

The Language of Voynich Manuscript

Patterns and Rules

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Abstract

Voynich Manuscript is an old mysterious book, with strange and unfamiliar writings. It was carbon dated to the early 15th century. The manuscript was discovered by Wilfrid Voynich in Italy, 1912. And so far, despite many efforts, no one has been able to understand the content. Many believe the book is coded and this is a reason for our inability. In the following, I will discuss how to decipher Voynich Manuscript and would reveal the first page which is the words from the possible author. The paper would summarize procedure of solving the Voynich codes and brings a useful insight for other researchers in the field.

Keywords: Voynich Manuscript, Patterns, Language

The Language of Voynich Manuscript

Patterns and Rules

MS 408, commonly known as the “Voynich Manuscript,” has been called the world’s most mysterious book. (1) It is named after Wilfrid Voynich, a Polish book dealer who purchased it in 1912. The folios are made of calf skin and have been carbon-dated to the early 15th century (1404–1438) (2)

The manuscript is profusely illustrated, and from these illustrations it appears to be a scientific or medical work from the middle ages. (3) the largest section of the manuscript, consist of 113 large detailed colorful drawings of plants and herbs, with text carefully written around the imagery. (4) other sections are considered Astronomical, containing zodiac-like illustrations; Balneological, mainly containing drawings of baths filled with green or blue colored liquids; Cosmological, consisting of circular illustrations; Pharmaceutical, containing drawing of small containers and plant organs, and Recipes, containing very dense text with drawings of stars in the margins. (5)

The language and script of the book have been unknown for quite long time. In some ways, "Voynichese," the nickname for the writing, acts as a language. In other ways, it doesn't (6) in the 600 years that the Voynich manuscript has existed, we know of no one who has been able to read a word or use it to accomplish anything useful. (7) but some researchers think the manuscript does contain a message. (6)

Voynich manuscript has attracted the attention of code-breaking experts ever since 1917 (3) the coding could have motives such as importance of content and fear, as in the medieval alchemy was a crime (8) Although most of the mystery will remain for a long duration, but by using a modified set of alphabets and deletion of specific patterns I was able to see the meanings and find identifiable sentences.

Overview

1. Alphabet & Transcription

By taking a look at oldest scripts a variety of similar signs had been found. The signs were mostly picked from Brahmi descendent scripts, Greek and Latin. In the process, I would apply different sounds of letters for the same sentence and when the words made relevant meanings to the pictures, the alphabet would be in list. After the set was complete, the writings were transcribed using English keyword and based on the sounds representation (fig 2.)

2. The Patterns Rule

I could see repeated parts at the end of sequences, and a few Persian words. The hidden text was mined by help of recognizable patterns. In general, there were many repeating parts in manuscript. They belonged to the three main categories of alternative, inverse, and twin (fig 1.) By pursuing specific omission rules, the process started from left to write till the end of sequence. The next step was to change English letters to Farsi substitutes. In this stage, mostly all resulted words were identifiable and many clear sentences have been observed.

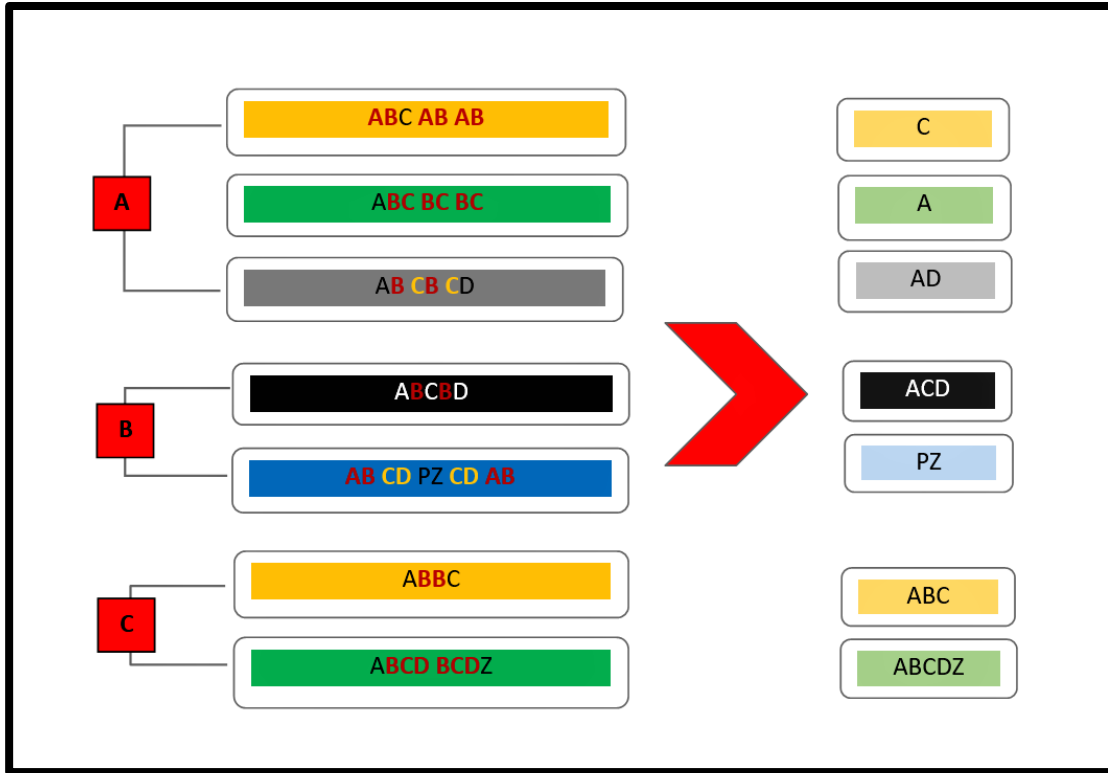


Fig 1. Omission rules. Patterns in the manuscript can be sorted into three kinds,
a. Alternative, **b.** Inverse, and **c.** Twin.

Vowels	α a A	∖ Y	9 V							
phonetic	^	I eT	əv							
Consonat	ff P	c 2 3 T	f ^p G	8 S	2 R	2 J	4 K	2 H	∞ M	o D
phonetic	p	t	g	sʃ	r	dʒ	k	h	m	d
Compound	ff RI	ff PA	ff GA	ff RJA						
phonetic	rI	p^	g^	rIA						

Fig 2. Symbols and their sound. The letter v is both a consonant and vowel.

3. Resulted translation of page one

By deleting patterns of the transcript (See Appendix), the meaningful words emerged which were in old style and had to be checked from dictionaries (15).

The resulted meanings appeared as followings:

"(I) The time/song I pass through the deserts to go to Parete and there is enormous horizon. I will be separated from border, on water. Homer Jattari and I am in desert. There are giant animals. I vanished to Persia, wonderful attar, the cloddy step. (II) Steps with throbbing sound, filled with effort. I found a frozen sheep and its foot also became torn pieces. (III) And with force I pass. Running. With group of constellations in scaled circles. I'll become separated from sea and into water way. Found the material, teared..., The wall of that also becomes teared. From sea wind. I go to herbal attars. And face of horizon is to the Sea of ... Attar is..., of sea in the provision. (VI) I am in seashore. The wind makes throbbing sound. My messenger comes with a set of skin. I became dark. Plant, the dirty face..., decreasing of that adding plant. Adjusting cleaning. To the water of sea river. "

3.1. Phonological Process

Changing of *s* to *sh*, *v* and *p* to *b* have been observed

sam - sham, sorus - soroush, vapam - bepam, vari - bari, vad - bad, pa dasteh - ba dasteh

3.2. Guiding Words

Words in same/relevant meanings were present which joined contents.

ap (water) *daria* (sea), *adarideh* (cut, torn) *ghadat* (cut, pieces), *ghadam* (step) *gam* (step)

3.3. Verbs Person

Person of verbs were accurate and related to the subject.

Mahv shodam (1sg), *Joday shodam* (1sg). *Ast* (3sg), *Arad* (3sg).

3.4. Unique terms

Some words with sanskrit root have been seen: *pat*, (patram, leaf/plant) and *padat*, (pada, foot).

Arabic verb *vajadato* (I found) happened unexpectedly.

4. Facts that supported the observation

4.1. Language

The pattern rules of Voynich language evokes the Zargari language. It is not really a language but a coding of vocabulary and sounds. After each letter of a word, the letter ز is pronounced; example the word شما would be شزمزا or the sentence من می آیم change into مزن میزی آیزم in this language, it is customary to convert a special letter into another in all words. With this interpretation, many languages can be expressed, although so far this rule has been applied to Persian. (9)

According to different dialects and rules of exchange, sometimes letters become interchangeable, the same phonological process to the voynich was found in Farsi (Table 1)

Table 1

S - SH	V- B	P-B
بست = بشت	کَور = کبر	آپاختر = باختر
خروس = خروش	گرماوه = گرمابه	پدید = بادید
ریکاسه = ریکاشه	نوشتن = نیشتن	پگاه = بگاه

A few Sanskrit terms and Arabic verbs have been observed. Sanskrit and Persian share many words on the other hand in Persian dialects, words similar to Sanskrit have been found. Arabic was a language pretty known to the people in that era, there are books of Persian poets in Arabic during 15th century. Farsi itself contains many Arabic derived words. Further, the translated text points *Pars* the specific name for Persia. And a major part of vocabulary was gathered from Farsi language.

4.2. Meanings and illustrations

Some facts in illustrations showed indisputable relevance to the resulted translation. Statement of sea travels provides a reason for presence of specific species native to the unknown continent in 15th century, America. (13) Archeologists have recently discovered European beads and some evidence of new world exploration before the times of Columbus (14) The meanings as navigating with constellations in scaled circles match with the astrology circles, and revealed the human figures were a point of dividing circles. (fig 3.) And the fact that most of the pages contain herbal

drawings was reasoned by talking of wonderful attars. The skin mentioned in the translation may also refer to the pages which are made of calf skin.

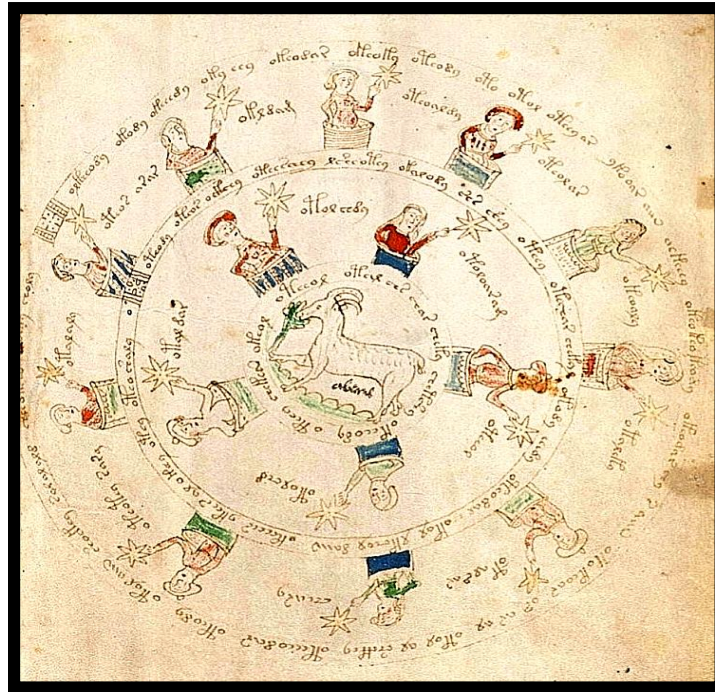


Fig 3. Circular illustration in astrology pages of the manuscript. The animal in the center represents the astrology house and each human figures has a star in their hands. 360° of inner and outer circles are divided by these human figures' seats. The inner circle is divided into 5 parts, each about 72 degrees. And the outer circle is divided to 10 parts, each about 36 degrees. (15)

5. Conclusion

With series of observations and the content which is relevant to the Voynich pictures, it is concluded that the rules applied were correct and the language could be an old constructed Persian dialect, coded in form of symbols and patterns.

References

1. General Collection, Beinecke Rare Book and Manuscript Library, Yale University
<https://beinecke.library.yale.edu/collections/highlights/voynich-manuscript>
2. Voynich manuscript. (n.d.). Wikipedia. Retrieved March 4, 2021, from
https://en.m.wikipedia.org/wiki/Voynich_manuscript
3. Zandbergen, R. (2019). The Voynich MS - General Introduction. The Voynich Manuscript.
<http://voynich.nu/intro.html>
4. Blumberg, N. (2016, November 29). Voynich manuscript. Encyclopedia Britannica.
<https://www.britannica.com/topic/Voynich-manuscript>
5. Reddy, S., & Knight, K. (2011). What We Know About The Voynich Manuscript. ACL HLT 2011, 78.
6. Pappas, S. (2018). Lost Language, Code or Hoax? Why the Voynich Manuscript Still Stumps Experts. Live Science. <https://www.livescience.com/why-voynich-manuscript-is-undecipherable.html>
7. Grady, C. (2017, September 18). The 600-year-old riddle of the Voynich manuscript, explained. Vox. <https://www.vox.com/voynich-manuscript-explained>
8. MKman34. (2021, February 5). Motive for voynich code [post]. Reddit.
https://www.reddit.com/r/voynich/comments/motive_for_voynich_code
9. زبان زرگری. (n.d.). Wikipedia. Retrieved March 4, 2021, from
https://fa.m.wikipedia.org/wiki/زبان_زرگری
10. و. (n.d.). In Dekhoda. Vajehyab. Retrieved March 4, 2021, from
http://www.vajehyab.com/dekhoda/حرف_و

11. پ. (n.d.). In Dehkhoda. Vajehyab. Retrieved March 4, 2021, from <http://www.vajehyab.com/dehkhoda/حرف پ>
12. س. (n.d.). In Dehkhoda. Vajehyab. Retrieved March 4, 2021, from <http://www.vajehyab.com/dehkhoda/حرف س>
13. Tucker, A. O., & Janick, J. (2019). *Flora of the Voynich Codex: An exploration of Aztec plants*. Springer Nature.
14. McGreevy, N. (2021, February 10). Venetian Glass Beads May Be Oldest European Artifacts Found in North America. *Smithsonian Magazine*. <https://www.smithsonianmag.com/smart-news/tiny-blue-beads-european-artifact-north-america>
15. Motiee, P. (2021, February 13). Voynich Manuscript : First Page Completed. *Theoreticalist*. <https://theoreticalist.blogspot.com/2021/02/voynich-manuscript-first-page-completed.html>

Appendix

Table 2. Patterns in page one. Blue: Alternative, Green: Inverse, Red: Twin. A & B First layer of omissions, C&D Second layer, I: Paragraph one, II: Paragraph two, III: Paragraph three, VI: Paragraph four.

A.					
I	G. V. A. V. H	V. Ri. A. T	A. R	V. P. A. M	J. D. T
	J. D. R. V	Pa. R. T. H	V	Ri. D. H	J. D. T. S. V
	H. D. R. V	Ria. A. R	D. R. V	Ria. Y. R	A. P. A. M
	J. D. R	D. Y. R	Pa. A. R	Pa. A. R	S. A. M
	H. V. M. R	J. T. Ri. V	D. R	V. Ri. A. M	J. D. S
	Pa. D. A. R. V	Pa. D. H	S. A. R	A. M	H. V
	S. D. M	D. P. T. T. V	D. P. T. D. R. D. T. D. P. V	Pa. A. A. R	S. A. M
	D. Ri. A. M	D. R	D. Ri. A. M	H. A. Y. R. V	A. T. A. R
	Pa. A. M	Pa. D. R	Ga. A. M		
	D. S. A. R	J. V	J. D. T	Pa. D. V	D. V. S. A. R

Patterns & Rules of the Voynich Manuscript

II	J. H	Ga. D. A. M	J. D. S. A. R. V	V. J. T. V	J. D. S. V
	D. Ri. A. D. V	D. P. A. D. T	A. D	Pa. V	D. H. A. V
	S. A. M	A. D. R	Ri. D. H	S. A. M	J. D. H
	Ga. D. T	J. D. S. V			
III	V. S. A. M	Pa. T. H. A. M	D. T. H	Pa. T. V	V. P. A. M
	J. D	J. V	Pa. D. S. A. T. T. H	D. Ri. J. D	Ri. J. D. V
	D. P. A. Y. R. A. M	D. P. T. D. R	D. P. A. M	J. D. S. A. M	H. Ria. A. V
	S. A. M	J. D. V	Ria. T. V	Ri. D. S. A. M	Pa. V
	Pa. D. S. A. M. T. H	Ria. A. V. J. T	D. T. S. A. M	S	S. A. M
	D. M	A. D. T	D. S. A. M	A. D. S. A. M	A. S. V
	D. Ri. D. M	S. M	Pa. V	Ri. D. T	S. A. M
	J. Ria. T. V	Ria. D. R	A. D. R	J. T. V	Ri. D. T
	A. D. T	A. D. T	Ri. D. R	A. A. R	J. D
	A. D. R	A. D. S. A. M	Ri. J. V	Ri. A. V	S. D. R

Patterns & Rules of the Voynich Manuscript

	A. D. S. A. M	J. D	Ri. T. T. D. T	V. A. D	Pa. T. V
	A. T. Ri. A. M	J. T. D. P. J. D. T	S. V. S. V. S. V	Pa. V	S. A. M. Pa. V
	V. P. D	J. D. T	J. T	Ri. D. S. J. T. V	Pa. D. A. T. V
	S. A. R. A. M	S. A. M	Ria. V. S. H	S. A. A. R	J. Pa. A. M
	D. Ri. A. M. R	A. T. V	R. A. V	Pa. D. P. D. T	Pa. D. T. H
	S. A. D. Pa. D	J. D. Ri	A. D. R	A. T. V	S. A. M
	Ria. D. V				
VI	Pa. D	J. A. M	J. D. Ri. A. M. V	A. D. T	P. J. D. S. T. T. H. V
	J. D. V	P. V. S. T. T. V	A. V	R. D	S. A. R
	V. S. A. M	A. D. T	S. A. M	Pa. A. T	S. A. R
	J. T. A. R	Ri. A. M	S. A. R	J. T. V	Pa. A. R
	A. D	D	Ri. A. M	J. D. V. M	D. Ri. D. T
	S. A. M	G. A. R	Pa. D. T	S. A. M	Pa. D. T. S. A. R. V
	V. A. T. T. V	D. Ri. A. H	D. Ri. V	S. A. M	D. Ri. A. T. V
Ri. D. Ri. A. M	D. P. A. D. T	P. V. A. V	S. A. H	S. A. T. D	

Patterns & Rules of the Voynich Manuscript

	J. D. S. V	Ria. J. A. V	Pa. V	D. Ri. A. T. V	Ri. T. T. V
	Ri. T. T. V	S. A. T	A. P. D. R	J. D. H	A. D. T
	A. D. Ri	A. D. P. V	A. D. P. T. V		

B.					
I	G. A. H	V. Ri. A. T	A. R	V. P. A. M	T
	R. V	Pa. R. T. H	V	Ri. D. H	J. D. T. S
	H. D. R	A	D. R. V	Y	A. P. A. M
	J. D	D. Y			S. A. M
	H. V. M. R	J. T. Ri. V	D. R	V. Ri. A. M	J. D. S
	A. R. V	H	S. A. R	A. M	H. V
	S. D. M	T	D. R. D. T. D. P	Pa. A. R	S
				H. A. Y. R. V	A. T. A. R
	A. M	D. R	Ga. A. M		

Patterns & Rules of the Voynich Manuscript

II	D. S. A. R	V	D. T	Pa. D. V	D. V. S. A. R
	J. H	Ga. D. A. M	J. D. S. A. R	V. J. T	J. D. S
	Ri. A. D	P. A. D. T	A. D	Pa	D. H. A
	S. A. M	A. D. R	Ri. D. H	S. A. M	J. D. H
	Ga. D. T	J. D. S. V			
III	V. S	Pa. T. H	D. T. H	Pa. T. V	V. P. A. M
	D	V	Pa. D. S. A. T.H	D. Ri. J. D	V
	A. Y. R. A. M	T. D. R		J. D. S	H. Ria. A. V
	S. A. M	J. D	Ria. T	Ri. D. S. A. M	V
	D. S. A. M. T. H	Ria. A. V. J. T	D. T. S. A. M		A
	D	A. D. T			S. V
	D. Ri. D	S	Pa. V	Ri. D. T	S. A. M
	J. Ria. T. V	Ria	A	J. T. V	Ri
			Ri. D	A. A	J. D
	R	S. A. M	J	A	S. D. R
	A. D. S. A. M	J. D	Ri.T. D. T	V. A. D	Pa. T. V
	A. T. Ri. A. M	J.P. J	S. V. S. V. S	Pa	S. A. M. Pa
	V. P. D	D. T	T	Ri. D. S. J	Pa. D. A

Patterns & Rules of the Voynich Manuscript

	A. R		Ria. V. S. H	S. A. R	J. Pa. A. M
	D. Ri. A. M. R	A. T	R. A	P. D. T	T. H
	S. A. D. Pa. D	J. D. Ri	D. R	T. V	S. A. M
	Ria. D. V				
VI	Pa. D	A. M	D. Ri. A. M. V	A. D. T	P. J. D. S. T. T. H
	J. D	P. V. S. T. T	A	R. D	S. A. R
	V. S. A. M	A. D. T	S. A. M	Pa. A. T	S
	J. T	Ri. A. M	S. A. R	J. T. V	Pa. A. R
	A		Ri. A	J. D. V	D. Ri. D. T
	S. A. M	G. A. R	Pa. D. T	S. A. M	Pa. D. T. S. A. R
	V. A. T. T	A. H	V	S. A. M	T. V
	Ri. M	D. P. A. D. T	P. A	H	T. D
	J. D. S	Ria. J. A	Pa	D. Ri. A	
		S.A.T	A. P. D. R	J. D. H	T
	Ri	P	P. T		

C.					
	G. A. H	V. Ri. A. T	A. R	V. P. A. M	T

Patterns & Rules of the Voynich Manuscript

I	R. V	Pa. R. T. H	V	Ri. D. H	J. D. T. S
	H. D. R	A	D. R. V	Y	A. P. A. M
	J. D	D. Y			S. A. M
	H. V. M. R	J. T. Ri. V	D. R	V. Ri. A. M	J. D. S
	A. R. V	H	S. A. R	A. M	H. V
	S. D. M	T	D. R. D. T. D. P	Pa. A. R	S
				H. A. Y. R. V	A. T. A. R
	A. M	D. R	Ga. A. M		
II	D. S. A. R	V	D. T	Pa. D. V	D. V. S. A. R
	J. H	Ga. D. A. M	J. D. S. A. R	V. J. T	J. D. S
	Ri. A. D	P. A. D. T	A. D	Pa	D. H. A
	S. A. M	A. D. R	Ri. D. H	S. A. M	J. D. H
	Ga. D. T	J. D. S. V			
	V. S	Pa. T. H	D. T. H	Pa. T. V	V. P. A. M
	D	V	Pa. D. S. A. T.H	D. Ri. J. D	V
	A. Y. R. A. M	T. D. R		J. D. S	H. Ria. A. V

Patterns & Rules of the Voynich Manuscript

III	S. A. M	J. D	Ria. T	Ri. D. S. A. M	V
	D. S. A. M. T.	Ria. A. V.	D. T. S. A. M		A
	H	J. T			
	D	A. D. T			S. V
	D. Ri. D	S	Pa. V	Ri. D. T	S. A. M
	J. Ria. T. V	Ria	A	J. T. V	Ri
			Ri. D	A. A	J. D
	R	S. A. M	J	A	S. D. R
	A. D. S. A. M	J. D	Ri.T. D. T	V. A. D	Pa. T. V
	A. T. Ri. A. M	J.P. J	S. V. S. V. S	Pa	S. A. M. Pa
	V. P. D	D. T	T	Ri. D. S. J	Pa. D. A
	A. R		Ria. V. S. H	S. A. R	J. Pa. A. M
	D. Ri. A. M. R	A. T	R. A	P. D. T	T. H
	S. A. D. Pa. D	J. D. Ri	D. R	T. V	S. A. M
	Ria. D. V				
VI	Pa. D	A. M	D. Ri. A. M. V	A. D. T	P. J. D. S. T. T. H
	J. D	P. V. S. T. T	A	R. D	S. A. R
	V. S. A. M	A. D. T	S. A. M	Pa. A. T	S
	J. T	Ri. A. M	S. A. R	J. T. V	Pa. A. R
	A		Ri. A	J. D. V	D. Ri. D. T

Patterns & Rules of the Voynich Manuscript

	S. A. M	G. A. R	Pa. D. T	S. A. M	Pa. D. T. S. A. R
	V. A. T. T	A. H	V	S. A. M	T. V
	Ri. M	D. P. A. D. T	P. A	H	T. D
	J. D. S	Ria. J. A	Pa	D. Ri. A	
		S. A. T	A. P. D. R	J. D. H	T
	Ri	P	P. T		

D.

I	G. A. H	V. Ri. A. T	A. R	V. P. A. M	T
	R. V	Pa. R. T. H	V	Ri. D. H	J. D. T. S
	H. D. R	A	D. R. V	Y	A. P. A. M
	J. D	Y			S. A. M
	H. V. M. R	J. T. Ri. V	D. R	V. Ri. A. M	J. D. S
	A. R. V	H	S. A. R	A. M	H. V
	S. D. M	T	D. R. T. P	Pa. A. R	S
				H. A. Y. R. V	A. T. A. R
	A. M	D. R	Ga. A. M		
II	D. S. A. R	V	D. T	Pa. D. V	D. V. S. A. R

Patterns & Rules of the Voynich Manuscript

	J. H	Ga. D. A. M	J. D. S. A. R	V. J. T	J. D. S
	Ri. A. D	P. A. D. T	A. D	Pa	D. H. A
	S. A. M	A. D. R	Ri. D. H	S. A. M	J. D. H
	Ga. D. T	J. D. S. V			
III	V. S	Pa	D	Pa. T. V	P. A. M
	D	V	Pa. D. S. A. T.H	D. Ri. J. D	V
	A. Y. R. A. M	T. D. R		J. D. S	H. Ria. A. V
	S. A. M	J. D	Ria. T	Ri. D. S. A. M	V
	D. S. A. M. T. H	Ria. A. V. J. T	D. T. S. A. M		A
	D	A. D. T			S. V
	D. Ri. D	S	Pa. V	Ri. D. T	S. A. M
	J. Ria. T. V	Ria	A	J. T. V	
			D	A	J. D
	R	S. A. M	J	A	S. D. R
	A. D. S. A. M	J. D	Ri. D	V. A. D	Pa. T. V
	A. T. Ri. A. M	P			S. A. M
	V. P. D	T		Ri. D. S. J	Pa. D. A
	R		Ria. V. S. H	S. A. R	J. Pa. A. M
	D. Ri. A. M. R	A. T	R. A	P. D. T	H

Patterns & Rules of the Voynich Manuscript

	S. A. Pa	J. D. Ri	D. R	T. V	S. A. M
	Ria. D. V				
VI	Pa. D	A. M	D. Ri. A. M. V	A. D. T	P. J. D. S. T. H
	J. D	P. V. S. T	A	R. D	S. A. R
	V. S. A. M	A. D. T	S. A. M	Pa. A. T	S
	J. T	Ri. A. M	S. A. R	J. T. V	Pa. A. R
			Ri	J. D. V	D. Ri. D. T
	S. A. M	G. A. R	Pa. D. T	S. A. M	Pa. D. T. S. A. R
	V. A. T	A. H	V	S. A. M	T. V
	Ri. M	D. P. A. D. T	P. A	H	T. D
	J. D. S	Ria. J. A	Pa	D. Ri. A	
		S. A. T	A. P. D. R	J. D. H	T
	Ri		T		