

Proposal to Encode Mayan Hieroglyphs

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MILESTONE 4 (for COMPARISON FURTHER ENHANCEMENTS OF PROJECT's "GLYPHARY": SINGLE RECORD VIEW



MILESTONE 4 PRELIMINARY TAXONOMY (NEW):



Table 3. Preliminary taxonomy employed on the Project's new Glyphary, specific for codical signs.

A1.3 Method 3 (Frequency-based Code Points): Based on the capture and analyses of glyphs occurring through all three Mayan codices performed for the Project during Milestones 1-3, a comprehensive listing of all signs attested in the Codices was produced (thereby defining the codical Mayan sign-repertoire). As a next step, SQL machine-based queries were performed within the database to be able to order these codical signs into a frequency-based ranking, with the most frequent signs above on the list (i.e. the sign 55 /u/ which repeats 557 times) and the less-frequent on the bottom (i.e. the sign 12345 /KUTZ/ which happens only once).



* 65	а	b				
*0	xex	G				
	TI	T1003c				
	1719	915				
	JU:N	WALA				
	U+15576	U+15614]			
Figure 3: DRE_02a_A1	Resulting glyph-string with Method 3: U+15576.U+15614 (frequency-based)					

A1.4 Method 4 (Code Points based on new Mayan Catalog created for the project).

Implementation of Method 4 was largely modeled after Gardiner's list for Egyptian hieroglyphs. Based on thorough communications with Deborah Anderson, a number of criteria were outlined that would facilitate the encoding process for Mayan hieroglyphs. For instance, it was specified that the current

To improve the methodological basis for the final taxonomy, on the next stage, the alphabet letters assigned to each category will be reanalyzed based on their frequency of occurrence. Thus, since current category S is by far the most numerous and frequent (in term of attested examples), letter S will be replaced by A. With letter R being the second most numerous will be assigned letter B and so on.

SAME?	а	b	c	
5	F	Ð	o ** o	
	T0015	T0736a	T0140	
	85	145	218	
	u??/AH??	CHAM?	la	
	U+15902	U+15701	U+15857	
	V02	D01	507	
Figure 4:	Resulting gl	yph-string w	ith Method 3:	
DRE_02a_B2	Catalog: V0	2.D01:S07		
	Code point	s: U+15902	.U+15701:U+	15857 (catalog-based)

Sign font	Primary category	Secondary category	Combined Desgination:	Code point assigned:
0	S01 S. Halved/elongated-open / narrow signs, mostly symmetrical (rotable)	y01 Y.Functional/Grammatical (Affixes/ Suffixes/ Pronouns/Enclitics. etc	S01y01	U+15500

LIST OF CHARACTERS, updated: 320+ signs attested in Mayan codices. C. GRAPHEME D. RANKING E. CONTEXT F. NoodeX GLYPHARY G CODE POINTS (Unicode standard) DESIGNATION CLASS I. Secondary class J. PHONETIC VALUES OF SIGN: K. ENGLISH TRANSLATIONS OF LOGOGRAMS A. ID variant (font suggestion) (frequency in Corpus) (example glyph-blocks) DESIGNATION (composite) LOGOGRAMS vs. syllables Unique (primary, secondary and tertiary meanings) ID_Pho... variant NcodeX_Pict... MATCH_ID_. ::Picture NcodeX_man UNICODE_C... MANUAL_Pr... MANUAL_Pr... MANUAL_Se... NcodeX_Phonetic_value1 TRANSLATION 55 S01y01 U+15500 S01y01 S01 Ĩ. í D LE:M? 604 470 R01 U+15520 R01 R01 KAYWA D R 205 V01y06 R 428 U+15540 V01v06 V01 v06 wa 12275 P Ð K'UH 174 362 Ser St R01y02 U+15520 R03y02 R03 y02 V 10 356 í 🕰 S02y03 U+15501 S02y03 S02 v03 ka. 1133 R02y04 LE:M? 352 U+15521 R02y04 R02 v04 resplenden v1 GD K01y08 260 319 U+155A0 K01y08 K01 v08 UH? moon 85 v1 317 V04y10 U+15543 V04y10 V04 y10 AJ? he/she of B (AGN) 1130 R04y05 U+15523 R04y05 R04 y05 na 53

12299

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145

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12297

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X02i02

X01j01

D01x03

V02y07

V03v09

X03k02

E01t01

K03x04

X05k04

X06j03

O01v08

E02x07

l01k07

W03

V05j04

X07a01

D02

S04v12

U+15561

U+15560

U+15580

U+15541

U+15542

U+15562

U+155C0

U+155A2

U+15563

U+15564

U+15540

U+155C1

U+15660

U+15602

U+15544

U+15565

X02j02

X01j01

D01x03

V02y07

V03y09

X03k02

E01t01

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X05k04

X06j03

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lord/king

water

earth

bird deity

areen/blue new

person

death?

man

skull?

YATIK? flower?

heart

he/she of

rain

supervise

stone

seed?

A, ID Universit	8. C. GRAPHERE	D. RANKING Streamy & Comp	E. CONTEXT	F. ReedeX GLIPHARY DEDIGRATION interspected	0.000E POINTS	R Number (1993)	H PERMATY CLASS	1. Secondary class	J. PHONE	TO VALUES I	of bight	K ENGLIDE TH	ARELATIONS O	F LODO
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	U									K7				
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12276	0	367	Canto						K'UH	-		god		
	C.		1992										_	
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10	6	356	200	502y03	U+15501	502y03	542	903	ka				-	-
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PARALLEL MAYAN TEXTS SELECTED FOR ENCODING: DATABASE MAPPING



PARALLEL MAYAN TEXTS SELECTED FOR ENCODING

DRE_A61_VIII







S01.T12



Result (vectorial font):





V02.K04:R03







b

OB

MV/2S1

12276

3317

W04.V06:G01

:

CHAN/KAN NAL?

MV/004

1722

4485

с

90

MV/BP4

11296

4647

MO'



а	b	c
Ø	Ø	B
MV/XQ3	MV/ZC1	MV/XH2
12299	12297	510
K'IN	ku/TU:	HA:B'
3660	3645	3664

K01:X19.X21



Font being developed in collaboration with Andrew Glass (Microsoft)

LIST OF QUADRATS ARRANGED BY COMPLEXITY

JOINERS		
	Н	horizontal join
:	V	vertical join
		Ligature normal (indeterminate/general conflation between signs 1 and
[L	2)
»	I	Infixation (larger sign goes first)
•	S	superimposition (back, eclipsed sign goes first)
0	R	Reduction, sign 1 reduced but not infixed into sign 2)
	PT	Pars pro toto Reduction. Part of a sign made to stand for the whole
	N	ew list of operators (simplified)

MEMBE	RS / SIGNS wi	thin GLYPH-BLOCKS:
а	1	Member a, sign 1. Elongated "peripheral sign"
Α	11	Member A, sign 1: large "core" sign
b	2	Member b, sign 2. Elongated "peripheral sign"
В	22	Member B, sign 2: large "core" sign
с	3	Member c, sign 3. Elongated "peripheral sign"
С	33	Member C, sign 3: large "core" sign
d	4	Member d, sign 4. Elongated "peripheral sign"
D	44	Member D, sign 4: large "core" sign
e	5	Member e, sign 5. Elongated "peripheral sign"
E	55	Member E, sign 5: large "core" sign
f	6	Member f, sign 6. Elongated "peripheral sign"
F	66	Member F, sign 6: large "core" sign
g	7	Member g, sign 7. Elongated "peripheral sign"
G	77	Member G, sign 7: large "core" sign
JOINERS	5	
	Н	horizontal join
:	V	vertical join
		Ligature normal (indeterminate/general conflation between signs 1 and 2)
[L	
»	1	Infixation normal (sign 1 reduced and infixed into sign 2 in reading order)
«	П	Infixation normal (sign 1 reduced and infixed into sign 2 in reading order)
^	S	superimposition normal (sign 1 superimposed over sign 2)
		Superimposition inverted (i.e. sign 2 (in reading order) superimposed over sign
×	SI	1)
•	R	Reduction, sign 1 reduced but not infixed into sign 2)
(())	Asymetric halves, half 1 reduced as compared to half 2 of quadrat)
		["∞"; "DI"] // Dyslocated cluster, significant empty space separating two or
00	DI	more signs normally joined)

A. CLASS	B. RANKING	C. QUADRAT DIAGRAM	D. EXAMPLE FROM CODICES	E. NUMERIC GENERAL DESCR.	F. LETTER Generaldescr	G. LETTER SPECIFIC DESCR.	H. NUMERIC SPECIFIC DESCR.
Class	SQL	Quadrat_type	Quadrat_exa	Joiner_repre	. Joiner_st	Joiner_repr	Joiner_str_calc
1.01	340	1		1	а	A	11
2.01	668	s z		1H2	a.b	a.B	1H22
2.02	248	1 2	345.5	1H2	a.b	A.b	11H2
2.03	105	1 Z	Ø 17.	1H2	a.b	A.B	11H22
2.04	112	2	34 6	1V2	a:b	A:B	11V22
2.05	97	2	M.p364.18	1V2	a:b	a:B	1V22
2.06	68	2	50.1	1V2	a:b	A:b	11V2
2.07	11	2	œ	1H2	a.b	(A°).B	(11R)H22
2.08	16		142.10	1L2	a[b	A«B	11 22
2.09	2	2	427.4	1L2	a[b	А [*] В	115122
2.10	2	(I) 2 1 2		1L2	a[b	А [*] В	115122
2.11	26	2	D	1L2	a[b	A^B	11522
2.12	6	2	S	1L2	a[b	A«b	11 2
2.13	2	32	R.	1L2	a[b	Aĭb	11512
2.14	1	2	and the second s	1L2	a[b	a»B	1122
2.15	3	5 2		1H2	a.b	(A).((B))	(11)H))22))
2.16	2	2	Est.	1L2	a[b	a»B	1122
2.17	2	1 2	DD	1H2	a.b	a.∞B	1HDI22
2.18	2	2	B	1V2	a:b	A:(B°)	11V(22R)
2.19	0	2		1V2	a:b	(A°):(B)	(11R)V(22)

List of operators (draft proposal)



Thanks!

- -Deborah Anderson
- Lisa Moore & UNICODE
- -Andrew Glass (Microsoft)
- -Ken Whistler
- -Roozbeh Pournader
- -UC Berkeley
- -University of Bonn (Abteilung für Altamerikanistik)

Acknowledgements

This project was supported through funding from the Unicode Consortium's Adopt-a-Character program and the Universal Scripts Project (Script Encoding Initiative) housed at the University of California at Berkeley (Department of Linguistics).