

# Greatest Internet Mystery

That you probably don't know about.



@iBotPeaches

source**toad**



# Story Time

- Cicada 3301
- 3 Puzzles
- Worldwide Hunt
- Largely Unknown in Public
- Scary



# January 5, 2012 - 4chan

- Weird part of Internet
- No Description
- “hidden in this image”
- Hex Editor Time?

Hello. We are looking for highly intelligent individuals. To find them, we have devised a test.

There is a message hidden in this image.

Find it, and it will lead you on the road to finding us. We look forward to meeting the few that will make it all the way through.

Good luck.

3301



# Puzzle #1 - Text Editor

\9C\E7\DB\DF"\AF\EA\9E+\D2\F4\AF\8E\EB\AE\C3,W[0016]QJ\91^M \CAHLB9\DD@  
 \DB\CA.[0018]W3)\86K`r \E4\B1P[0002]\A8[0004]\E4\FAs\[007F]\8B\B5\B1\E2?[0016]\EA\BA@T\  
 \C7\F3[001F]\CB\F2\F7\B7\97\9C\ED\C9\C6~\95 \00w[007F][0012][007F]\E3\CF\C1\_\F6-\DB\  
 \00QKI@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]R\D0[0002]QE[0014]\00QE[0014]\00QE-\00%  
 \00QE[0014]\00QE[0014]\00QE[0014]\00R\D2Q@[0005][0014]Q@[0005]-%[0014]\00R\D2Q@[0005][0014]Q@[0005][0014]\B4\94\  
 \00%[0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0008]IE[0014]\00QKI@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]R\  
 \94Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]\B4\94\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]  
 \00%[0014]Q@[0005][0014]R\D0[0002]QE[0014]\00QE[0014]\00QE[0014]\00QKI@[0005][0014]Q@[0005][0014]R\D0[0002]R\D2Q@[0005][0014]  
 \00%[0014]R\D0[0002]R\D2Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0008]IE[0014]\00QE[0014]\00QKI@[0008]IE[0014]\00QE[0014]  
 \00QE[0014]\00QE[0014]\00QKI@[0005][0014]Q@[0008]IE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]  
 \00QE-\00%[0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]R\D0[0002]R\D2Q@[0005]-%[0014]\00\B4\94Q@[0005][0014]  
 \00QE[0014]\00QE[0014]\00\B4\94Q@[0005][0014]Q@[0005][0014]Q@[0005][0014]Q@[0005]-%[0014]\00QE[0014]\00QE[0014]\00QE[0014]  
 \00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]\00QE[0014]  
 \D9TIBERIVS CLAVDIVS CAESAR says "lxxt>33m2mqkyv2gsq3q=w]02ntk"

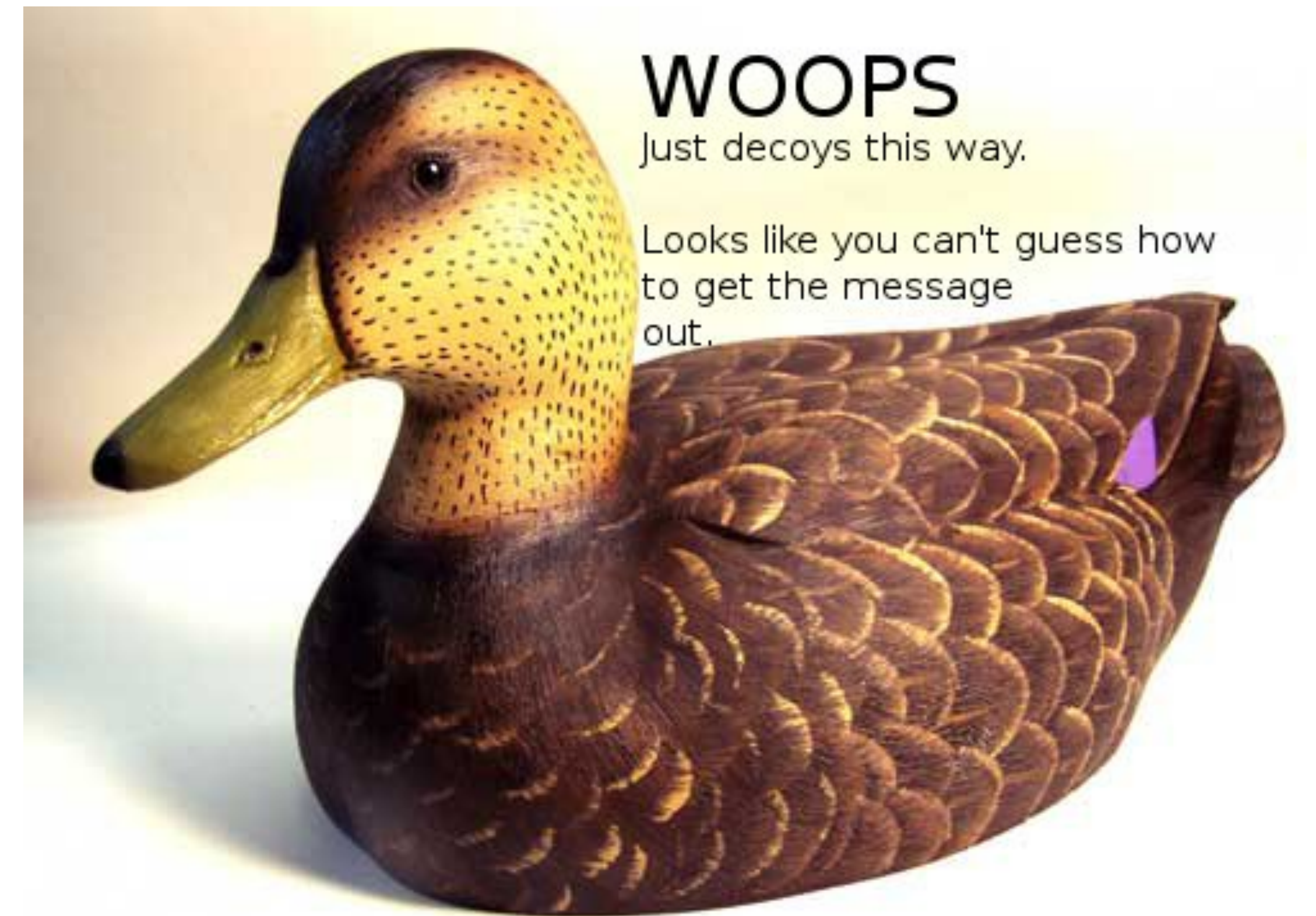


# Puzzle #1 - Caesar Cipher

- *lxxxt> 33m2mqkyv2gsq3q = w] 02ntk*
- Caesar Cipher is part of ROT family
- ROT0 - ROT26 - “Rotates” text
- +4 - http> 33i2imgur2com3m = s] K2jpg

# Puzzle #1 - The Decoy

- Image loaded
- “can’t guess how”
- “to get image out”
- **outguess** (tool)





# Puzzle #1 - Original Outguess

```
→ cicada outguess -r 3301orig2012cesarincluded.jpg out2.txt
```

```
Reading 3301orig2012cesarincluded.jpg....
```

```
Extracting usable bits: 29049 bits
```

```
Steg retrieve: seed: 228, len: 535
```

```
→ cicada cat out2.txt
```

```
Here is a book code. To find the book, and more information, go to http://www.reddit.com/r/a2e7j6ic78h0j/
```

1:20

2:3

3:5

4:20

5:5

6:53

# Puzzle #1 - The sub Reddit


A2E7J6IC78H0J
hot
new
rising
controversial
top
gilded
Want to join? [Log in](#) or [sign up](#) in seconds. | [English](#)

# Welcome to Reddit.

**Come for the cats, stay for the empathy.**

## BECOME A REDDITOR

and start exploring.



search

username
----------

password

☐ remember me    [reset password](#)

login

Submissions restricted

Only approved users may post in this community.



Get an ad-free experience with special benefits, and directly support Reddit.

**Get Reddit Premium**

**a2e7j6ic78h0j**

**join** 1,341 readers

6 users here now

a2e7j6ic78h0j7eiejd0120

Verify: 7A35090F

created by [CageThrottleUs](#)

a community for 7 years

## MODERATORS

message the moderators

Pixelated\_Fudge

[about moderation team »](#)

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# Puzzle #1 - The sub Reddit

- 2 image posts
- Too many lines of gibberish
- No comments. No descriptions.
- Just titles.
- The puzzle continues...



# Puzzle #1 - Image 1 - Reddit





# Puzzle #1 - Image 2 - Reddit





# Puzzle #1 - Outguess time

```
→ cicada cat welcome.txt
```

```
-----BEGIN PGP SIGNED MESSAGE-----
```

```
Hash: SHA1
```

- From here on out, we will cryptographically sign all messages with this key.

It is available on the mit keyservers. Key ID 7A35090F, as posted in a2e7j6ic78h0j.

Patience is a virtue.

Good luck.

```
3301
```

```
-----BEGIN PGP SIGNATURE-----
```

```
Version: GnuPG v1.4.11 (GNU/Linux)
```

```
iQIcBAEBAgAGBQJJPBRz7AAoJEBgfAeV6NQkP1UIQALFc08DyZkecTK5pAIcGez7k  
ewjGBoCfjf02NlRR0uQm5CteXiH3Te5G+5ebsdRmGWVcah8QzN4UjxpKcTQRPB9e  
/ehVI5BiBJq8Gl0naSRZpzsYobwKH6Jy6haAr3kPFK1l0XXyHSiNnQbydGw9BFRI  
fSr//DY86BUILE8sGJR6FA8Vzjiifcv6mmXkk3ICrT8z0qY7m/wF0YjgiSohvYpg  
x5biG6TBwxfmXQ0aITd05r08+4mtLnP//qN7E9zjTYj4Z4gBhdf6hPSu0qjh1s+6  
/C6IehRChpx8gwpdhIlNf1coz/ZiggPiqdj75Tyqg88lEr66fVVB2d7PG0bSyYSp  
HJl8llrt8Gnk1UaZUS6/eCjnBniV/BLfZPVD2VFKH2VvvtY8sL+S8hCxsuLCjydh  
skpshcjMVV9xPIEYzwSEaqBq0ZMdNFEPxJzC0XISlWSfxR0m85r3NYvbrx9lwVbP  
mUpLKFf8ZcMbf7UX18frg0tUjmqQUvDQ2dQhmCUywPdtSKHFLc1xIqdrnRWUS3CD  
eejUzGYDB5lSflujTjLPgGvtlCBW5ap00cfIHUZPOzmJWoEzgFgdNc9iIkcUUlke  
e2WbYwCCuwSlLsdQRMA//PJN+a1h2ZMSzzMbZsr/YXQDUWvEaYI8MckmXEkZmDoA  
RL0xkbHEFVGBmoMPVzeC
```

```
=fRcg
```

```
-----END PGP SIGNATURE-----
```

```
→ cicada █
```



# Puzzle #1 - Outguess time

```
→ cicada cat problems.txt
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1
```

The key has always been right in front of your eyes.

This isn't the quest for the Holy Grail. Stop making it more difficult than it is.

Good luck.

```
3301
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.4.11 (GNU/Linux)
```

```
iQIcBAEBAGAGBQJPCBl3AAoJEBgfAeV6NQkPo6EQAkghp7ZKYxmsYM96iNQu5GZV
fbjUHsEL164ZLctGkgZx2H1HyYFEc6FGvcfzqs43vV/IzN4mK0SMY2qFPfjuG2JJ
tv3x2QfHMM3M2+dwX30bUD12UorMZNrLo8HjTpanYD9hL8WglbSIBJhnLE5CP1US
BZRSx0yh1U+wbnlTQBxQI0xLkPIz+xCMBwSKl5BaCb006z43/HJt7NwynqWXJmVV
KScmkpFC3ISEBcYKhHHWv1IPQnFqMdW4dExXdRqWuwCshXpGXwDo0XfKVp5NW7Ix
9kCyfC7XC4iWXymGgd+/h4ccFFVm+WW0cz0q/zeME+0vJhJqvj+fN2MZtvckpZbc
CMfLjn1z4w4d7mkbEpVjgVIU8/+KClnFPSf4asqjBKdrcCEMA180vZorElG60VIH
aLV4XwqiSu0LEF1ESCqbxkEmqp7U7CHl2VW6qv0h0Gxy+/UT0W1NoLJTzLBFi0zy
QIqqpgVg0dAFs74SlIf3oUTxt6IUpQX5+uo8kszMHTJQRP7K22/A3cc/VS/2Ydg4
o60fN54Wcq+8IMZxEx+vxtmRJCUR0VpHTTQ5unmyG9zQATxn8byD9Us070FAg6/v
jGjo1VVUxn6HX9HKxdx4wYGMP5grmD8k4jQdF1Z7GtbcqzDsXP65XCa0Ymray1Jy
FG50lgFyOf1mjBXHsNad
=SqLP
-----END PGP SIGNATURE-----
→ cicada █
```

# Puzzle #1 - The Sidebar

- Reddit Sidebar
- What is that?
- Longer version of subreddit name

**a2e7j6ic78h0j**

**join** 1,352 readers

4 users here now



**a2e7j6ic78h0j7eiej0120**

Verify: 7A35090F



















# Puzzle #1 - The Header

- Reddit Header
- What is that?



# Puzzle #1 - The Mayans

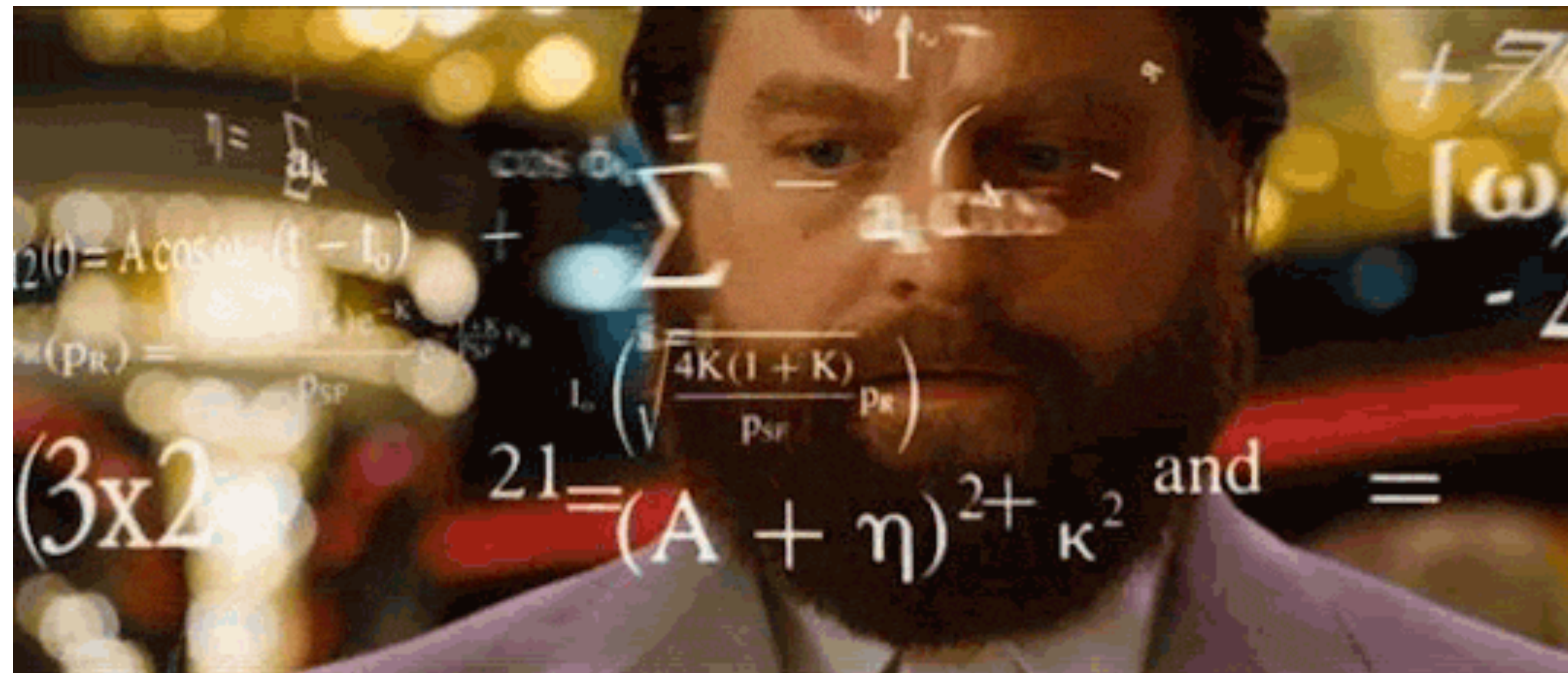
- Mayan Numbering
- There is our key :)
- So decode header

0	1	2	3	4
	•	••	•••	••••
5	6	7	8	9
				
10	11	12	13	14
				
15	16	17	18	19
				



# Puzzle #1 - The Number

- 10 2 14 7 19 6 18 12 7 8 17 0 19 7 14 18 14 19 13 0 1 2 0





# Puzzle #1 - The Number Serious

- 10 2 14 7 19 6 18 12 7 8 17 0 19 7 14 18 14 19 13 0 1 2 0
- Pattern of this puzzle has been shifts/rotates
- djsl aoltlz? Nhta snwe uawg I nqbl mu ltlm, khta hzcn fhpwlnuh hvz
- Shift backwards...
- d = shift 10 = t
- j = shift 2 = h
- s = shift 14 = e
- l = shift 7 = e

We spelled "THEE"

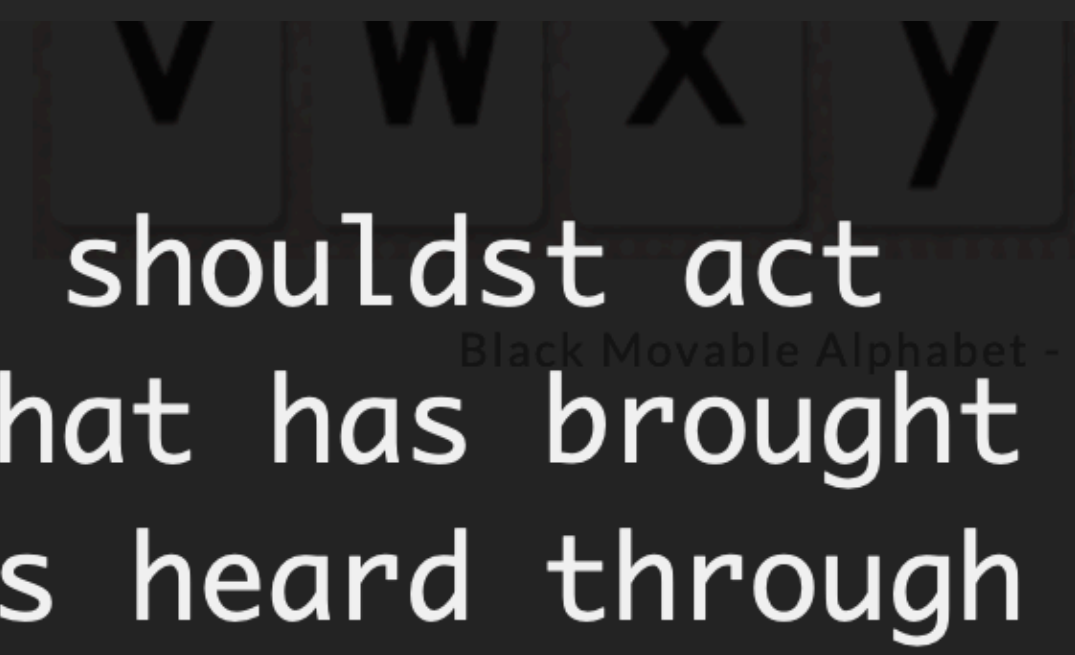


# Puzzle #1 - The Batch

- We aren't savages. Let's script this.

→ BarCamp2019 `./decipher < reddit.txt`

thee hither? What evil have I done to thee, that thou shouldst act  
the valley, approaching me and saying, 'Oh, Knight, what has brought  
with listening to the birds, lo, a murmuring voice was heard through





# Puzzle #1 - The Story

- Story about King Arthur
- We had a book!
- Our book code is useful!
- Line 2, character 20.
- Line 3, character 11...etc



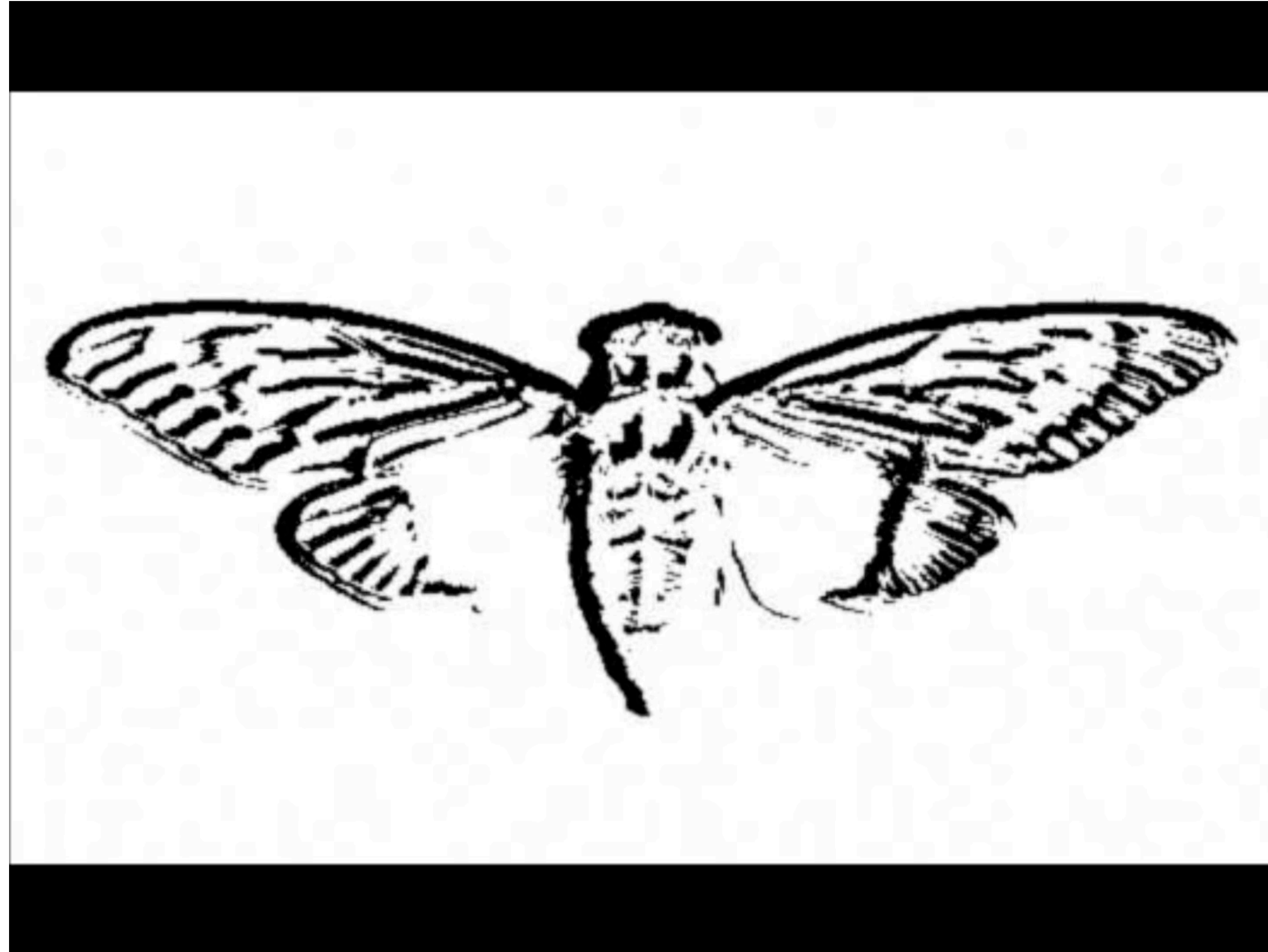
# Puzzle #1 - The Message

- Call us at us tele phone numBer two one four three nine oh nine six oh eight
- WOW.
- Into the phone world we go.



# Puzzle #1 - The Recording

- Video





# Puzzle #1 - Backup: Audio

- Very good. You have done well.

There are **three** prime numbers associated with the original *final.jpg* image. **3301** is one of them.

You will have to **find** the other two.


Multiply all three of these numbers together and add a .com to find the next step.

Good luck. Goodbye.



# Puzzle #1 - Prime Hunt

- Take the original image from 4chan
- 509px by 503px (both prime)
- $3301 \times 509 \times 503 = ??$
- **845145127.com**



Hello. We are looking for highly intelligent individuals. To find them, we have devised a test.

There is a message hidden in this image.

Find it, and it will lead you on the road to finding us. We look forward to meeting the few that will make it all the way through.

Good luck.

3301

# Puzzle #1 - The Website

- Countdown first
- Then lat/long
- Embedded in image



Find our symbol at the location nearest you:

52.216802,	21.018334
48.85057059876962,	2.406892329454422
48.85030144151387,	2.407538741827011
47.664196,	-122.313301
47.637520,	-122.346277
47.622993,	-122.312576
37.577070,	126.813122



# Puzzle #1 - The Locations

- Chino, California
- Erskineville, Australia
- Fayetteville, Arkansas
- Haleiwa, Hawaii
- Miami, Florida
- New Orleans, Louisiana
- Paris, France (2)
- Seattle, Washington (3)
- Seoul, South Korea
- Warsaw, Poland

# Puzzle #1 - Real World

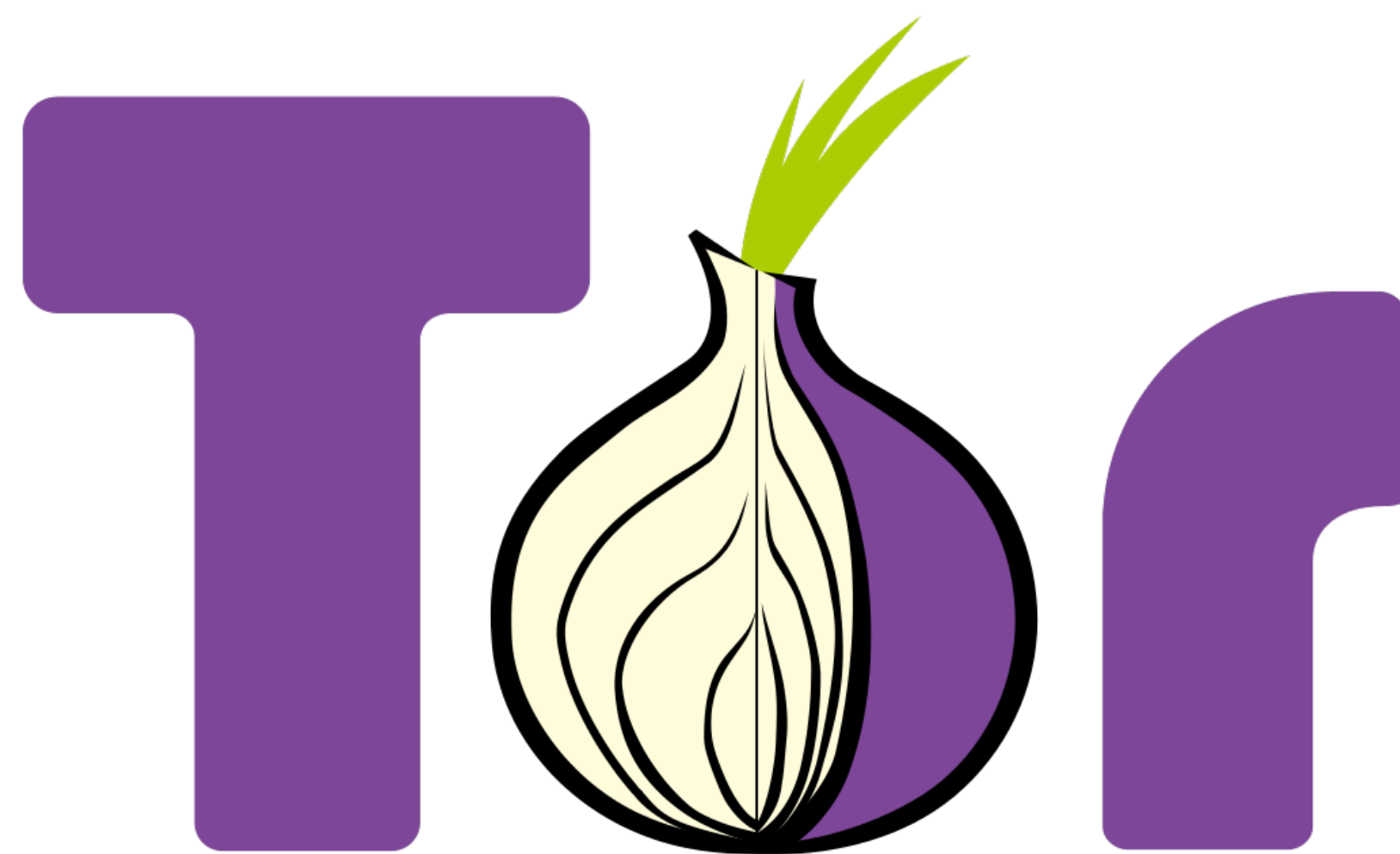
- Find the lat/long
- Find the symbol
- Scan the QR





# Puzzle #1 - The Onion

- TOR Browser Required
- This story gets unverified.
- Private tests with Cicada



# Puzzle #1 - Ended

- Released on the subreddit
- End of the 2012 Puzzle
- Started a movement

Hello.

We have now found the individuals we sought.  
Thus our month-long journey ends.

For now.

Thank you for your dedication and effort. If you  
were unable to complete the test, or did not receive  
an email, do not despair.

There will be more opportunities like this one.

Thank you all.

3301

P.S. 1041279065891998535982789873959431895640\  
442510695567564373922695237268242385295908173\  
9834390370374475764863415203423499357108713631



# Puzzle #2 - Began

- January 5, 2013
- Released on subreddit

Hello again. Our search for intelligent individuals now continues.

The first clue is hidden within this image.

Find it, and it will lead you on the road to finding us. We look forward to meeting the few that will make it all the way through.

Good luck.

3301

## Puzzle #2 - Quick Hits - 1

- Poem, Book Code, Book
- ISO (Boot software)
- Music (2 songs) - key and code
- Twitter Account
- XOR (Twitter + music)



# Puzzle #2 - Quick Hits - 1

- Lead to an alphabet
- Runes (?)
- Plays an important part.

Gematria Primus					
an order and a value as revealed through 3301					
Rune	Letter	Value	Rune	Letter	Value
ƒ	F	2	ᚱ	S/Z	53
ᚢ	U	3	ᚦ	T	59
ᚦ	TH	5	ᚷ	B	61
ƒ	O	7	ᚱ	E	67
ᚱ	R	11	ᚱ	M	71
ᚠ	C/K	13	ᚦ	L	73
ᚨ	G	17	ᚨ	NG/ING	79
ᚦ	W	19	ᚨ	OE	83
ᚱ	H	23	ᚱ	D	89
ᚦ	N	29	ƒ	A	97
ᚠ	I	31	ƒ	AE	101
ᚦ	J	37	ᚢ	Y	103
ᚦ	EO	41	ᚨ	IA/IO	107
ᚠ	P	43	ᚦ	EA	109
ᚦ	X	47			



## Puzzle #2 - Quick Hits - 2

- Get Data from server
- XOR Data with file from ISO
- Build primes, telnet to server
- Get onion URL, into real world
- Shamir Secret
- Another onion URL, with a test



# Puzzle #3 - Began

- January 6, 2014
- Tweeted

Hello.

Epiphany is upon you. Your pilgrimage has begun. Enlightenment awaits.

Good luck.

3301

# Puzzle #3 - Quick Hits - 1

- Book, Book Solve
- RSA Factorization
- 130 digits (432 bits)
- Brute forced collectively (cado)
- Onion

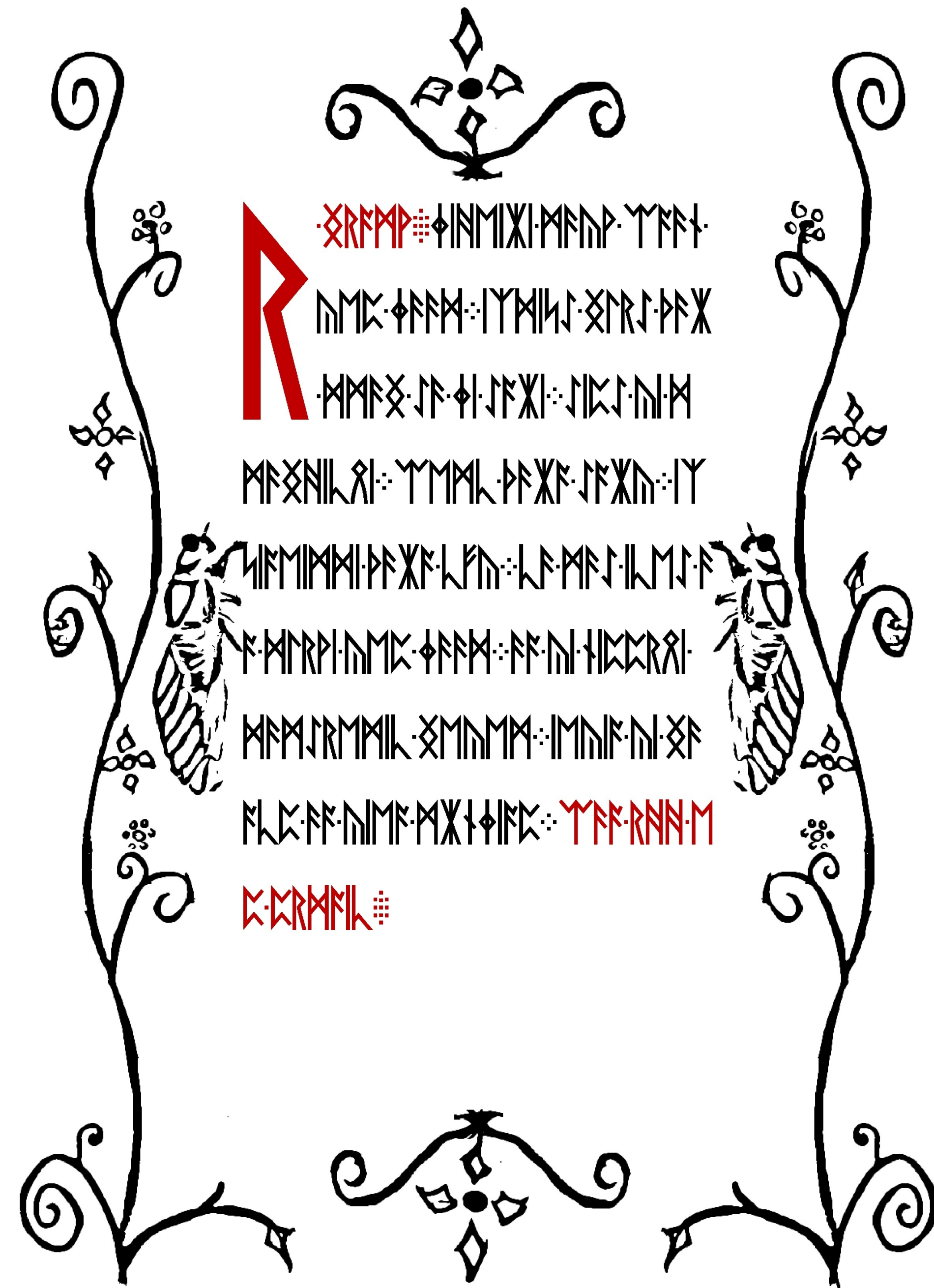


## Puzzle #3 - Quick Hits - 2

- Page growing with bytes
- Tons of characters - 3,641,299
- Convert to binary
- Flipped bits
- Detect magic values for JPEG

# Puzzle #3 - Quick Hits - 3

- 3 images. A book (?)
- Decode to hexadecimal
- Complicated decode
- Transposition cipher
- Decode to another msg
- Goal: Onion URL



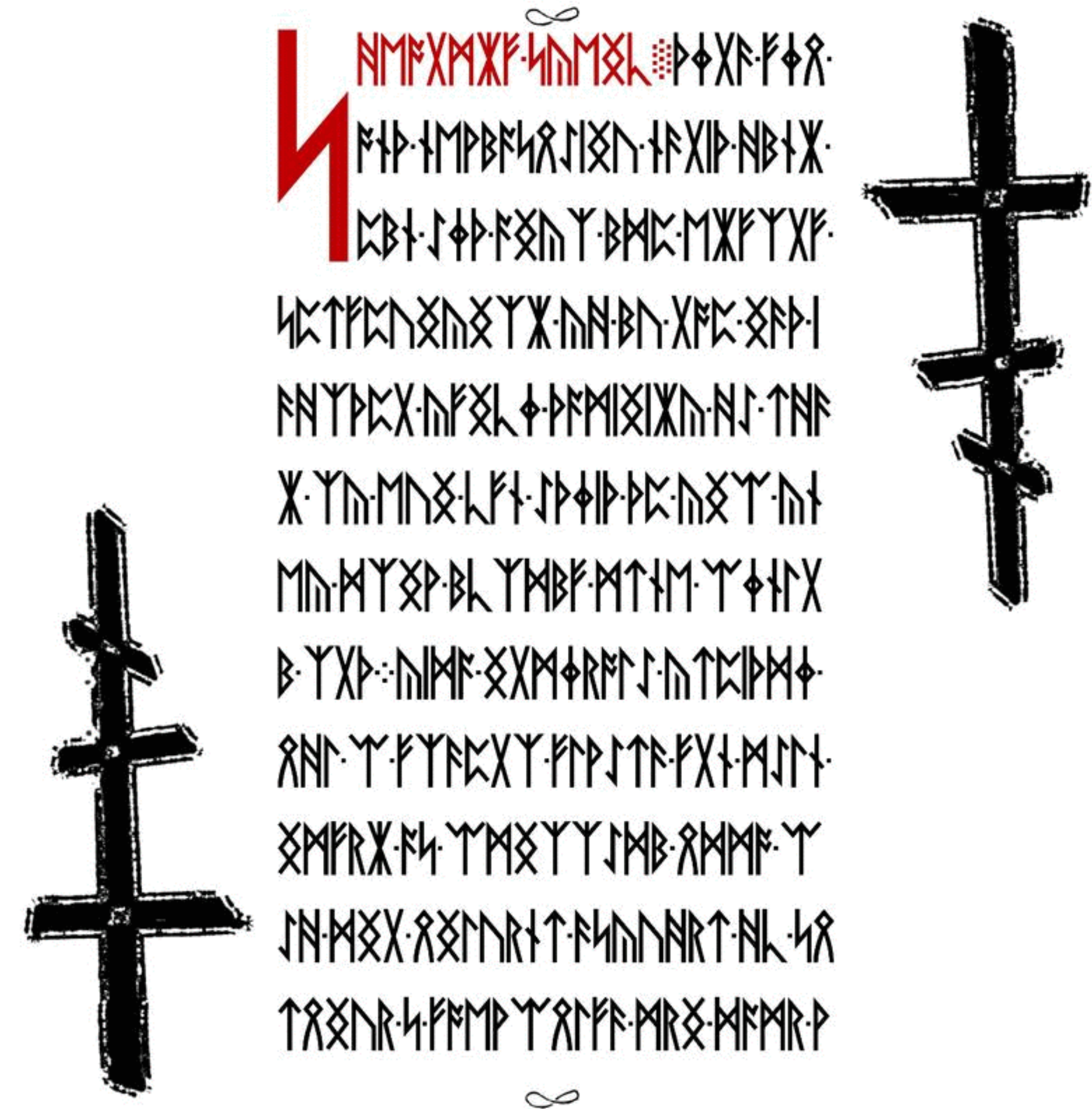


## Puzzle #3 - The slowdown

- Progress was tough, or hidden
- Onions started going offline
- Only had a few select pages
- Then May 2, 2014
  - Cicada returned...

# Puzzle #3 - Liber Primus

- Released at once
- 58 pages.
- Only 17 solved.





# Cicada Update - Jan 2016

- Stick to the Book
- No new puzzle

Hello.

The path lies empty; epiphany seeks the devoted.

Liber Primus is the way. Its words are the map, their meaning is the road, and their numbers are the direction.

Seek and you will be found.

Good luck.

3301

Beware false paths. Verify OpenPGP 7A35090F.

# Cicada Update - April 2017

- No image
- Verified message.
- *Beware false paths. Always verify PGP signature from 7A35090F.*



*"Question all things."*

- Cicada 3301

@iBotPeaches  
Connor Tumbleson



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