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Cicada 3301: I tried the hardest puzzle on the internet and failed spectacularly

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The hardest puzzle on the internet is not, perhaps, something to be attempted on whim during a quiet January afternoon.

But ever since I first heard about Cicada 3301, a mysterious event somewhere at the intersection of a game, a competition and a job interview, I'd wanted to test my mettle. It couldn't be that hard, right?

Wrong.

Cicada 3301 first appeared in January 2012, with a picture posted on 4Chan, the notorious message board which has given birth to everything from Lolcats to

Anonymous.

In white text on a black background, the posted message read: "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."

It was signed "3301".



▲ The puzzles have been going since 2011. This duck was one of the first. Photograph: Cicada 3301 Photograph: Cicada 3301

That message led to a series of puzzles, each harder than the last. The first few were just about solvable by a canny individual working alone, requiring little more than mild coding ability and wordplay to get past. But as participants fell deeper into the rabbit hole, the references became less obvious - one clue involved a poem from a collection of medieval Welsh manuscripts, another a quote from a William Gibson book which was only released on 3.5 inch floppies.

Co-operating on chatrooms and message boards, a growing collection of puzzle solvers broke the codes, one by one. When the game moved into the real world - a series of GPS co-ordinates were posted, leading to QR codes attached to lampposts over five

different nations, from Poland to Australia – it was clear that no single person could hope to solve everything.

But as quickly as the co-operation was encouraged, it was snuffed out. The final puzzle directed players to an address for a website on Tor, the anonymous browser now best known for its use by the Silk Road black market. But only the fastest movers ever got to see what was on the page: it was shortly blanked, and replaced with the statement "We want the best, not the followers." For those deemed "followers", Cicada was over.

Repetition

Then, on January 5 2013, exactly a year and a day after the first posting, a new image was uploaded onto 4chan's /b/ message board. "Hello again. Our search for intelligent individuals now continues," it began. Again, the image led to a series of puzzles; again, the puzzles eventually pointed to locations in the real world; and again, the trail was abruptly closed off to all but the best players.

Those who had failed two years in a row had no choice but to wait and hope the pattern would repeat itself.

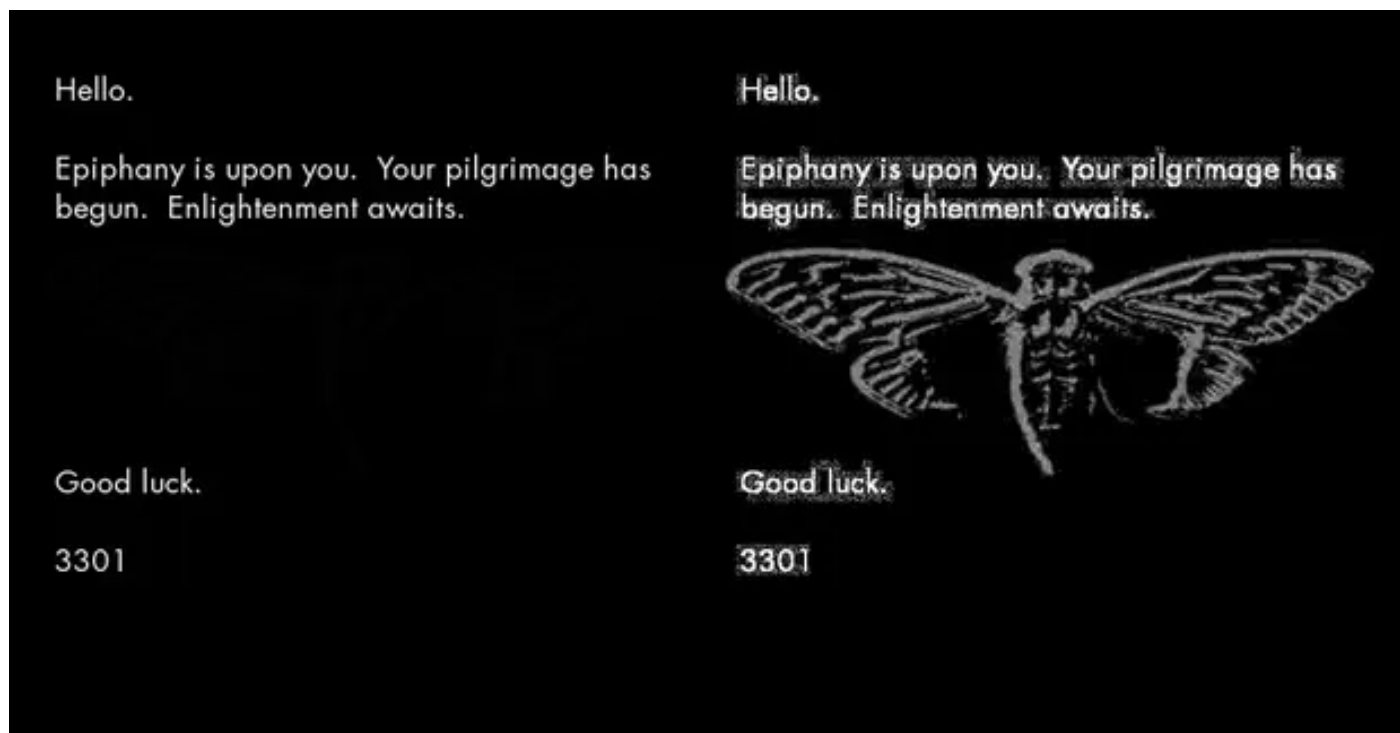
It did.

This year's puzzle began slightly differently. Rather than an image posted on 4chan, a Twitter feed which had been involved in 2013's hunt sprang to life again, sharing yet another image of white text on a black background – albeit one with more gnomish text than ever before.

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

This year, I tried to join in the hunt. So far, it hasn't gone well.

In fact, it couldn't have started any worse. There are two messages buried in the image file. The first is easy enough to get at: the black of the image isn't actually pure black. Instead, in very dark grey, is the image of a cicada. A couple of seconds messing with the colour levels in Photoshop, and I'd made it visible. Success!



▲ Change the exposure on the image, and the cicada is revealed. Photograph: Cicada 3301 Photograph: Cicada 3301

Unfortunately, the actually important message was harder to get.

As with the previous two years, the image included text hidden with steganography, a technique which lets users bury information in seemingly innocuous files. To get the information out required me to use a program called OutGuess. To install OutGuess, I need to compile the program from source. To do that, I need to install Xcode, the Mac OS X developer tools, create a new command line project based on the source code I downloaded, reconfigure the program for Mac, deal with any dependency issues, build it, and then run it from the terminal.

What I actually do is spend the better part of an hour clicking around in Xcode, desperately trying to find a magic button to click which will make everything work without requiring me to learn how to code in an afternoon. There is no such button. This may be harder than I thought.

Out of desperation, I turn to the community. Apparently I'm a few days behind the curve; they've already extracted the text and solved the puzzle. As I look at the solution, my hope begins to melt. It really is mind-bogglingly obtuse.

Solution

The text which can be extracted from the image is split into three parts. The third is just a signature, proof that the image really does come from Cicada and that it hasn't been tampered with. But above it is the next step of the puzzle.

The first part reads like a poem: "The work of a private man/ who wished to transcend,/ He trusted himself, / to produce from within." That's followed by a series of numbers, separated by colons: "1:2:3:1/3:3:13:5/45:5:2:3," and so on, capped by the word ".onion". That last bit means that the solution, when found, will be the url to another website on Tor - following the pattern of the previous years.

So how is it solved? The numbers give a clue: the code probably involves a book. That format is a relatively well-known way of using a book as a key to a code. The first digit is the paragraph, the second is the sentence, the third is the word, and the fourth is the letter. But which book?

Your help is greatly appreciated; but please use as many Headings2 as you can, to break long document in smaller chunks. By placing a section under Headings2, it gets its own edit button (next to heading), thus making it easier to edit. Try to put new header every height of one screen. You can edit only smaller chunks without having code of whole document on one screen. It also prevents collisions, since many authors can edit text under different Headers at same time.

Also KEEP IN CODE FORM ALL STRINGS WE GOT FROM OUTGUESS! SO they are searchable in wikia!

ALSO DON'T DELETE MULTIPLE LINKS TO SAME PASTE, THOSE PASTES ARE NOT FOREVER! WE NEED THEM AS BACKUPS! KEEP AS MANY DIFFERENT LINKS (PASTEBIN, PASTEE, INFOTOMB...) IN WIKIA AS POSSIBLE

ALSO DO NOT DELETE THINGS THAT MIGHT BE POSSIBLE HINTS FOR NEXT STEP, even it they do not seem important ATM they might be relevant later.

Thx everyone for contributing.

For discuson on questions about wiki managing PM me in #CicadaWiki on freenode IRC

Lurker69

▲ A message from a community co-ordinator helping to solve the Cicada puzzle. Photograph: /Cicada 3301 Photograph: Cicada 3301

The answer is contained in the poem. Sort of. It's like the most frustrating cryptic crossword ever, with no conventions, no help as to length, and no way of checking whether you've got the right answer beyond seeing whether the url works.

The answer, apparently, is American author Ralph Waldo Emerson's essay "Self-Reliance". Here's the community's explanation as to why:

■ • *Poem references transcendentalism*

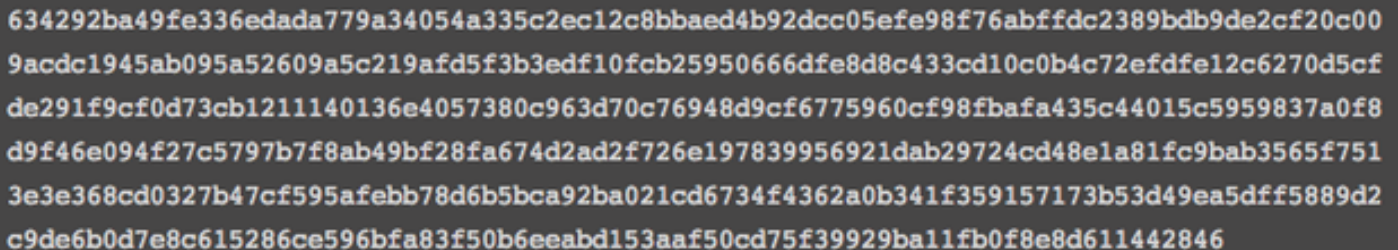
- *Emerson is a noted transcendentalist author*
- *"he trusted himself" refers to "trust thineself", which is a theme throughout Self-Reliance, as is producing from within*

I do not think I would have got that on my own.

Community

There's only been one trustworthy piece of information as to who lies behind Cicada. It comes from an email, leaked by one of the 'winners' of the 2012 challenge. It's impossible to verify fully, because the leaker was forced to remove the signature to keep their identity secret, but others who received the same email indicated that the contents were legitimate.

"You have all wondered who we are," it reads in part, "and so we shall now tell you. We are an international group. We have no name. We have no symbol. We have no membership rosters. We do not have a public website and we do not advertise ourselves. We are a group of individuals who have proven ourselves, much like you have, by completing this recruitment contest, and we are drawn together by common beliefs. A careful reading of the texts used in the contest would have revealed some of these beliefs: that tyranny and oppression of any kind must end, that censorship is wrong and that privacy is an inalienable right."



▲ Part of a Cicada puzzle. Photograph: /Cicada 3301 Photograph: Cicada 3301

It seems unbelievable, but the number of other possibilities is fast shrinking. At the end of the first Cicada, it was possible that the whole thing was a game, or publicity stunt. Before the launch of Halo 2, Microsoft did something similar, launching an "alternate reality game" called ILoveBees. But that game ran for just three months before it ended with an invitation to play the game; Cicada is now in its third year.

Similarly, the security services have been known to recruit through puzzles and games. But when GCHQ invited people to solve a code to get a job, [they did so on a site plastered with their branding](#). And it beggars belief that they or the NSA would seriously start a hunt for spies on 4chan.

At the same time, Cicada must be the work of more than one person, with some hefty resources. So far, physical artefacts from the group have appeared in 8 nations and 11 US states; it has bought phone numbers; paid for server up time; and offered something to the winners which has earned their silence.

Last chance

I decided to have one last try at solving a puzzle. To stave off the temptation to cheat, I would try and solve the most recent cypher, a 70 character code reading "IDGTK UMLOO ARWOE RTHIS UTETL HUTIA TSLLO UIMNI TELNJ 7TFYV OIU AU SNOCO 5JI4M EODZZ" which had been found by combining two previously discovered answers.

Eavesdropping on the chat channel, I see someone point out that the Enigma code was formatted in the same way. They link to an Engima simulator, and I give it a go. The most common version of the Enigma has a key of four letters, so there are a little less than half a million combinations.

After half an hour of trying ever four-letter phrase I can think of that Cicada may have picked, based on every previous clue, I give up and go to bed.

In the morning, when I check again, the puzzle has been solved. It involved putting the letters into 13 columns and shuffling the order around until a legible sentence appeared. The Enigma theory does not even warrant a mention.

The answer leads to another darkweb site, with another image, and more puzzles, which remain incomprehensible to me. When I leave the chatroom, they are discussing a large chunk of data found between two images on yet another darkweb site. I give up, and do the G2 crossword instead.

• Just who is playing who in ARGs?

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