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"The Most Mysterious Manuscript in the World"

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Around 1912 . . .

- Antiquarian Voynich aquires 30 manuscripts
- Among them enciphered manuscript
- Estimated 13th century



Figure: Wilfrid M. Voynich



Voynich's Finding

- 18cm × 25cm book
- ullet pprox 240 vellum pages
- Colored drawings
- "Large" portions of text





Plants

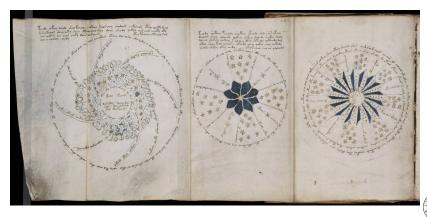
- Arround 126 drawings of plants
- Text flowing arround





Stars

- Diagrams and "star-charts"
- Up to 6 pages





Text

 ≈ 170.000 characters of unknown script





Attempts to Solve the Manuscript

- Voynich provides everybody interested with reproductions
- Many theories of the authorship
 - Roger Bacon
 - John Dee
 - Leonardo da Vinci
 - Edward Kelly . . .

gorg Alledy create declare content



Micrography

- Tiny markings in the text
- Additional Substitution and Permutation





William Romaine Newbold

- Lecturer in Philosophy at University of Pennsylvania
- Recieves 3 pages from Voynich in 1919
- "Solves" it with the micrography theory
- Author: Roger Bacon (1214–1294)
- Plaintext contains descriptions about
 - Microscope
 - Galaxies
 - ▶ etc
- But



Figure: William R. Newbold



9/18

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Figure: William R. Newbold



Another Look at the Text

- Written from the left to the right
- \bullet \approx 170.000 glyphs
- ≈ 35.000 words of varying length
- 20 − 30 distinct glyphs
- ≈ 12 rare characters



а	b	С	d	е	f	g	h	i	j	k	ı	m	n	0	р	q	r	s	t	u	٧	Х	У	z
a	Э	_	s	د	f	ક	~	`	Ş	lt	Я	જ	১	0	#	4	Ş	2	H	۵	^	×	9	ıť
Α	В	С	D	Ε	F	G	Н	I	J	Κ	L	М	Ν	0	Р	Q	R	S	Т	U	٧	Χ	Υ	Ζ
æ				د	執		T	7		Ħ				σ	#			2	#				9	π°



More Properties

- ≈ 10-bit entropy/word
 - English/Old-German/Latin
- Letter frequencies
 "similar" to european
 languages
- No words > 10 glyphs
- Only few 1 2 glyph words





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Signal Intelligence Agency

- Simple monoalphabetic ciphers can be excluded
- First digitalization (on punch cards)
- War over . . .



Figure: William Friedman



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Polyalphabetic Cipher

- Known since 14th century
- Cipher discs
- Usually destroys the statistical properties to some extend





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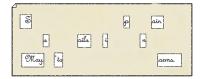




Steganography

- Cardan Grille
- Attributed to Girolamo Cardano (1501-1576)
- Arbitrarily hard to find solution

Sie John eegards yau well and spekes again that all as eightly 'vails him is yours now and over. May he 'tone for past d'lays with many charms.

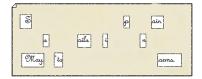




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Exotic Natural or Constructed Language

- Jacques Guy:
 - Thai
 - ► Khmer . . .
 - Persian example:

Forest	جنگل	Jangal					
Plant	گیاه	Giah					
Star	ستاره	Setare					

- Invented Languages
 - Lingua Ignota (12th century)
 - ► Ro
 - Codebook





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Hoax

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- Earlier Fabrication





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Facts

- C14 dating (done 2009)
 between 1404 and 1438
- Hoax possible but "not very plausible"
 - Vellum at this size was very expensive
- Beinecke Rare Book and Manuscript Library at Yale University





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Conclusion

- Author and content remain unknown (> 600 years)
- Only certain is the date
- Tons of material and "bogus"
 - "On Alien-Writing"
 - ► Esoteric books with "solutions" etc.
- Romanesque Castle





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