

Faking Ancient Computer Science: a Special SIGBOVIK Tutorial

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Abstract

In this tutorial, we provide answers to a key question that nobody wanted an answer to: how to fake ancient computer science? We nonetheless argue that this is important, as we clearly assert that this is the most robust vein of computer-science related conspiracy theories we could mine. We outline a step-by-step procedure for creating an instance of the class of *ancient computer science conspiracy theories*. We illustrate this with a proof-of-concept, on the basis of Arcaicam Esperantom, which is a pseudo-ancient predecessor of Esperanto. This tutorial thus provides you with the essential tools for creating your very own computer-science based conspiracy theory. Because ancient computer science is unlikely to be made into reality – as other previous computer-science based conspiracy theories have been – it is our hope that this paper will become the basis for many new conspiracy theories that are future proof.

1 Introduction

Conspiracy theories [2] form an essential part of everyday twenty-first century life. While the fields of mathematics, history, physics, psychology, and so on and so forth, have all contributed many interesting quaint conspiracy theories, computer science (CS) is trailing behind. The main reason for this is that CS-based conspiracy theories such as “the government is constantly spying on you through your IT” and “they can make fake videos of you saying all kinds of humbug”, have sadly all been made into reality.

To mitigate this situation, we thus need a robust source of conspiracies to which reality will not be able to simply catch up.¹ After a considerable amount of time, we have found that we believe that the most successful conspiracy theories have either (or both) of the following elements: 1) they deal with something

¹And, as is typically the case, trump it with something considerably more bizarre.

ancient, and/or 2) they involve aliens. In fact, we have convinced ourselves that 80% of successful conspiracy theories have either or both these elements.^{2,3}

We thus arrive at the main contributions of this paper. Specifically, we provide a method to fake ancient computer science (possibly alien-inspired). We apply this method as a proof-of-concept, by writing a well-known algorithm – a random number generator – in an “ancient” language. For this language, we have selected *Arcaicam Esperantom* [4]. This is in itself a constructed (i.e., fake) pseudo-ancient dialect of a constructed language: Esperanto [10]. We immediately must confess that we do not do this accurately. However, we argue that this is not a problem. We can arbitrarily omit words we do not know, which we will then claim were lost in time, and because a good conspiracy theory may not be too realistic. This is because a more unrealistic conspiracy theory filters out people who are too skeptical. Such people might be convinced by rational arguments later, which may cause the conspiracy theory to disappear. We argue that it is better to attract only a core of highly gullible believers⁴ straight off the bat(shit crazy).

One might object that using a constructed language that was constructed as a pseudo-ancestral language for another constructed language is *a bit much*. We take the opposite viewpoint: there is no such thing as too much for a conspiracy theory. Furthermore, *Arcaicam Esperantom* is uniquely positioned to be the backbone of our proof-of-concept conspiracy theory. This is because the book on *Arcaicam Esperantom* [4] was written *in* Esperanto, which is already quite a time-investment for the aspiring conspiracy theorist to be able to learn to read. Therefore, the conspiracy theory will gain momentum due to the sheer effort of getting to know it. Furthermore, its “descendant” – Esperanto – was first published in *Russian* in 1887 [10]. Not only does this make Esperanto almost ancient itself; but there is nothing that attracts conspiracy theorists



Figure 1: This appears to be a picture of a statue of an ancient laptop. This image is not relevant to the contents of this paper. But see, ancient computer! This needs to be at least some form of circumstantial evidence! Also, it was available under a creative commons attribution share alike 2.0 generic licence on wikimedia commons, courtesy of the authors: Dave and Margie Hill / Kleerup, under the title “File:Gravestone of a Woman - Getty Villa Collection.jpg”. Many thanks!

²For this, we have amongst others, consulted a reliable, yet anonymous source.

³If you press us on this, we might reveal that this is our local contact with the Illuminati. However, we cannot reveal his/her exact identity, as (s)he has recently had some issues with a man who blames the Illuminati for the sexual identity of his pet frogs, which he simply cannot accept.

⁴Not to be confused with “beliebers” which are a completely different type of people.

quite as much as involving the com-mies too.⁵

Another objection might be that Esperanto, and Arcaicam Esperantom, are constructed languages. This is an easy objection to rebut, by simply asking: “Are they really, though? Take one look at Dr Zamenhof, this 19th century guy is supposed to have just *invented* a whole new language *by himself*?! No way, it is way more likely he was just handed a dictionary by aliens!” This provides us with nice side-ways access to the other great conspiracy booster we have identified: aliens.

In Section 2 we survey the existing literature on conspiracy theory construction, in a highly condensed manner. In Section 3, we present our step-by-step instructions for faking ancient computer science, along with a proof of concept. In related work (Section 4), we make some unrelated points that are truly very much besides the point.⁶

2 Background

The background always contains a lot of hidden information. According to the Triangle of Conspiracy Succession Probability (TCSP) [7], when creating a conspiracy theory it is important to offer the general public enough comprehensible information to draw them in, yet remain vague enough to make people want to dig for more (see Figure 2). People won’t just go chasing after every other supposed truth, though. This information must be presented as fact and it must make sense at first and second glance, or at least at first glance. It must instil a sense of anticipation and wonder; a duty to figure out the “great truth” which is hidden in plain sight. The “obvious” information supporting the theory will serve as a lead to lesser known “truths”, ready to further ensnare the tenacious gullible public. The “truths” become less in abundance and harder to find, until, at last, everything however improbable has been eliminated, and what remains is nothing short of *a* truth, but not *the* truth. Because after all, there is no spoon [9].

Finally, we would like to point out that this background section contains a lot of additional information. To access this information, you only need to read



Figure 2: This excerpt from the original pseudo-text [7] clearly illustrates the TCSP.

⁵Yes yes, the Soviet Union did not exist until 1922, but no matter; they do not know that. And even if they do, Russian is still a highly mysterious looking language, and provides ample opportunity for the convenient mistranslation or misinterpretation if the book is actually accessed.

⁶But it nicely fills up the bibliography, which makes our paper look more credible. This is important.

between the lines.

3 Proof of concept

As a proof of concept we take a very simple algorithm – a pseudo-random number generator. We can motivate this by making the observation that humans are very bad at generating random numbers [5], and that it is important in all kinds of other computation. Making these same two observation in a pseudo-ancient text pseudo-establishes the pseudo-existence of the ancient research field.⁷

To construct a pseudo-ancient description of an algorithm, we follow these steps:

1. Select a (relatively simple) algorithm,
2. create a pseudo-ancient description of it in modern English,
3. add pseudo-references to make the description seem more reliable,
4. (optional) translate this description to an intermediate language (Esperanto),
5. translate the resulting description into the target (pseudo-)ancient language (Arcaicam Esperantom),
6. obfuscate details and remove words,
7. create physical artefacts to photograph and subsequently discard.

Step 1 For our proof-of-concept, we use the so-called *linear congruential generator (LCG)* [6]. An LCG is described by the following formula:

$$x_n = (ax_{n-1} + c) \bmod m, \quad (1)$$

that is, a random number, x_n is computed by taking the previously generated random number x_{n-1} , multiplying it by an integer $0 < a < m$, adding a constant integer $0 < c < m$ and then taking the modulus m , i.e., computing the remainder after division by m . To obtain the first random number x_1 , a so-called *seed*, x_0 , is used as the previous random number.

Step 2 The above description of an LCG is concise, but not very pseudo-ancient yet. Therefore, we create a more pseudo-ancient form in modern English:

We choose a start number.

First, we take the start number,
times another number, plus a third number.

We then divide by the maximal number that we want.

What is left over is the result.

This result is the next start number.

⁷And may also be used to increase the pseudo-likelihood of ancient alien computer scientists.

Step 3 We now need to add some fluff. First, we add a reference to that humans are not good at taking random numbers. We specifically use the term “humans” to hint at the possibility of ancient aliens. We further add a reference to the Codex Seraphinianus. This is a nice document, at present undeciphered, which has a nice page with a machine that looks like it could be a Turing machine. Referencing other material, nice and old, is a good way to spike more pseudo-credibility.

Humans are not good at rolling dice in their mind.
We have seen this before.

Therefore, we need a calculation recipe,
to throw dice in an artificial way.
We choose a start number.
First we take the start number,
times another number, plus a third number.
We then divide by a the maximal number that we want.
What is left over is the result.
This result is the next start number.
The device on page [leave out] of the book by
brother Seraphinius can be used to do this.

Step 4 For our purposes, it is highly useful to translate the text to an intermediate language that is more like the language we want the final description to be in. For this proof-of-concept this is Esperanto.

Homoj ne bone povas ruliĝi ĵetkubojn en siaj mensoj.
Ni jam vidis ĉi tion antaŭe.
Tial ni bezonas kalkularecepton,
por artefarite ĵeti ĵetkubojn.
Ni elektas komencan nombron.
Unue, ni multigas la komencan nombron
per alia nombro, plus tria nombro.
Ni tiam dividas laŭ la maksimuma dezirata nombro.
Kio restas, estas la rezulto.
Ĉi tiu rezulto iĝas la nova komenca nombro.
La aparato sur paĝoj [...] de la libro de
frato Seraphinio povus fari ĝin.

Step 5 and 6 We now translate the text to our pseudo-ancient language, Arcaicam Esperantom. Furthermore, we leave out pesky little details (like the page numbers we previously already omitted⁸), that could too easily expose our conspiracy. For example, the Codex Seraphinianus is way too specific, and

⁸Let them search. We believe the machine on page 158 of the Codex Seraphinianus looks nicely like a potential Turing machine. But who are we to impede the creativity of the aspiring conspiracy theorist?

might be debunkable. Therefore, we say “Seraphi[...]” so that the reference hints at the Codex Seraphinianus but might very well be something else in the future if need be.

```
Homoy ned bonæ powait rulizzir argiitoyn in sihiayd mensoyd.  
Yam widiims isityon antezæ.                // Thefariei Velianas sal  
Ityal bezonaims calculretzepton,          // cluvenias turuce  
[...] artepharitæ zhetir argiitoyn.  
Comentzan nombron electaims.  
Unne, comentzan nombron multigaims  
[...] alian nombron, plus tridan nombron.  
Ityam diwidaims selez macsimuman deziratan nombron.  
Quion restas, estas rezulton.  
Ityu rezultom izzat nowam comentzam nombrom.  
Apparatom sobrez paghoyn [...] libres  
phrates seraphi[..] powut pharir eghin.
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In this iteration, *zhetcuboy*n has been replaced by the older form **argiitoyn* (via Old French Ergot — dewclaw⁹).

The text appearing in the C-style comment represents a margin-text, which was likely added when a young, preoccupied Neapolitan monk transcribed the corpus wherein this text allegedly first appeared.

We now have a lovely bit of ancient text ready to be “discovered” somewhere.

Step 7 To fully realise our proof-of-concept, we have contacted a retired forger (who wishes to remain anonymous) to print our code on a genuine 9th-century clay tablet. The result is shown in Figure 3. The only step that remains to be done is to make sure that the tablet is photographed and then summarily lost.¹⁰ The fact that the physical artefacts will inevitably and mysteriously vanish is of course essential; we do not, under any circumstances want any scrutiny on them. We further note that dating back the discovery to sometime during the cold war is probably a good idea. This is because the photographs can then be of a worse quality, which can further obfuscate possible pesky (visual) details that might debunk the theory too easily.

4 Related Work

Conspiracy theories are of course an instance of bullshit [3]. However, conspiracy theories are much more elaborate, and also require a form of self-deception. As pointed out in the excellent (actual serious research) article by Von Hippel and Trivers [8], this “...eliminates the costly cognitive load that is typically associated with deceiving, and it can minimize retribution if the deception is

⁹ Allegedly, after the late-Nikophorian dogwood-shortage and the war of Elohim visitation, the Esperantii gradually phased out wood-based dice for goat-based alternatives.

¹⁰ And is presumably at Area 51 or some other cool place where the governments of this world hide all the pseudo-evidence for most existing conspiracy theories.



Figure 3: Original Arcaicam Esperantom code tablet, discovered in 1973 by Russian explorer Петр Странныев whilst fleeing from local wildlife in the Lombard swamplands.

discovered.” We would argue that conspiracy theorists have taken this to the extreme and pulled their cognitive resources, in order to accept no responsibility for any consequences whatsoever. Therefore society has no other retribution tool than ridicule, from which a group of fervent conspiracy theorists can effectively shield its members. This is marvellous, however, both the philosophical and sociological aspects of conspiracy theories are beyond the scope of this paper, as this paper is not in fact anywhere near serious.

5 Conclusion

We believe this resolves all remaining questions on this topic. No further research is needed.¹¹

Instead, we just want to add a few soothing notes. Firstly, do not worry too much about debunking. Of course, throughout the sections, we have done our utmost to show methods that can help prevent premature debunking. However, conspiracy theories typically do get debunked sooner or later. They are after all, nothing but elaborate BS, so there is bound to be some things that expose this. Don’t panic [1]. Conspiracy theories do not suffer that much from debunking as one might think. Instead, the most fervent conspiracy theorists start believing in a conspiracy theory more when there is a significant effort to debunk it. This is because they may well think people are hiding the truth from them, rather than just debunking some CT. So, the more intricate your web of deceptive little tricks is, the more effort it will take to properly debunk the CT, which will feed the CT like a hungry little monster.

Secondly, there is nothing that stops you from creating multiple instances of the type of conspiracy theories described in this paper. It is an abstract class, of which we hope to see many objects. Please apply our paper to create the coolest and most creative conspiracy theories. And cite us. Please... do cite us.¹²

¹¹<https://xkcd.com/2268/>, at your service!

¹²Reviewer 2 says: “cite this paper!”

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