otoot</i> 'home'	<i>huul</i> 'to arrive' <i>tuun</i> 'stone' <i>jukuub</i> 'canoe'
a' (a+u)	e' (e+a)	i' (i+u)	o' (o+a)	u' (u+a)
<i>ma's</i> 'dwarf' <i>sa'y</i> 'ant' <i>ba'k</i> 'child'	<i>che'n</i> 'to say' <i>ne'n</i> 'mirror'	<i>chi'k</i> 'coatimundi' <i>tz'i'k</i> 'clay'	<i>to'k</i> 'flint' <i>k'o'b</i> 'hearthstone'	<i>hu'n</i> 'paper' <i>tu'p</i> 'earflare' <i>u'ch</i> 'louse'

Disharmonic spellings

baak 'bone, captive'

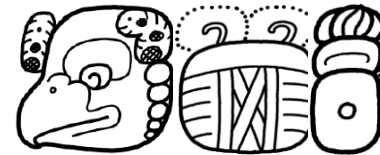


ba-ki



BAAK

otoot 'house'

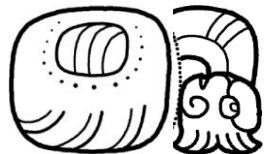


o-to-ti



OTOOT

ba'tz' 'howler monkey'



ba-tz'u

to'k' 'flint'




to-k'a



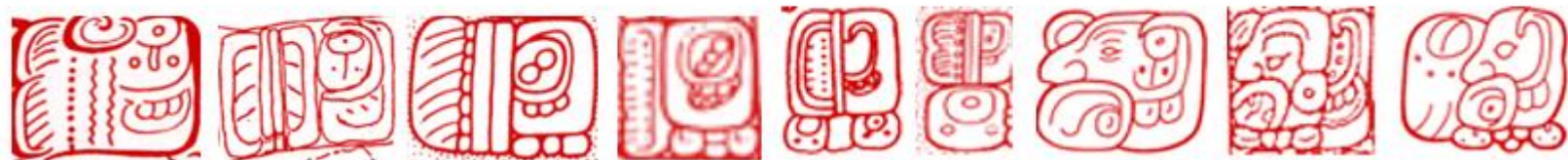
TO'K'



Spellings

Logographic	Phonetic	Mixed		
 <p>AJAW <i>ajaw</i> ruler</p>	 <p>a-ja-wa <i>ajaw</i> ruler</p>	 <p>a-AJAW-wa <i>ajaw</i> ruler</p>	 <p>AJ-AJAW-wa <i>ajaw</i> ruler</p>	 <p>a-AJAW-TAK-ki <i>ajaw-taak</i> lords (rare plural)</p>

Only phonetic: sa-ja-la *sajal* 'secondary lord'



Maya numbers

Vigesimal (base-20)

Calendrical



How to count in 20's?










We are going to need:

1. "Counting in 20's" board
2. Stones, sticks, shells





Liczymy dwudziestkami	
ile razy 144.000? Maks. 19 144.000-2.736.000	x 144 000
ile razy 7.000? Maks. 19 7.000-133.000	x 7 000
ile razy 360? Maks. 19 Liczby 360-6.840	x 360
ile 20-stek? Maks. 17 Liczby 20-340	x 20
ile jednostki? Maks. 19 Liczby 0-19	x 1


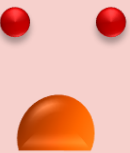
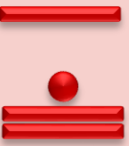


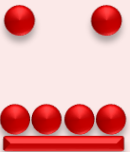




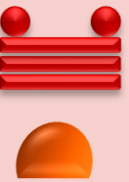
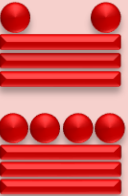
Counting in 20's

	1	jun		8	waxak		15	ho'lajun
	2	cha'		9	balun		16	waklajun
	3	hux		10	lajun		17	huklajun
	4	chan		11	buluk		18	waxaklajun
	5	ho'		12	lajcha'		19	balunlajun
	6	wak		13	huxlajun			
	7	huk		14	chanlajun			




How to write 20 in maths notation?

How many 20's? Max. 17 Numbers 20-340		x 20
How many 1's? Max. 19 Numbers 0-19		x 1

How to count in 20's?

	21		40		111		341
	25		49		199		355
	30		100		340		359

How to write 360?

How many 360's?		
Max. 19		X 360
Numbers 360-6.840		
How many 20's?		
Max. 17		x 20
Numbers 20-340		
How many 1's?		
Max. 19		x 1
Numbers 0-19		

Things to consider

Do products of human mind reveal how people think?

Does the writing system tell us anything about the Maya?

How does it store traditional knowledge?

How it contributes to (bio)cultural diversity?

What parts of an ancient traditional knowledge system may be retrieved?

Can documenting traditional knowledge systems prevent the erosion of unique worldviews?





Tzutzuy! Over!

The latest and oldest news from the Americas:
<http://przedkolumbem.blogspot.com>