Rongorongo – Syllabary or Logography

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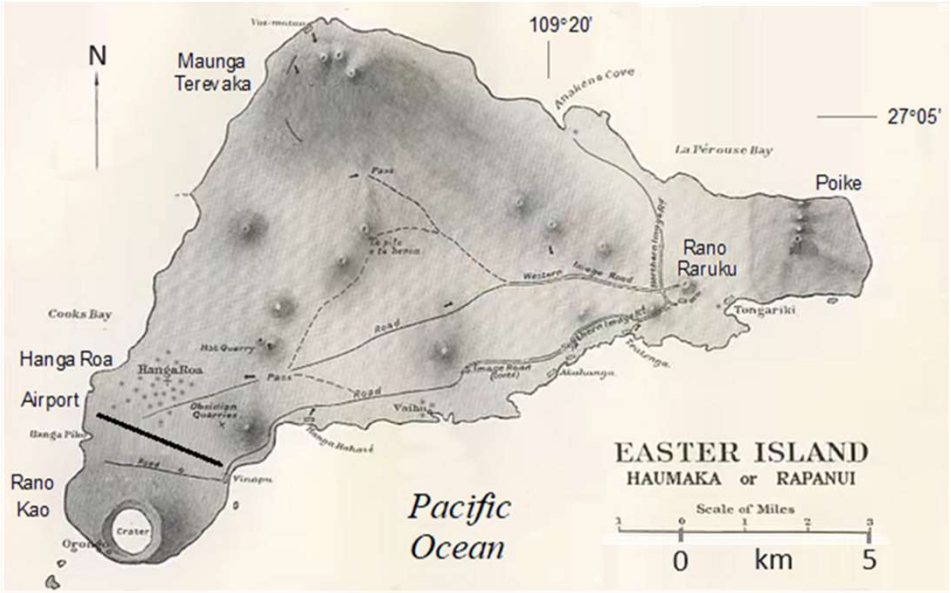

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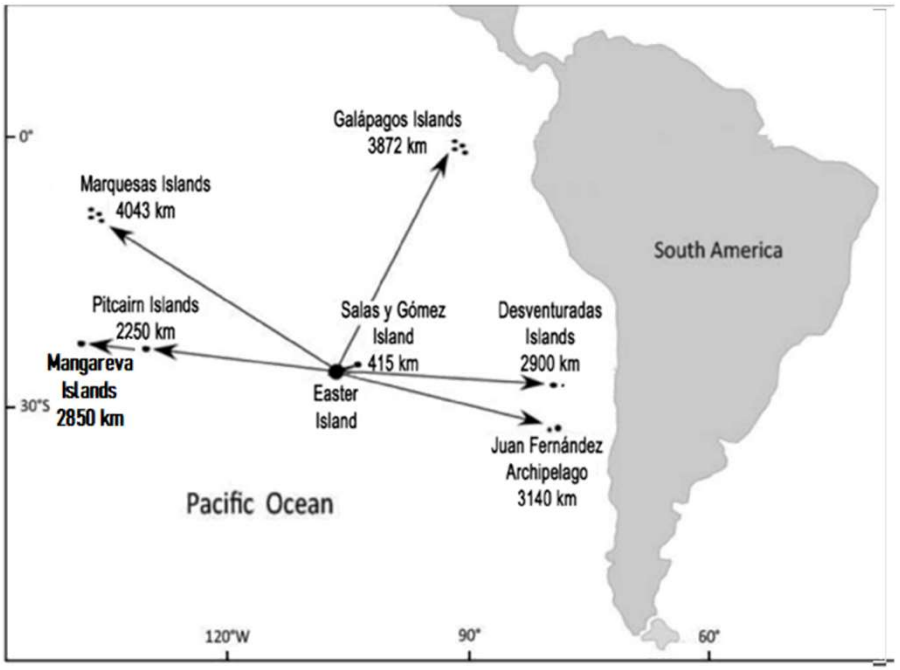

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Geography

- Easter Island (Rapa Nui) is a volcanic island of the tropical South Pacific
- It's isolated: 2250 km to the nearest human settlement on Pitcairn Island

History

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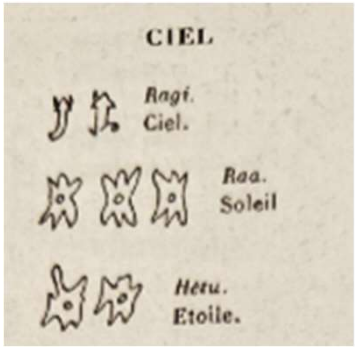
- **Polynesians in catamaran sailing canoes** colonized Rapa Nui as late as 1200 AD, after a moistening of the local climate. They likely exploited the East-West alignment with the Mangareva & Pitcairn Island groups, using sun & star rising/setting to navigate (Bahn & Flenley 2017, pp. 86-95).
- **Giant Moai statues** were built 1200s-1600s. Perhaps depletion of timber forests & cordage fiber ended statue construction. Load-bearing wood became scarce (Poussart 2010, p. 96).
- **European (Dutch) Explorer Roggeveen** arrived at the Island on Easter Sunday 1722 (Roggeveen 1722).
- Islanders opted for **tribal military rule**, perhaps responding to tensions with visiting Euro-American sailors. Internecine wars resulted in all their Moai being toppled by the mid 1800s (Bahn & Flenley 2017, pp. 185-6).
- **Blackbirder slave raids** (1862-63) depopulated the Island of 1,500 able males. Repatriated islanders brought smallpox with them & half the remain islanders died in the resulting epidemic (Fischer 1997, pp. 8-9).
- Easter Island has since **recovered** from its apocalyptic past. Its population of 5,100 welcomes 70k tourists (2012 data) & strives to preserve the language & traditions of its glorious past. (https://www.easterisland.travel/easter-island-facts-and-info/)

Kohau Rongorongo (*KRR*)

recitable glyphs on wood



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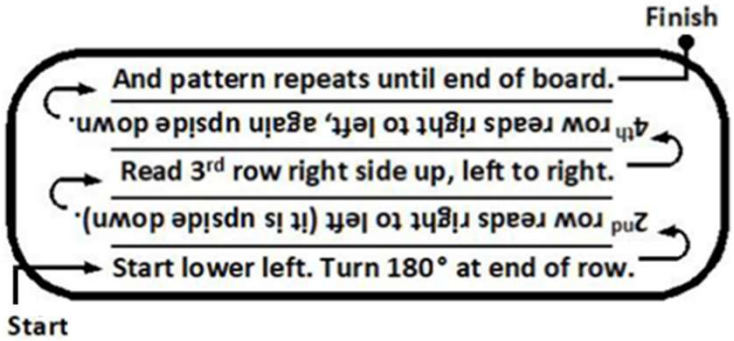
Excerpt from Jaussen's List

- The core *KRR* corpus (~14,000 signs [Horley 2021, p. 17]) is found on 25 wooden objects, catalogued by name & alphabetic letter & (***r*** *or* ***a*** for front, ***v*** *or* ***b*** for back); # = line number
- *KRR* has about 300 different glyph forms
- Signs may be singles, cursives, or vertically stacked compounds (read bottom to top) (Guy 2006, p. 58)
- Barthel's (1958) cataloging (the RR numbers used here) is preferred for designating *KRR* glyphs
- *KRR* is seemingly unpunctuated although & | may divide text sections (Horley 2021, pp. 414-415, 453)
- *KRR* reads in inverse boustrophedon form; see right→

- *KRR* highly developed by 1600s – 1700s (?)
- Depopulation in the 1860s & Latin alphabet competition destroyed *KRR* education system (especially, as all authors & most readers had died)
- Later, (1869), Jaussen was gifted a *KRR* tablet & undertook decipherment with an informant, Metoro
- Metoro had received some *KRR* instruction, & his recollections yielded a less-than-accurate glyph glossary (Jaussen's List [Chauvet 1935, Figs 173-176])
- ***KRR*, therefore, remains undeciphered**

Cursive Pr5, Singles Hr6 *RR27x & RR63 (stacked on Er8)*



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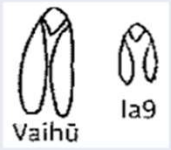
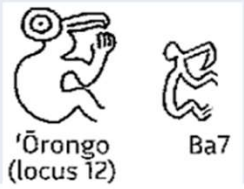
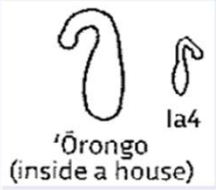
Rapanui Rock Art was a Likely Precursor to *KRR* Writing

From Georgia Lee and Paul Horley (in, [Horley 2021, p. 391]).

	**Human figure**. (*Tangata* [Englert 1974, p. 353])		**Splayed sitting figure**		**Pectoral *reimiro*.** (*ʻRei* ≡ canoe sculpture [Chauvet 1935, Fig. 175])
	**Roosters**. (*Moa* [Englert 1974, p. 339])		**Generic fish**. (*Îka* [Englert 1974, p. 329]) (likely 1600-1700s)		***Komari***. (Vulva ≡ female nubility [Kaeppler and Van Tilburg 2020, pp. 396, 400])
	**Turtle**. (*Hônu* [Englert 1974, p. 323])		**Octopus**. (*Heke* ≡ audacious [Englert 1974, p. 321] or God *Tangaroa* [Au 2018, p. 26])		**Moon**. (*Mahina* [Englert 1974, p. 335])
	**Frigate bird in diving stance** (or [per GGB] taking flight)		**Birdman**. (*Tangata manu*. [Fischer 1997, p.333]) (likely 1600-1700s)		**Gourd. (***Mautini, hue [Churchill 1912, pp. 208, 227]*) (likely 1600-1700s)

In picture boxes, rock art is left & centre; matching glyphs & KRR *board locations are right (GGB denotes Gordon Berthin)*

Well-defined Sub-units Often Underpin Pictographic Scripts

- Consonantal Phonograms & Determiners (Egyptian)
- Semantic/Phonetic *redundancy* (Chinese)
- Syllabaries (Mayan & Cretan Linear B)

Likewise, most *KRR* glyphs are assembled from about 120 base-glyph forms (a few shown below)

Base-glyphs have a role. Syllables? Concepts (in a logography)?

Egyptian

mnn → *min*
"sick man"
Y5 and N35 are phonetic
G37 is a determiner for "bad" and A1 is an ideogram for "man"

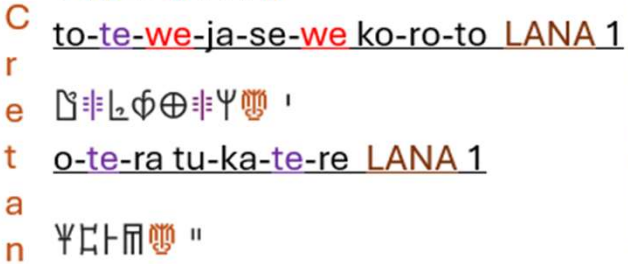
11

'**mtr**' as consonant phonogram of "**me**t**e**r". Usable for **me**t**r**o, **mi**t**r**e, **mo**t**o**r, **me**t**r**e, **ma**t**u**re

Chinese

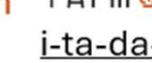
12

Cretan

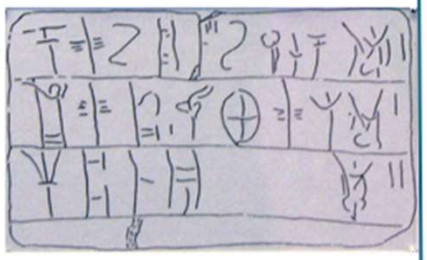


to-te-we-ja-se-we ko-ro-to LANA 1

o-te-ra tu-ka-te-re LANA 1



i-ta-da-wa LANA 2



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Mayan

↓ as syllabary ↓
ba + *la* + *ma* = '*balama*'

↓ as Logogram ↓
bahlam = "jaguar"

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Tenets of the Logographic Model for KRR

- Text rendered in keywords (telegram) form. Icon-like & semiotic depictions (Barthel 1858, pp.314-316)
- Single glyphs present full words, compound words or even clauses (not syllables)
- Base-glyphs convey defining concepts or visual language. 1/3 of KRR glyphs are single use (hapax) forms requiring comprehension aids (redundancy)
- Glyphs model a streamlined Rapanui grammar where a word [ergo a glyph] "can be a verb, a noun, an adjective [or] . . . a participle" (Kizilova 2016, p.53)
- Synonym substitutions possible (ie.  [needle/knife blade] =knife, =divide, =cut) (consider washroom signage [women, ladies]) 
- Parallel texts reveal **synonymous forms**, viz. Hr7  Qr7 

Rapanui Language is ***Polysemous*** (words may have multiple meanings)
Rebuses, Synecdoches, Metonyms, Metaphors Build a Logographic Vocabulary

1 Rebuses


RR214k

moko, lizard, underworld [man] (Krupa 1974, p.61)


RR654

manu piri, joined birds, friend[ship] (Kieviet 2017, pp. 259-60), (Métraux 1940, p. 399)


RR67

niu, coconut tree, [vertigo] (Chauvet 1935, Fig. 174)

2 Glyph Polyvalency


RR152

Lunar seas motif (Horley 2021, p. 114)


RR380.1

text delimiter (Harrison 1874: 379)


RR380f (3x)

noho, seated (Berthins 2008 [2005], p. 19)

3 Near Rebuses


RR380

hônu, turtle for *hônui*, wealth. (Englert 1976, p. 323)


RR600

manu, bird for *mana'u*, think (Englert 1976, pp. 336-337)


RR51

4 Synecdoche *komari*, vulva, for nubility (Kaeppler 2020, pp. 396, 400)

5 Metaphors & Antonyms


RR711

îka, (leaping fish), for increase (Guy 1990, pp. 140, 141)


RR711x

îka, (diving fish), for decrease (Guy 1990, pp. 140, 141)


RR8

6 Metonym *ra'a*, sun, for light (Guy 1990, p. 141)

We still use such literary devices. Consider . . .


14

← Caution, turtle on road. **Turtle = Turtle**

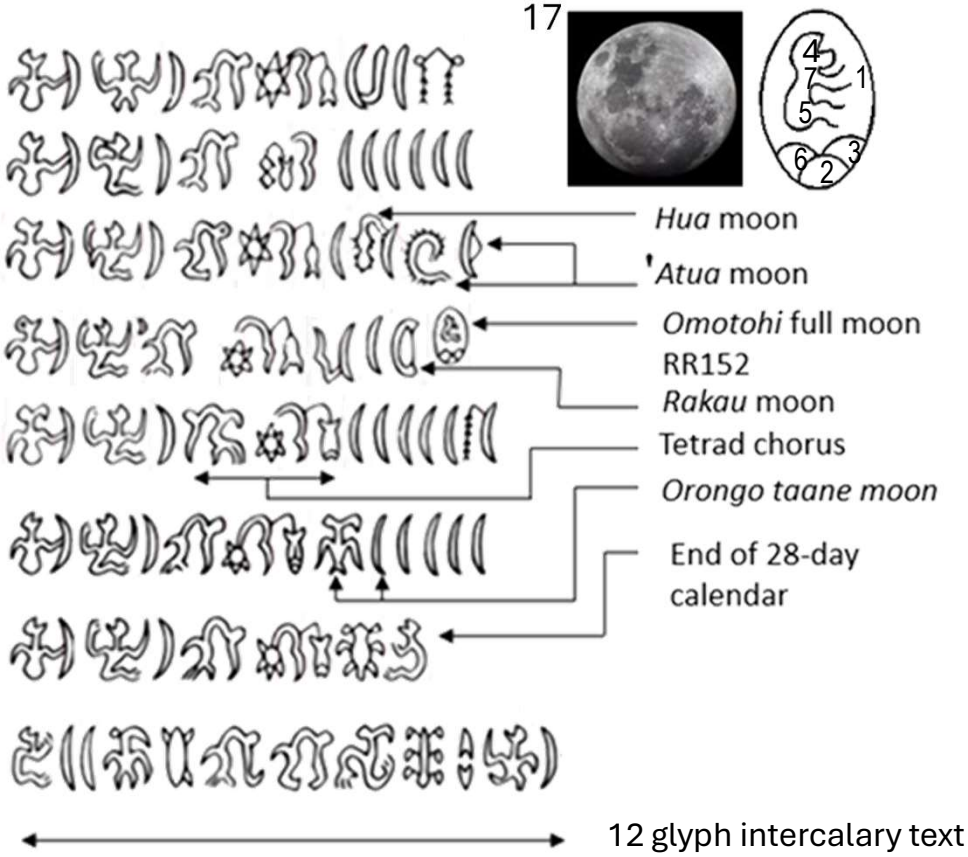
15

← Slow down. Now, **Turtle = Slowness** (a metaphor)

16

← **"Shell"** is a **near- rebus** of **"shall"**. "4" is rebus of "for".

Lunar Calendar on the Mamari Tablet: Attesting the Logographic Model (Guy 1990)



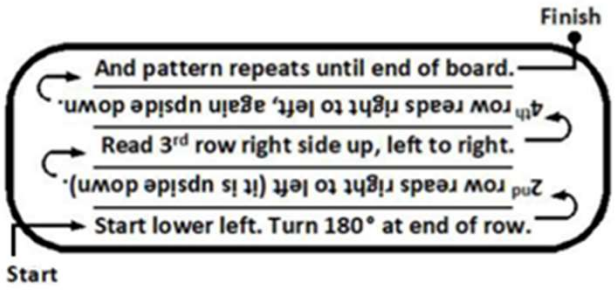
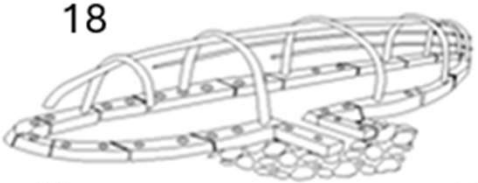
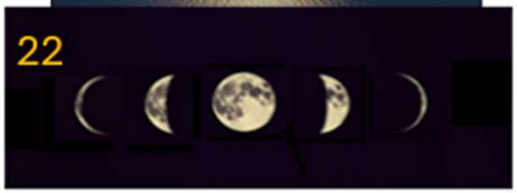
- ↙ ***Omotohi*** (full moon) is **pareidolic map of Lunar Seas**:
  1. Sea of Nectar, 2. Ocean of Storms, 3. Sea of Clouds, 4. Sea of Fertility, 5. Sea of Serenity, 6. Sea of Showers, 7. Sea of Tranquility
- ← ***Hua*** moon (testicle motif; *hua* ≡ testicles, fruited)
- ← **'*Atua*** (Lord) moon (spiny motif; *tua* ≡ spine [***homonym***]) (**some calendar nights were assigned special names**)
- ← Most fish forms leap in the waxing fortnight & dive in the waning fortnight (see tetrad choruses, *viz.*)

Before its 1958 discovery on the Mamari tablet the Rapa Nui Lunar Calendar (including its specially named nights) had been researched & described by Thomson (1886)!

The 28-day base calendar has 26 'waxing' crescents & glyphs for nearly full & full moon. To match the lunar month of 29.5 days, 2 extra moons are given in the "***intercalary passage***", perhaps with comment on inserting them (as needed) into the monthly cycles.

Calendar Glyphs are interpretable as full word logograms. No syllables or "sounding out"!

Matrix of Analogous Island Motifs

Rongorongo Board Reading	Indigenous *Hare Paenga* House	Lunisolar Cycles
	 18   19 20	21  22 
↪		☾
↩		☽
	∩	∩°

Filling in the Blanks of the Symbols Matrix

Rongorongo Board Reading	Description (*RR* Board)	*Hare Paenga* (House)	Description (House)	Astro-nomical Cycle	Description (Astronomical Cycle)
 , 'c' RR141	Reading line begins	 RR25V	'Beginning side'	 RR40	Waxing moon, "here is the moon"
 , 'ɔ' RR141y	Reading line ends	 RR25Vy	'Ending side'	RR41	Waning moon, "the moon that passed"
 RR33x,  RR43	Brief texts here	 RR27x	House/Shelter		Astronomical cycle
 RR33,  RR42	No texts here	 RR27	Overturned house	N/A	
 , 	Read across ≈, or vertical ||	 RR1  RR25	House sides (plan)	 RR152	Full moon (simplified)

- Red motifs are morphologically "imputed" (since, for example, houses don't have beginning/ending sides). Melka (2014, p. 163) likens these to parentheses (brackets).
- The logographic model becomes predictive, since imputed (red) glyphs ***do appear*** in the RR corpus! These are likely metaphors (ie. Over-turned house implying "crisis" or "neediness").

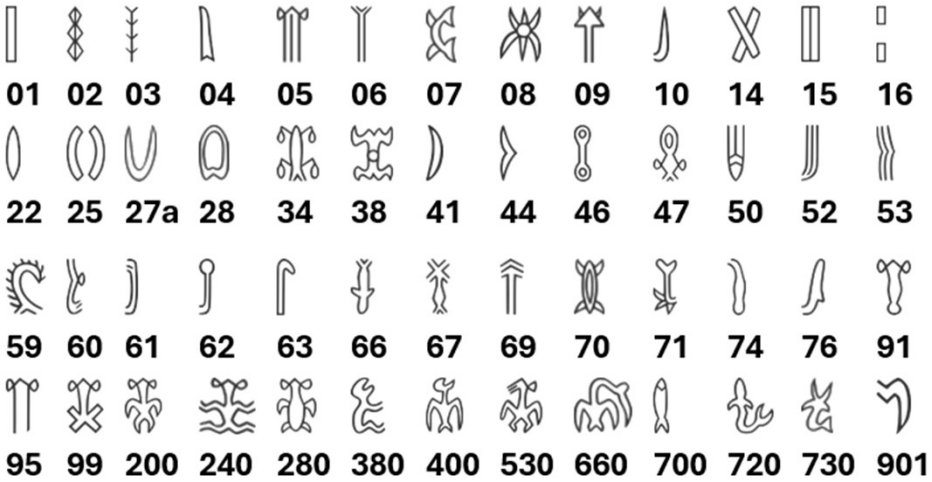
The Syllabary Hypothesis for Rongorongo

KRR symbols are theorized to encode Rapanui Language Syllables (analogous to Mayan or Cretan Linear B)

	Syllabary Map (60 Entries) for all Vowels & Consonants of Rapanui Language											
	ă	ā	nga	ha	ka	ma	na	pa	ra	ta	va	‘a
	ĕ	ē	nge	he	ke	me	ne	pe	re	te	ve	‘e
	ĭ	ī	ngi	hi	ki	mi	ni	pi	ri	ti	vi	‘i
	ŏ	ō	ngo	ho	ko	mo	no	po	ro	to	vo	‘o
	ŭ	ū	ngu	hu	ku	mu	nu	pu	ru	tu	vu	‘u

- Yellow-shaded entries are rare (usage less frequent than 1 % in spoken Rapanui) (Kieviet 2017, p.33)
- The okina “‘ “ denotes a glottal stop

Pozdniakov's 52 Glyph Corpus

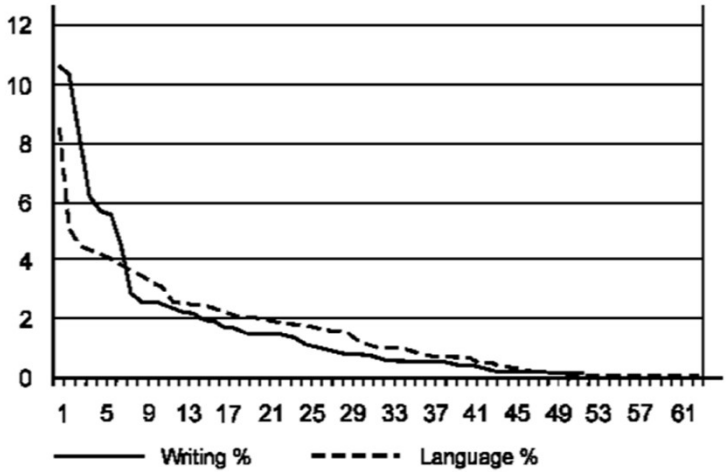


- These **52** glyphs account for **99.7 %** of corpus (Pozdniakov & Pozdniakov 2007, p. 94)
- There **is a match** between the size of the syllable table & Pozdniakov corpus
- *KRR*, therefore, is hypothesized to be a syllabary.
- Pozdniakovs ***not able/willing*** to map their glyphs onto syllables and translate *KRR* de Laat (2009, pp. 7-8) & Kiley (2025, pp. 28-30) offer glyph-to-syllable mappings, but **not** based on Pozdniakovs' corpus

Pozdniakovs' (2007, pp. 98-111) Syllabary Statistics

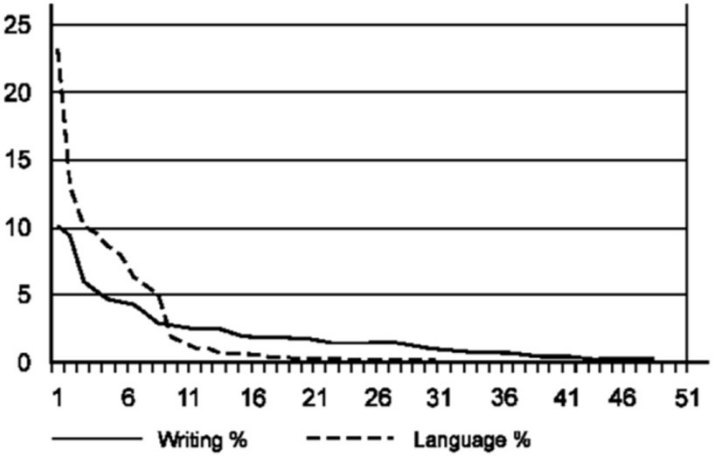
Good!

Graph 4: Frequencies of glyphs and syllables in the lexicon.

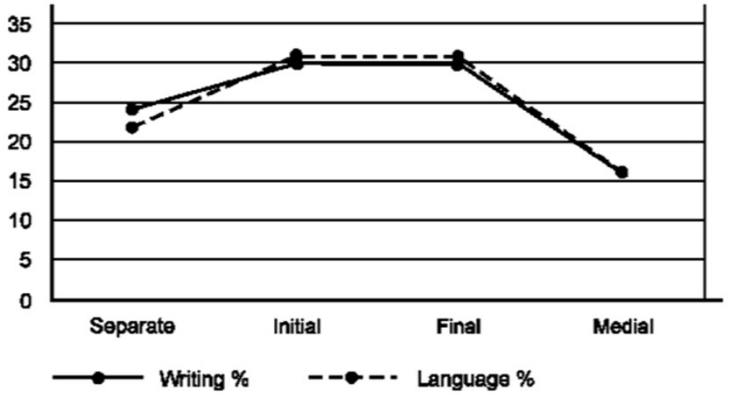


Good!

Graph 6: Frequencies of separate glyphs and syllables (%)

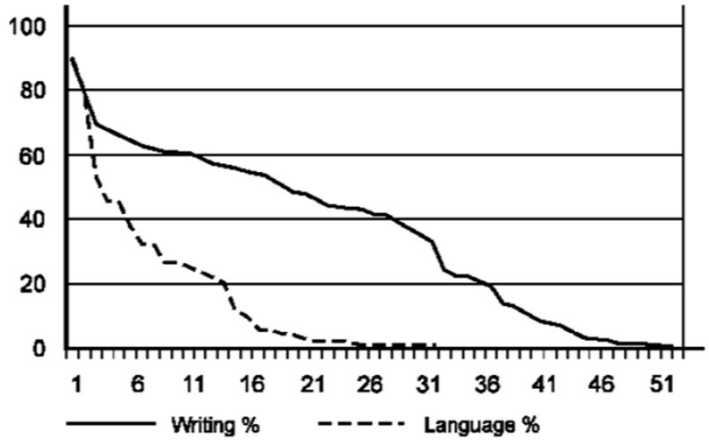


Graph 5: Distribution of glyphs/syllables by position (%)



Good!

Graph 7: Index of separation for glyphs and syllables (%)



Bad!

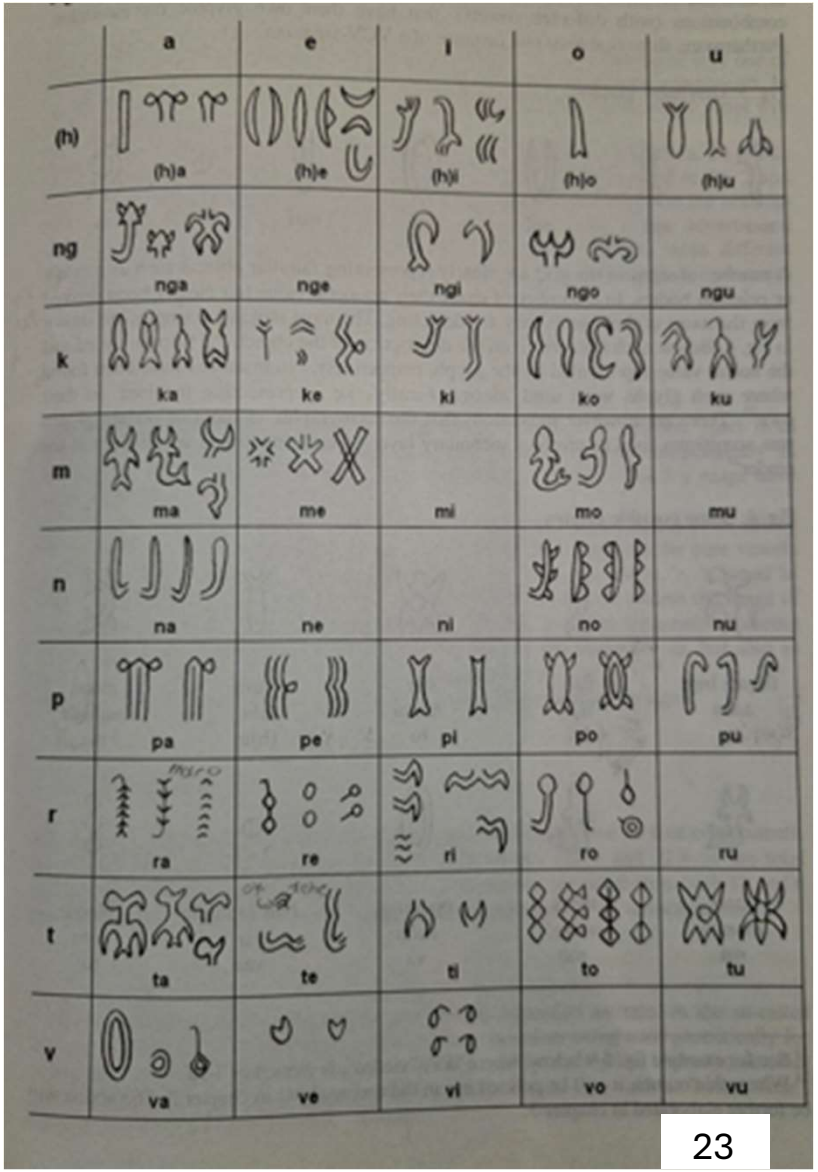
↗ Here's a major variation between KRR & spoken Rapanui. **Isolated glyphs** occur more commonly & diversely in KRR writing than in the Rapanui language

De Laat's Base Glyph Extended Syllabary

- Assigns syllables to some base glyphs to help resolve the problem of excess single glyphs in KRR texts.
- A **Logographic-like morphology** is created where each main glyph often encodes a full word.

Challenges

- Variable assignments viz. *'ha', 'a', 'haka'*; mapped onto **same icons**; ergo *'ta', 'taa', 'taha', 'ta'a'* . **Which phoneme is the correct choice in running text?**
- Opaque phonetic relationships between icons & Rongorongo syllabary. *Viz.* 1st syllable 'ta' from *taha* (frigate bird), last syllable 'ka' from *îka* (fish), mid-syllable 'tu' from *hetuu* (star). Must learn by rote, the entire table to be literate ≈ 100 entries.



De Laat's Parsing & Redundancy Issues

- Insensitivity to apparent sectional divider glyphs '' & '|' (Horley 2009, p. 167) (see Small Santiago Gr4)
- On Tahua Av4, the '' glyph has a value of "**here**" (appropriate for a text divider). But the '' glyph becomes part of the proper name 'Tae**a**' in a **parallel text** on Keiti Ev3 (would have expected a text divider role akin to Ab4)
- Word parsing doesn't always follow glyph parsing. Redundancy is lost. (See de Laat [2009, p. 193] [Tahua Av5] at right & also consider the sample phrases below)

  I'm aging, moreover, exposing lines

  Imaging more; overexposing lines
- Parsing text differently from what is written is **epigraphically unsound!**

Typical verse parsing (Small Santiago Gr4)

Tahua Av4

*hu·mea maa·tou a ka korua **a** nei*
We'll do that; you are crazy. **Here** will . .

Keiti Ev3

*hu mea na tou·a maa·tou ko ru·a ka ta·e·**a***
We oppose that (your disgusting fury) Tae**a**.

Glyphs **as incised** on Tahua Av5

taha·o ra·e ra·mai
(unintelligible)

Glyphs that **match de Laat's** decoding

taha o·ra e·ra mai
. . escape healthy from↔there

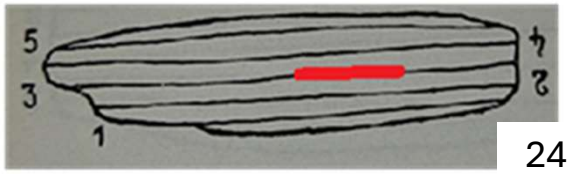
de Laat scrambles glyphs & definitions to decode passages!

The Palindrome Problem

- Palindromes are optically symmetrical & read the same forward & backward. Viz. the English & Danish examples below.
  - "Able was I ere I saw Elba." ["ablE was I ere I saw elbA"]
  - "En af dem der tit red med fane". *(One of those who often rode with a banner).*
- **Bad news for the syllabary model:** Per Wieczorek et al. (2018, p. 394) "The longest palindromic *Rongorongo* sequence . . [ABCADEDACBA], includes 11 signs . . . (Na3 [see below ↓]) and <u>still defies attempts to find a similar sequence of syllables</u> in the native texts."

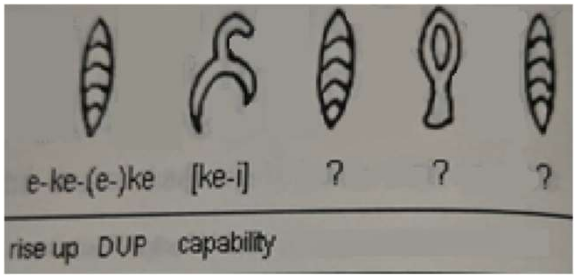
- Rapanui past perfect tense inverts verb-subject order (same word stems). So, ***logographic palindromes form easily*** by changing the tense, each side of centre. ABCADEDACBA (right) could read, for example, as

Small Vienna Side a (Na)



"*Documenting*$_A$ *deeds*$_B$, *(artlessly)*$_C$, *documenting*$_A$ *material*$_D$ *speculatively*$_E$.
Material$_D$ *documented*$_A$ *(artlessly)*$_C$. *Deeds*$_B$ *documented*$_A$."

- De Laat's (2009, p. 108) model, in which internal base glyphs are assigned syllables & main glyphs become logogram words, still ***fails*** in interpreting the palindrome at Keiti Er10. →

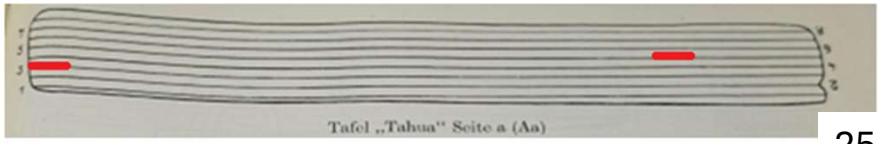


Palindromes in *Rongorongo*

Palindrome-type series frequently occur at line ends. They ***never*** "wrap around" to the next line.

Ar3

Ar5



25

Hv10

26

27

Board-edge incised palindrome motifs (sites shown in red) ***resemble labelled index tabs on a rolodex***. Perhaps indexing/ referencing was a function of these palindromes since KRR script is uni font size & unpunctuated.

Pictography facilitates creation of keyword palindromes from illustrative logograms. See the road sign combo at right!

KRR boards often contain such palindrome-like passages. The Keiti (Ev8) inscription even resembles our road signage! Compare,

versus

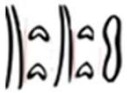
Perhaps Ev8 & Gv8 ***semiotically*** **warn** board readers of ***wrong-way tablet reading***? (Keiti & Small Santiago v-sides have an even number of lines. Hence, 2 possible reading routes & one is incorrect!)

↗ Stop. No Pedestrians. Stop. Pedestrians? No! Stop. ↖

Ev8

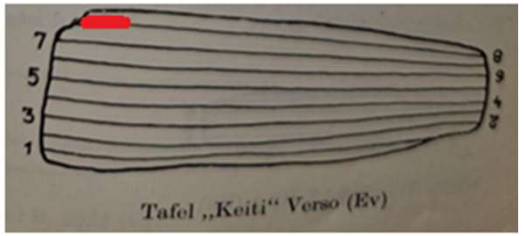
28

Gv8



A near-palindrome, giving warning?

29



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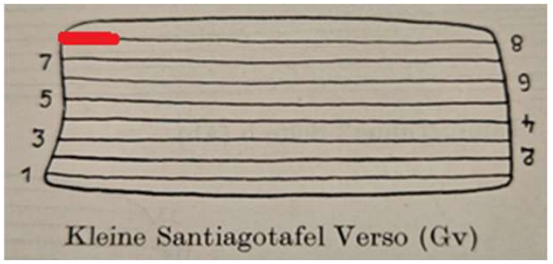
Keiti Tablet **E** (v-side)



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Small Santiago Tablet **G** (v-side)

Logography and Syllabary Models Compared

Logography model outperforms syllabary in explaining many observable KRR features

Syllabary

- 👍 Akin to known Cretan Linear B & Mayan systems
- 👍 Technically rigorous
- 👍 Precise phonotactic rendering of communication
- 👎 No historically affirmable translations yet found; Logographic model works best for *maramataka*
- 👎 Space consuming – one or more glyphs per word
- 👎 No redundancy model discussed by de Laat (2009)
- 👎 Questionable epigraphic helpfulness
- 👎 Full translations of all palindromes may not be possible
- 👎 No explanation for diversity of single glyphs in KRR texts versus what's found in Rapanui language

Logography

- 👎 A novel script somewhat reliant upon 'whole word' phonetics
- 👎 Semiotic & Icon-like; calligraphy adjusts meaning ( vs )
- 👎 Keyword (telegram form) text rendering only
- 👍 One text matches to historical records (the *maramataka* [Lunar Calendar])
- 👍 Adept usage of scarce wood – one or more words per glyph
- 👍 Redundancy fostered by base glyphs
- 👍 Facilitates epigraphic inference (viz. imputed forms)
- 👍 Palindromes are easily generated/interpreted
- 👍 KRR single glyph diversity vis-à-vis Rapanui language not problematic since each glyph equals one word or more

Thank you!

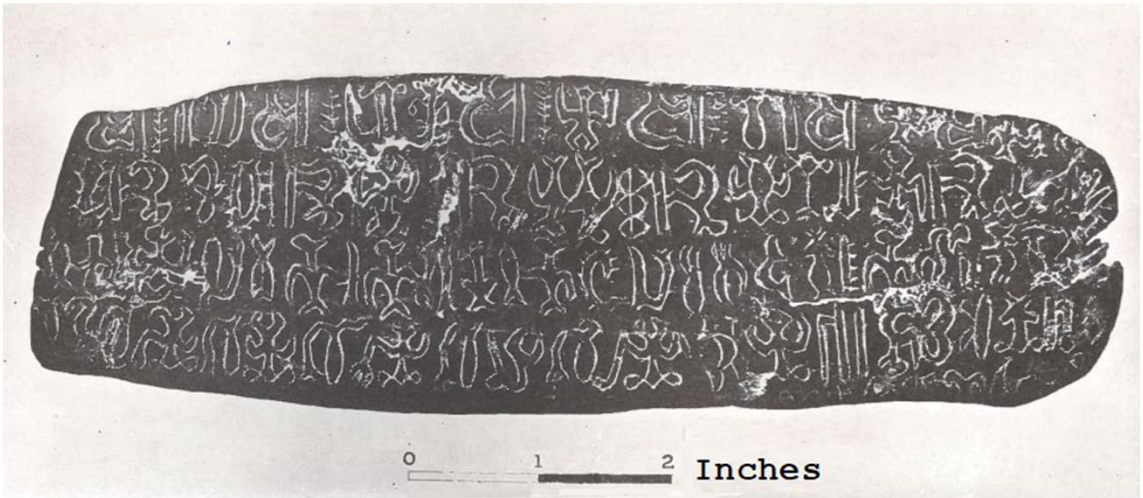

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Illustration Credits

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1. Pinart, Alphonse (1877). Voyage à l 'Ile de Pâques (Océan Pacifique) p. 238 (225-240) in Le Tour du Monde 36.2
2. Moai Statues : Courtesy Aicreate.com

Geography

3. Rapa Nui Map : Routledge, Katherine. (1919). *The Mystery of Easter Island. The Story of an Expedition*. London: Hazell, Watson and Viney. p. 194.
4. SE Pacific Map: Marcelo Flores 2014, Fig. 1. Flores, Marcelo, Robert Schlatter & Rodrigo Hucke-Gaete. 2014. Seabirds of Easter Island, Salas y Gómez Island and Desventuradas Islands, Southeastern Pacific Ocean. *Latin American Journal of Aquatic Research* 42.4, 752-759.

History

5. Penrhyn Postage Stamp Photo Courtesy Gordon Berthin
6. Fallen Moai Statues Courtesy of **https://imaginarapanui.com**/en/easter-island-sightseeing/easter-island-archaeology/ahu-akahanga/
7. Slave Ship: Courtesy Craiyon.com

***Kohau Rongorongo* (*KRR*)**

8. *Excerpt from Jaussen's List*: Chauvet, Stéphen. (1935). l 'Ile de Pâques et ses Mystères. Paris: Éditions Tel.: Figure 173.

9. Rongorongo Board Reading Route: Courtesy Gordon Berthin

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Well-defined Sub-units Often Underpin Logographic Scripts

10. Cretan Linear B Syllabary https://commons.wikimedia.org/wiki/File:Linear_B_(Mycenaean_Greek)_NAMA_Tablette_7671.jpg
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13. Mayan Glyphs Photo Courtesy Gordon Berthin

Rapanui Language is Polysemous

14-16. Turtle Photos Courtesy Gordon Berthin

Lunar Calendar on the Mamari Tablet

17. Moon Photograph Courtesy NASA

Lunar Calendar *and all other rongorongo glyphs in this presentation* courtesy Philip Spaelti http://kohaumotu.org/Rongorongo/index.html

Matrix of Analogous Island Motifs

18. Photo Courtesy Mike Seager-Thomas from Report LOC18 (2025) Rapa Nui Boat-shaped House Survey
19. Sketch by Gordon Berthin
20. Photo Courtesy Kevin Wagar | Wandering Wagars - Adventure Family Travel.
21. Photo Courtesy Aicreate.com
22. Photos Courtesy Bianca van Dijk [pixabay]

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De Laat's Base Glyph Extended Syllabary

23. De Laat 2009, p. 7

The Palindrome Problem

24. Barthel 1958, End Fold-out

Palindromes in Rongorongo

25. Ibid.
26. Ibid.
27. Clipart (Public Domain)
28. Photo Courtesy Government of New Zealand
29. Photo Courtesy Piller Gregerson
30. Barthel 1958, End Fold-out
31. Ibid.

Thank you

32. Small London Tablet: Routledge, Katherine. (1919). *The Mystery of Easter Island. The Story of an Expedition*. London: Hazell, Watson and Viney. p. 244.