

Decoding of the Voynich Manuscript

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Abstract

The voynich manuscript¹ has been a puzzle for the world since its occurrence at the end of the 16th, begin of the 17th century. Over the years, numerous attempts have been made to decode the Voynich manuscript, but have not been successful until now. In our essay we would like to present a new alphabet which maps the letters used in the Voynich manuscript (VMS), the Voynichese glyphs, to Aramaic abjad letters as we are convinced to have identified the original underlying language of VMS as Aramaic. In the following chapters we will constitute our choice and present a longer passage of decrypted text on the folio foldout– page 85v-86r, the rosettes pages of the so-called cosmological section of the VMS. Additionally, we will give examples of other decrypted sentences which give hopes that the identified alphabet can be used to decrypt other parts of the VMS as well. Our focus, however, lies on the decryption and analysis of the rosettes pages. We are confident that the presented code of the Aramaic alphabet, which by now covers more than 97% of the glyphs used on these pages, will build the framework to reveal the complete text of the cosmological section. We introduce the said alphabet in *Table 1*, only a few very rarely used glyphs remain still unidentified.

1 Introduction

Examining the enigmatic images on the folio foldout, we interpreted some details such as seven lampstands in the central image or a torch in the centre of a star, as references to the proceedings in the Book of Revelation. According to this interpretation, the central image should then symbolise heavenly Jerusalem and the singular words around it should represent the names of the tribes of Israel. From this starting point, we examined various word mappings into different languages and eventually came to the following conclusions:

¹MS 408 of Beinecke Rare Book and Manuscript Library; <https://collections.library.yale.edu/catalog/2002046>

- the underlying crypted language is Aramaic,
- the folio foldout essentially depicts and describes excerpts from the Book of Revelation (Rev 1,9 – Rev 11,2),
- the main passages (placed in circular shape around the images) comprise the text of a Hebrew Apocalypse in lyrical form (the quatrains),
- the other short sentences spread out over the foldout are explanations of the pictures and motos pointing to different places in the Old Testament (psalms and other books)

Before we will constitute our conclusions and present our alphabet (the transcription code), allow us please to make the following indication. In our opinion, the images and the text include some deliberately interspersed flaws or covered items which should mislead a potential decrypter and impede the revelation of the text. We illustrate this on the basis of two exemplary images (see *Figure 1* and *Figure 2*).

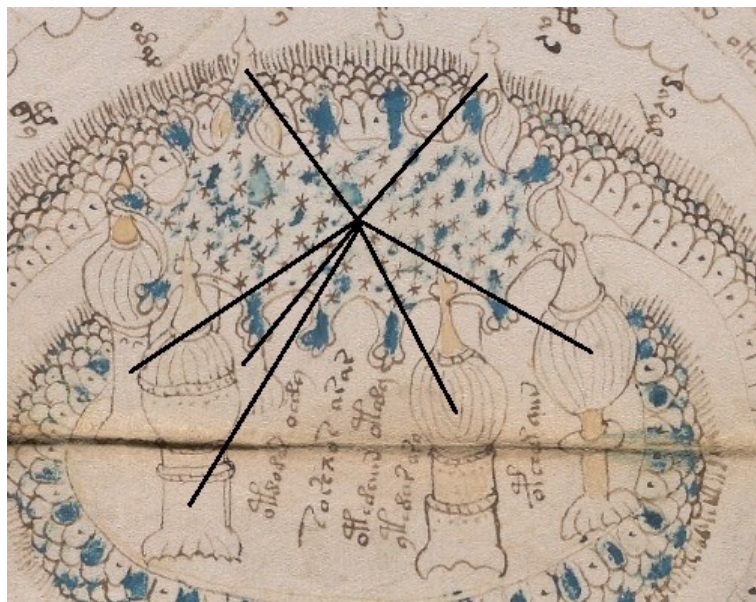


Figure 1: Seven lampstands in the central image of the foldout (page 85v-86r)

In *Figure 1* the head of one lamp is invisible (covered by the canopy of stars) but seven lampstands can be identified. Looking closely, the seventh lampstand can be identified right behind the two lamps on the left side. In *Figure 2* the circle portrays a clockface with symbolical Roman numbers on it but the numbers are not placed symmetrically and there are only eight numbers instead of twelve. The text around this picture confirms our interpretation because it bears a

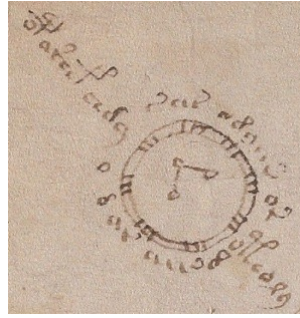


Figure 2: Clockface in an image in the corner of the foldout

relation to a lifespan. Regarding the text, the same or similar glyphs are used for two different Aramaic phonemes.



Figure 3: very similar glyphs for teth and pe

E. g. the glyphs for teth and pe are similar or even the same. The correct spelling can only be determined by the context. Hence, flaws and covered items in images should mislead on the one hand, but hint at the method the writer applied on the other. In our opinion, this method aims at not disclosing the meaning of the text and of the images at first glance, it rather attempts to keep them hidden upon a first encounter. We can only speculate about the motivation behind this. It could be possible, the applied protective measure should prevent the scribe's contemporary institutions from obtaining information from this manuscript. Nonetheless, it is our understanding the text remains decryptable and the images can be understood well.

2 Decryption

As a lot of the singular words are very short and the sequences of glyphs in words are repeated frequently, we swiftly abandoned the idea to be confronted with a spelling which contain vowels. This observation points directly to the kind of lettering which was used in Semitic languages like Phoenician, Hebrew or Aramaic, the abjad. The presumed matter of the images (heavenly Jerusalem, tribe names of Israel etc.) limited the choice to Hebrew or Aramaic. After decryption

several proper names we tend to conclude that the crypted language is Aramaic for the following reasons: some glyphs obviously can be pronounced in different ways. One of these glyphs is beth for which we could sometimes only find a reasonable word if we tolerated a possible pronunciation to be beth (like in boy) or vet/waw (like in west). But this kind of using one character for different phonemes appears in Aramaic where both pronunciations are represented by one letter. The difference is connoted by a point inside the letter, the so-called dagesh lene (see below).



Figure 4: beth, vet/waw with dagesh lene

In the VMS the scribe apparently omitted this distinguishing sign. Then, in the further course of decryption, we detected that Aramaic words are preferred over Hebrew words (see the translated passage). This pronunciation ambiguity naturally impedes the translation as both variants must be examined. The more, as the scribe often followed the pronunciation and not the orthography as specified in modern biblical dictionaries². As already mentioned, the main text on the foldout pages 85v-86r is a lyrical composition. One or two Voynichese words represent one line of the poem so a direct mapping between Voynichese words and Aramaic is not possible. For example, a 4-letter Voynichese word can be mapped into various sequences of Aramaic words (| implies or):

$XXXX \implies X X X X \mid X XXX \mid X X XX \mid X XX X \mid XX XX \mid XXX X \mid XX X X$

Initially, a wide spectrum of possible choices however significantly is narrowed with preferable focus on infrequently appearing consonant sequences like ll, bb and similar. Our provisional transcription alphabet can be found in *Table 1*. It contains the Voynichese glyphs and mapping to Aramaic phoneme, additionally, some glyphs which serve to decrypt several of Greek characters and glyphs used as signs (e.g. as brackets).

3 The rosettes pages

The main text around the central image reads (the transcription is given in brackets):

²Mainly used: Hebrew&Aramaic Dictionary; www.lexiconcordance.com/hebrew

‘az mowshab (*awz-mo-shab*)
‘iy pat-mos kah towshab (*ee-pat-mos-kaw-tho-shawb*)
barad ‘etsah math ‘asham (*baw-rawd’-ay-tsawh’-math-aw-sham’*)
yashan (*yaw-shawn’*)

at that time (being so) dwelling
on ile Patmos, thus a sojourner (dweller),
of God’s judgment, counsel (advice), man incriminated
stored (old)

‘etsel ‘im ‘edah (*ay’-tsel-eem-ay-daw’*)
qal elai ‘amar (*kawl-elai-am-are’*)
qal ‘uwlam ‘athaq (*kawl-oo-lawm’-aw-thawk’*)
‘az gabbay (*awz-gab-bah’ee*)

toward when testimony (when to testify as, as witness)
a voice spoke to me
voice very (truly) bold
that was in my back

oz chatsar (*oze-khaw-thawr’*)
‘amar kathab (*am-ar’-kaw-thab’*)
qal h-‘amar w’ (*kawl-h-am-ar’-w’*)
‘ay ra’ah dabbarah (*ah’ee-ra’-aw-dab-baw-raw’*)

in the strength of sound of trumpet
spoke: record (write down)
voice which speaks and
what (which) to see (perceive) proceedings

‘ephow kaph-o ‘owr (*ay-fo’-kaf-o-ore*)
yir’ah‘al ‘attah (*yir-aw’-‘al-at-taw’*)
qal ‘el ma’ ‘ophen (*kawl-ale-maw-o’-fen*)
‘innuwn zuwb ‘az bathah (*in-noon’-zoob-awz-baw-thaw’*)

then his palm (hand) became bright (illuminated),

fear not you
 voice of god (mighty one), whatever (what) circumstance
 they issue (discharge)-then the (future) end

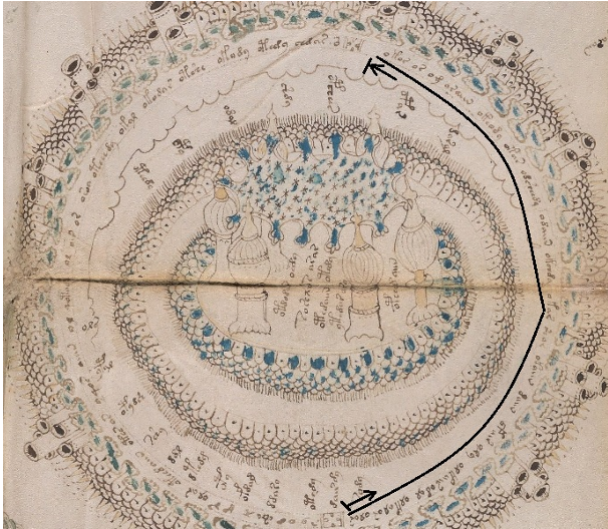


Figure 5: Decrypted text of the central rosette page

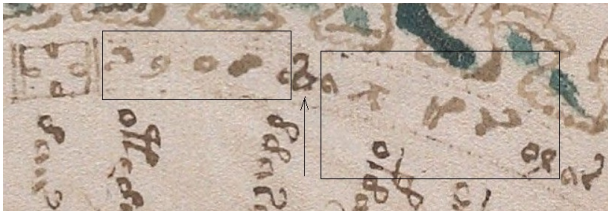


Figure 6: Completion of the central circular text

The second part of the circular text around the central picture (yet not translated) is contained between two signs, which are singular on this page (see the sign above the arrow *Figure 6*). This signs we identified as brackets. At the end of the main text around the central rosette we can find two groups of characters with bigger gaps between those characters. In our opinion this kind of writing expresses the importance of these words and can be considered as exclamation. In-between there is the mentioned closing bracket sign which separates the genuine text to the right of the end bracket, from the explanation to the left of the end bracket. To the left, the author explains which kind of text we can find here and gives the decrypter a reassurance and an opportunity to verify his findings. The word means al-roba'iyat (quatrains). It constitutes a confirmation of our decryption results. The last two words, of the genuine text to the right of the

closing bracket, mean in our translation sheba' 'Athariym. These words, written as exclamation, denote seven routes, traces or places but can be understood as seven spies as well. The words refer to the seven spy routes, which the Israelites used during the conquer of the promised land, in their fight against Canaanites. These are the closing words of the first paragraph of the main text.

4 Further decrypts

Besides this main text passage, we decrypted more than a dozen shorter sentences and 30 additional solitary words like the words which surround the central picture in the foldout. These words connote the tribes of Israel and the seven words of how to 'praise' Yahwe. This supports the idea that the central picture represents New Jerusalem as we know it from the Book of Revelation, where the inscriptions of the tribes should decorate the walls over the gates. The short sentences spread over the foldout are descriptions of the nearby images like:

there is bitterness of water, drop of loftiness or voice says it/this not to pass on,
 or sayings which refer to the Old Testament (psalms or other books). These short descriptions support the idea that the assumed context is the Apocalypse, beginning in the central circle and evolving until Rev 11:19 in the picture in the bottom right corner.

In different sections of the VMS you can find short sentences separated from the main text passages. These short sentences are mostly explanations about the pictures above like here in the biological section:



Figure 7: Picture from the biological section of the VMS

Left text:

mapping into our alphabet: **y-z-m-sh-w(b)-sh-w(b)**
 match into Aramaic: **yeza' mashah 'abash 'eb**

Aramaic transcription: *yeh'-zah maw-shaw' aw-bash' abe*

perspiration draws shrivelled green shoots (fresh green)

Right text:

mapping into our alphabet: **y-ll-z-m-th-w(b)**

match into Aramaic: **y' hallaz mathawq**

Aramaic transcription: *y' hal-lawz' maw-thawk'*

this one (yonder) will be dainty

5 Acrostic

The first letters of the lines in the main text seem to connote meaningful words. Does this acrostic give a hint to a place of creation and the scribes involved in creation of the VMS, or a master copy of the text? This requires further investigation. So far this acrostic can read:

Z efat	Zefat	Safed
B ayith	bah'-yith	house
'A ch	akh	brethren
'A chuzzam	akh-ooz-zawm	possessor
'E yk	ake	how!, how?, what?
Y ophiy	yof-ee'	beauty
...

Safed is known as a center of kabalistic mystics in the 16th century. Different kabalistic schools established by famous rabbis existed at that time in the city. Further decryption should give a deepened insight into the circumstances of creation of this text.

6 Conclusion

On the basis of the scripting on the foldout page 85v-86r of the Voynich manuscript we were able to determine the mapping from Voynichese glyphs to Aramaic letters and uncover first longer passages of the crypted Aramaic text.


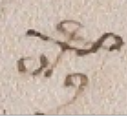

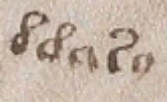

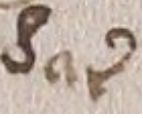

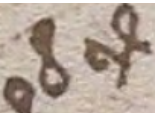
Particularly the decryption of proper and personal names gave us the confirmation that our

alphabet is a solid basis for the decryption of the rest of the Voynich manuscript. Nonetheless, we expect minor corrections and amendments in the alphabet, which will result from further text exposition. The text on these pages revealed a biblical scripture which seems to be a short version of the Book of Revelation. Missing references to Jesus und Christian symbols uncover, however, an abbreviate version of a Hebrew apocalypse, which relates the narrative to destruction of Jerusalem and the First or Second Temple, as translation of further verses suggests.

Questions regarding the origins of this text remain unanswered. Is it a version of an apocalypse, completely created in a 15th or 16th century kabalistic workshop in Europe or the Near East (acrostic hints to Safed would suggest the latter), or is it an adaptation of an older, even ancient, unknown Aramaic apocalypse? We are hopping for assistance of history experts and bible researchers in this matter.

7 The Voynich alphabet

Table 1: Voynich Alphabet

character	name	example	exemplary transcrip- tion	exemplary meaning
	yodh		yudah, yadah	tribe of israel, give thank, praise
	resh		yzaharr	tribe of israel
	zain		zamar	sing, sing-praise, make music
 1st ^a	beth		barawd	hail


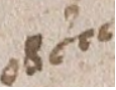

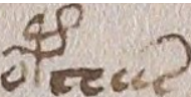







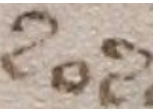

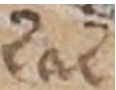


continued

Table 1: Voynich Alphabet

character	name	example	exemplary transcrip- tion	exemplary mean- ing
	beth		b'ah	entrance, entering
	waw		rev	appearance
	beth		sheba'	seven
	1st ^a nun		innuwn	these, those, they
	nun		ophen	circumstance, con- dition
	mem		'amar	word, saying, promise, speech
	mem-nun		timnath	portion (of the sun)
	shin		'ashawm	guilt, offense, guiltiness, to be incriminated, held guilty
	semkath		siy(see) mar	loftiness (of pride) drop
	lamadh		labab	soul, heart, mind, knowlegde, reflec- tion

continued

Table 1: Voynich Alphabet

character	name	example	exemplary trans- cription	exemplary mean- ing
	daleth		dabbarah	word, words
	lamadh		tehillah	praise, thanksgiv- ing
	daleth		da'w	this, one .. to .. an- other, together
	he		ra'ah	to see, perceive, consider
	he-he		ya8hh	Yahwe as lo- gogram, (8 some- times incorporated as perfect number)
	taw		tvawth	fasting, hungrily
	teth		timnath	portion of the sun
	teth		'athah (aw- thaw)	to come, arrive (about time)


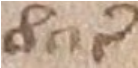






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Table 1: Voynich Alphabet

character	name	example	exemplary trans- cription	exemplary mean- ing
	pe(ef) ^b		‘alluw ph (al- loof)	friend, intimate
	teth-teth		attah	you
	2x lamadh		‘alluw ph (al- loof)	friend, intimate
	2x beth		‘ abbiyr	mighty, vailant (of men, angels)
	beth-lamadh		‘ ubal (oo-bawl)	stream, river
	heth		‘ ach (akh)	brother
	kap		‘ eyk (ake)	how!, how?, where?
	qop		qal	voice, sound
	kap(ch, kh)		kah thowshab	<u>until now stranger</u>

continued

Table 1: Voynich Alphabet

character	name	example	exemplary transcrip- tion	exemplary mean- ing
	heth		zahar	admonish, warn, teach, shine, send out light
	2x seperated lamadh		qal elai 'amar	voice said to me
	gimmel		gabbai	my back
	alap-ar'		'arubbah	lattice, windows, sluice, chimney

^a 1st indicates that the word starts with this character

^b teth and pe are sometimes difficult to distinguish, context must be considered

Table 2: Not identified or illegible characters






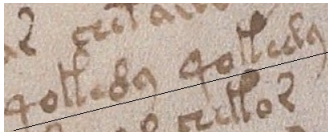



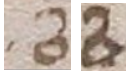
character	information
	at the end of a word (on, ot) ?
	?
	?
	?

Table 3: Logograms, rare characters and special signs

character	information
	Logogram for Yahwe or I am , (y with following complete number 8, sometimes only singular y)
	the above sentence reads: <yahwe> dath w' <ousia>, <yahwe> aleph w' <omega> <I'am> dath w' <ousia>, <I'am> aleph w' <omega>
	greek alpha
	greek omega, omikron
	greek pi, (sometimes together with following consonant)
	brackets (begin, end)