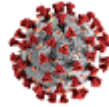


*"I have started to read your series with high interest." - [David Quammen](#)
(author of [Spillover](#) and writing a new book on the current pandemic)*



THE CORONA CONSPIRACY

Combatting Disinformation About the Coronavirus

Frank Visser

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Part 1: Corona, Oxygen, 5G The Paranoid Worldview of David Icke

FRANK VISSER

‘The *only* reason that this connection between 5G and Corona cannot be talked about, is that there *is* such a connection!’

— David Icke

With every news channel overflowing with news about the [coronavirus](#), the more disturbing items are about the [disinformation](#) spread about its cause and nature. [David Icke](#), a former keeper, sports-journalist and world-famous conspiracy-theorist, has recently been interviewed by Brian Rose for the internet talk show "[_](#)", which was aired on London Live and attracted 65.000 viewers.[1] On YouTube, it was viewed by hundreds of thousands—until it was taken down by YouTube. The official reason: medical information contradicting the WHO guidelines will be banned. And Icke implied that 5G towers need to be set on fire. Of course, true to his conspirational spirit, Icke interpreted this as evidence for the points he is making: the establishment (among which Google, which owns YouTube) and the elites (Icke's favorite enemy) don't want you to know the truth of what is happening. His own YouTube channel has had 103,860,439 views as of today. So there is a huge audience for this material.



**The Coronavirus Conspiracy: How COVID-19 Will Seize Your Rights & Destroy Our Economy
(banned from YouTube, reposted on Bitchute)**

'THERE IS NO COVID-19. IT DOESN'T EXIST.'

In the interview, Icke claims—among many other things—that there is a connection between the [COVID-19 symptoms](#) and [5G](#), the fast-internet platform soon to be rolled out in many countries, and already operative in some others, including China. He states: "With 5G life as we know it will be over." How so? 'There is no COVID-19. It doesn't exist.' Huh? Tests for the presence of the virus are nonsensical, because "everybody will test positive", since it tests for general genetic material everybody has. And the real disease is caused by so-called "exosomes", particles expelled from cells due to radiation damage. And here does 5G come in: 5G is creating the "disease" that is misdiagnosed as COVID-19. Some daring doctors speak out on this now. What was the first Chinese city that got 5G? Wuhan! See the connection? People dying from COVID-19 are actually dying from lack of Oxygen. And here's the connection: 5G can block the capacity of the lungs to absorb Oxygen. The frequency used by 5G, 60GHz, is also the frequency at which Oxygen molecules resonate.

But this connection cannot be talked about. And the *only* reason that this connection between 5G and Corona cannot be talked about, says Icke, is that there *is* such a connection!

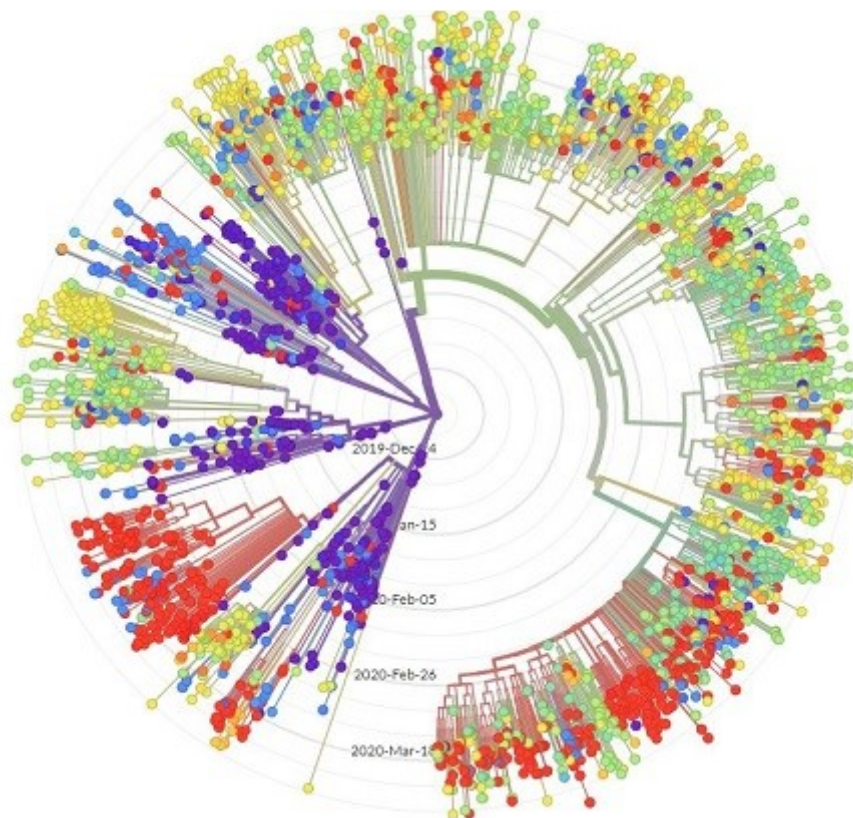
The interview goes on and on but this is already more than I can handle. So this new coronavirus, does it actually exist? You bet. The whole thing got sequenced in weeks.

SARS-CoV-2 belongs to the broad family of viruses known as coronaviruses. It is a positive-sense single-stranded RNA (+ssRNA) virus, with a single linear RNA segment. Other coronaviruses are capable of causing illnesses ranging from the common cold to more severe diseases such as Middle East respiratory syndrome (MERS). It is the seventh known coronavirus to infect people, after 229E, NL63, OC43, HKU1, MERS-CoV, and the original SARS-CoV.

Like the SARS-related coronavirus strain implicated in the 2003 SARS outbreak, SARS-CoV-2 is a member of the subgenus [Sarbecovirus](#) (beta-CoV lineage B).[63][64] Its RNA sequence is approximately 30,000 bases in length.[7] SARS-CoV-2 is unique among known betacoronaviruses in its incorporation of a polybasic cleavage site, a characteristic known to increase pathogenicity and transmissibility in other viruses.[44][65][66]

With a sufficient number of sequenced genomes, it is possible to reconstruct a phylogenetic tree of the mutation history of a family of viruses. By 12 January 2020, five genomes of SARS-CoV-2 had been isolated from Wuhan and reported by the Chinese Center for Disease Control and Prevention (CCDC) and other institutions;[7][67] the number of genomes increased to 42 by 30 January 2020.[68] A phylogenetic analysis of those samples showed they were "highly related with at most seven mutations relative to a common ancestor", implying that the first human infection occurred in November or December 2019.[68] As of 27 March 2020, 1,495 SARS-CoV-2 genomes sampled on six continents were publicly available.[69] ([Wikipedia](#)).

As of June 2020, the number of sequenced genomes has grown to 4,496! These different strains are virtually identical, except for minor variations due to mutations that have occurred since January 2020. This is an impressive feat of science, that measurement and visualization of this virus' full genome has become possible in such a short time span. Here's a fantastic real time display of the SARS-CoV-2 virus strains that have been detected worldwide, with all their micro-evolutionary variations:



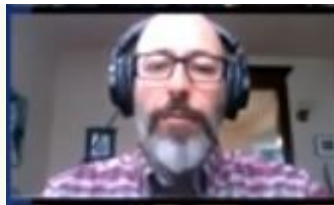
Genomic epidemiology of novel coronavirus - Global subsampling ([Nextstrain.org](#)).

Compare this to David Icke's amateuristic analysis of the earliest medical investigations in Wuhan:

People started getting ill for whatever reason in China. And the Chinese authorities took genetic material from the fluid in the lungs of people who got ill, only a few, a very small number. And they found what they—what we would call "genetic material". It wasn't an isolated virus. It was genetic material, which can be there from a long list of causes, including lung cancer, by the way. And they decided that what was causing the illness was a virus, which has got the name "COVID-19" [no, it is Sars-CoV-2]. But at no time did they isolate that so-called virus from the rest of the genetic material, much of which will be found in the bodies of most people. [05:05]

Never mind that COVID-19 is the disease and the virus is called SARS-CoV-2... He wants us to believe that the "genetic material" sampled from the first victims was gathered randomly and amplified, until it "proved" the existence of a new virus. In reality, based on the symptoms, these early researchers suspected a variant of the 2002 SARS virus, of which the full genome was known. That proved to be correct.

But Icke can't have a virus as cause of the symptoms, for he needs to tell his G5 story...



Andrew Kaufman: 'I think I know what is really going on.'

There have always been researchers who [denied AIDS](#) was caused by the HIV virus (Lynn Margulis was one of them). Likewise, Andrew Kaufman, a psychiatrist(!) quoted by Icke, explains "COVID-19" symptoms not by the Sars-CoV-2 virus, but by some other mechanism. Where's the scientific publication about this alternative theory? I could only find [Kaufman's YouTube channel](#), which has only a handful of videos, about health food, detox, blood pressure, "Do viruses cause disease?" and—a rather strange title—"Humanity is NOT a virus!". The YouTube title of this video is "Is COVID-19 really an exosome and not a virus???" (note again the inexplicable confusion between the disease, and the virus). Kaufman has also been interviewed by [London Real](#) now, and you can see that video on London Real TV.

Andrew Kaufman, "Is COVID-19 really an exosome and not a virus???"

Kaufman has discovered similarities between the coronavirus and so-called "exosomes", particles a cell produces normally that serve for communication and waste disposal. Under a microscope they look similar to virus particles. Exosomes and viruses share the same [ACE2-receptor](#), which has a function related to blood pressure regulation. Ergo: they might very well be the same thing, says Kaufman. So the whole medical profession battling COVID-19 at the moment has just mistaken one little blob for another little blob? Seriously? Says a psychiatrist, not a virologist.

In support of this hypothesis, Kaufman states, quoting AIDS researcher James Hildreth, "[the virus is fully an exosome](#) in every sense of the word" (incidentally, this quote was about HIV, not the SARS-CoV-2 virus). So? Can one catch an infectious disease through these exosomes? Is Kaufman denying the new coronavirus, or even *all* viruses? Exosomes can be produced, says Kaufman, under stress, toxins, injury, cancer, infection, ionizing and electromagnetic radiation like 5G... He could not find any evidence(!) for this last category, but he suggests this would be an exciting new field of study...

There goes Icke's major support for his 5G/Corona theory!

- Electromagnetic Radiation (5G) – no research

From Kaufman's presentation on the many causes of illness—no evidence for 5G.

He advises: [hydroxychloroquine](#) and Vitamin C, because of its anti-oxidant properties—the usual alt-medicine advice. But no, "there's no evidence for a virus." Read that last sentence very closely.

DEBUNKING BOTH ICKE AND KAUFMAN



David Icke | [YouTube](#)

(103,860,439 views)

[Banned from YouTube and Facebook as of May 2, 2020](#)

Now I have a question for you: is it likely that a psychiatrist communicating in a YouTube video with a handful of anonymous persons has a better understanding of the virological aspects of SARS-CoV-2 than the thousands of specialists working in this particular very specialized field of science? How small would you estimate that chance? So it's time now to turn to those specialists (though I haven't found any public response to Kaufman yet from the medical establishment).

This is obviously a very specialized area of expertise—neither Icke nor you and me are qualified here. But researching this topic online I found the following three YouTube videos by an anonymous poster "Another Perspective" very helpful. Please watch these videos to follow the author's argument. I have highlighted a few conclusions in the tables below.

Video #1: David Icke is WRONG about COVID-19

Here's a refutation of Icke's statement that "the coronavirus doesn't exist" and "has never been isolated":

A debunking of Icke's claim that COVID-19 (the SARS-Cov-2 virus) does not exist.

CLAIM BY ICKE	REFUTATION
#1 - There is no evidence that's scientifically produced that COVID-19 exists.	The SARS-CoV-2 virus that causes COVID-19 has been fully sequenced.
#2 - RT-qPCR cannot distinguish between viral and human genetic material.	RT-qPCR can distinguish between viral and human genetic material.

Summing up: the SARS-Cov-2 virus has not only been isolated—2685 samples no less!—but also fully sequenced (all 30.000 nucleotide bases: A, C, G or T), and identified as being a member of the larger [coronavirus](#) family (Order: [Nidovirales](#)).

Just for the fun of it, here's a fragment of the [fully sequenced genome of SARS-Cov-2](#):

```

28861 ttcaactcca ggcagcagta ggggaacttc tctgctaga atggttgcca atggcgggta
28921 tgctgctcct gotttgctgc tgcttgacag attgaaccag cttgagagca aaatgtctgg
28981 taaaggccaa caacaacaag gccaaactgt cactaagaaa totgctgctg aggettctaa
29041 gaagcctcgg caaaaacgta ctgccactaa agcatacaat gtaacacaag ctttcggcag
29101 acgtggtcca gaacaaacc aaggaattt tggggaccag gaactaatca gacaaggaac
29161 tgattacaaa cattggccgc aaattgcaca atttgccccc agcgettcag cgttcttcgg
29221 aatgtcgcgc attggcatgg aagtcacacc ttcgggaacg tggttgacct acacaggtgc
29281 catcaaattg gatgacaaag atccaaattt caaagatcaa gtcattttgc tgaataagca
29341 tattgacgca tacaaaacat tcccaccaac agagcctaaa aaggacaaaa agaagaaggc
29401 tgatgaaact caagccttac cgcagagaca gaagaacag caaactgtga ctcttcttc
29461 tgctgcagat ttggatgatt tctccaaaca attgcaacaa tccatgagca gtgctgactc
29521 aactcaggcc taaactcatg cagaccacac aaggcagatg ggctatataa acgttttcgc
29581 ttttcggtt acgatataa gtctactctt gtgcagaatg aattctcgtg actacatagc
29641 acaagtagat gtagttaact ttaatctcac atagcaatct ttaatcagtg tgtaacatta
29701 gggaggactt gaaagagcca ccacattttc accgaggcca cgggagtagc gatcgagtgt

```

A fragment of the fully sequenced genome of SARS-Cov-2 (ncbi.nlm.nih.gov)

The author gives a nice example of how specific and precise DNA matching can be. If you enter this snippet of SARS-CoV-2 DNA (containing only 28 of the 30.000 nucleotides, or less than 0.1%) into the so called [Blast search engine](#) of the US National Library of Medicine:

CCGTCTGCGGTATGTGGAAAGGTTATGG

... within a few seconds you get ONLY hits from this particular virus RNA—no other material, as is suggested falsely by Icke.

Sequences producing significant alignments	
<input checked="" type="checkbox"/>	select all 100 sequences selected
	Description
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC9/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC8/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC7/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC6/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC5/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC4/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC3/2020_complete_genome
<input checked="" type="checkbox"/>	Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/IND/GBRC2/2020_complete_genome

Search results for a snippet of viral DNA of SARS-CoV-2 in the Blast search engine.

And here you can see where that search string can be found in the total genome of SARS-CoV-2:

```
13141 taattgtgtt aagatgttgt gtacacacac tggactggt
13201 ggaagccaat atggatcaag aatcctttgg tggatcatcg
13261 ccacatagat catccaaatc ctaaaggatt ttgtgactta
13321 acctacaact tgtgctaata accctgtggg ttttacactt
13381 ctgcggtatg tggaaagggt atggctgtag ttgtgatcaa
13441 gtcagctgat gcacaatcgt ttttaaacgg gtttgcgggtg
13501 ccgtgcgga caggcactag tactgatgtc gtatacaggg
13561 aaagtagctg gttttgctaa attcctaaaa actaattggt
13621 gaagatgaca atttaattga ttcttacttt gtagttaaga
```

Search results for a snippet of viral DNA of SARS-CoV-2 in the total genome.

This should put to rest all talk about "random genetic material" falsely claimed to be a virus. We know the SARS-CoV-2 virus down to the very base-pair code.

Video #2: Andrew Kaufman is WRONG about COVID-19

And here's a devastating critique, by the same author, of Kaufman's arguments related to "exosomes as viruses". He's just wrong:

A debunking of Kaufman's "a virus equals an exosome" theory.

CLAIM BY KAUFMAN	REFUTATION
#1 - Respiratory illness is caused by an insult, toxic or otherwise, which cause production of exosomes.	Exosomes are small membrane vesicles of endocytotic origin that are secreted by most cells in culture.
#2 - RT-PCR actually tests for host RNA from exosomes.	RT-PCR tests are SARS-CoV-2 specific, they do not confuse it with RNA from

	exosomes.
#3 - Exosomes are mistaken for COVID-19 [SARS-CoV-2], they look very much the same.	Exosomes and the SARS-CoV-2 virus look very different under the microscope (spikes!).

Summing up: viruses *are* not exosomes (though there are interesting similarities between them), but can *exploit* exosome pathways to leave the cell they have infected. Totally different story—and much more interesting. There is no need whatsoever to deny the existence of viruses at any cost. For one thing: viruses reproduce, exosomes don't. All coronaviruses have spikes; exosomes don't. There is some debate about the viral origin of exosomes: perhaps viral DNA, which contains genes for building vesicles with RNA, got permanently inserted into the host genome in the past. That is something for real scientists to figure about and debate.

Video #3: Andrew Kaufman is WRONG about COVID-19 - Part 2

And here's another, equally devastating critique, by the same author, of Kaufman's arguments related to the work of Kary Mullis and James Hildreth.

A debunking of Kaufman's misinterpretation of Kary Mullis and James Hildreth.

CLAIM BY KAUFMAN	REFUTATION
#1 - PCR cannot be used to diagnose infectious diseases, according to Kary	PCR <i>can</i> be used to diagnose infectious diseases, even according to Kary Mullis

Mullis	
#2 - No scientist can tell the difference between exosomes and viruses (quoting Hildreth).	Scientists, like Hildreth, <i>can</i> clearly tell the difference between exosomes and viruses.

Summing up: Kaufman misrepresents scientific information to fit his theories. He thinks the viruses observed through microscopes are actually exosomes, and he tries to find support for this opinion by quoting from respected scientists who don't share his views and misrepresenting them in the process. And he casts undue doubt on the quality of PCR tests for detecting *specific* viral material—spuriously misquoting its [Nobel Prize winning](#) inventor.

Kary B. Mullis, Work - An organism's genome is stored inside DNA molecules, but analyzing this genetic information requires quite a large amount of DNA. In 1985, Kary Mullis invented the process known as [polymerase chain reaction](#) (PCR), in which a small amount of DNA can be copied in large quantities over a short period of time. By applying heat, the DNA molecule's two strands are separated and the DNA building blocks that have been added are bonded to each strand. With the help of the enzyme DNA polymerase, new DNA chains are formed and the process can then be repeated. PCR has been of major importance in both medical research and forensic science. (www.nobelprize.org, The Nobel Prize in Chemistry 1993)

Here's the original patent of the PCR technique filed by Kary Mullis: [Process for amplifying, detecting, and/or cloning nucleic acid sequences](#), on June 17, 1987 (Date of patent: Oct. 23, 1999).

Field of the invention. The present invention relates to a process for amplifying existing nucleic acid sequences if they are present in a test sample and detecting them if present by using a probe. More specifically, it relates to a process for producing any particular nucleic acid sequence from a given sequence of DNA or RNA in amounts which are large compared to the amount initially present so as to facilitate detection of the sequences, using a thermostable enzyme to catalyze the reaction. The

DNA or RNA may be single- or double-stranded, and may be a relatively pure species or a component of a mixture of nucleic acids. The process of the invention utilizes a repetitive reaction to accomplish the amplification of the desired nucleic acid sequence. (Underline added)

Oh, and what about the virologist Hildreth who supposedly is on board with Kaufman's views? Hildreth is just representing the conventional understanding of viruses: they definitely exist! He warns us to be vigilant about not spreading the infection ourselves here:



Hildreth: 'Be vigilant, don't become a vector of COVID-19.'

Viruses are incomplete life forms with no ability to replicate on their own, so they must find a way to gain entry into the cells in our bodies, explained Dr. Hildreth. Many viruses need hosts before they can get into humans, and those hosts are called vectors, he said.

"In 2002, the hosts were cats. Then for MERS, the host was camels," Dr. Hildreth stated. "So, efforts were made to eradicate the vectors. But what happens when the host is human? The difference with COVID-19 is that we are the vectors. It's able to jump from human to human. So, our challenge is to eradicate the vector. That's why we're asking you to don't become a vector of COVID-19. You don't become a vector by staying at home, practicing social distancing, and sanitizing surfaces often," he said. ([Amsterdamnews.com](https://www.amsterdamnews.com), 4/5/2020)

See [Part 2](#), in which I contact Hildreth about him being quoted by Kaufman on the matter of viruses being exosomes, and this is his response: "The virus is real. The pandemic is real and is caused by the virus. Period."

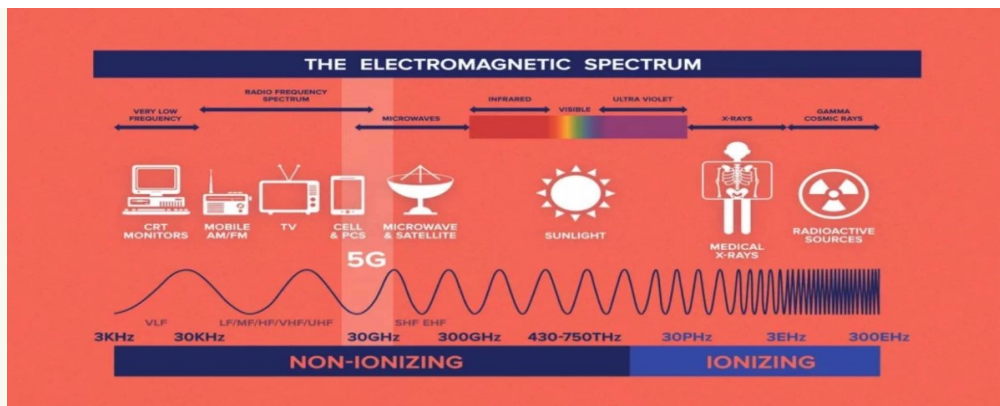
So Kaufman's view sounds a lot like the [germ theory denialism](#) for disease to me, with the germ being a virus, which is often found in the more radical anti-vaccine communities. So no harmful virus exists, but patients are "hurt" by something, and that could point to various causes.

WHERE DOES 5G ACTUALLY FIT IN?

Most likely candidate for Icke: 5G.

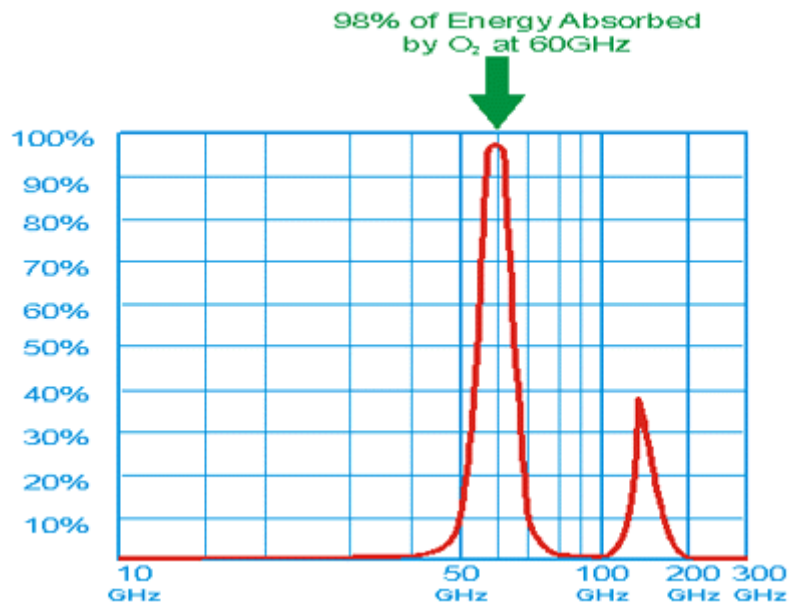
That should be easy to test, when the occurrence of COVID-19 is mapped with the spread of 5G networks. It doesn't bear out: there were initially lots of areas with 5G that didn't have infections, and lots of areas without 5G that had them.

So, onto 5G. The electromagnetic spectrum has multiple bands, including those of visible light. The longer wavelengths, those on the "infra-red end" of the spectrum (to which 5G and all radio-waves belong) are non-ionizing, i.e. they can't break molecules. Those on the "ultra-violet end" of the spectrum (to which gamma rays belong) are ionizing, i.e. they can change molecules and thus do damage. For that reason 5G is harmless.



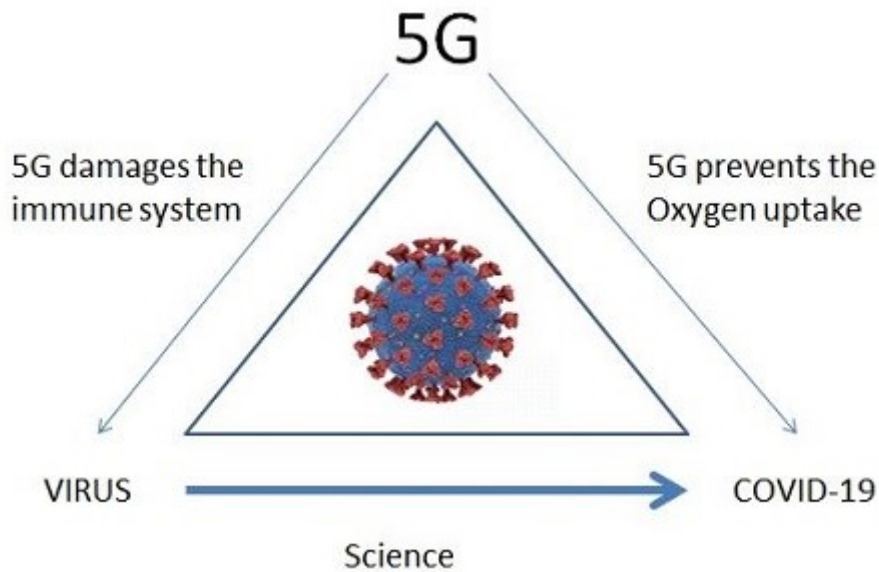
How dangerous is 5G? Can it harm your health? No, it is non-ionizing radiation.

The supposed connection between 5G and the COVID-19 disease works through Oxygen? Well, there is some truth to the fact that the 5G frequency most used, 60GHz, happens to be the frequency at which Oxygen absorbs part of this radiation. But look carefully: it is not so much that Oxygen is hindered by 5G, for it is exactly the other way round: 5G is hindered by Oxygen! What happens here is the Oxygen molecules briefly enter an excited state, before they resume their normal state, and disperse the radiation in all directions, thus impacting the transmission (but not always negatively).[2] It resembles how your microwave works: at the frequency of the radiation used in microwaves, the water molecules in your food absorb some of this radiation so the food is heated.



And what about the 5G rollout in Wuhan? Was that really the first Chinese city where 5G was installed? By October 2019 in *fifty* Chinese cities, including Beijing, Shanghai, Guangzhou and Shenzhen, 5G was rolled out and fully operational.[3] Where's their coronavirus? It is plainly ridiculous to even suggest such a correlation—let alone a causal connection. (Less extreme conspirationists claim 5G only left the inhabitants of Wuhan more vulnerable to the—in itself real—coronavirus. On what evidence?).

For Icke 5G is part of a worldwide attempt to spy on us and to enslave us—and to kill more and more people. Even the vaccines that will be invented to combat Corona will contain nanotechnology microchips, he fears. This is a thoroughly paranoid atmosphere we are presented with. With that mindset it is understandable he sees setting fire to 5G masts as a good thing... Healthy suspicion, OK, but *this* is extreme.

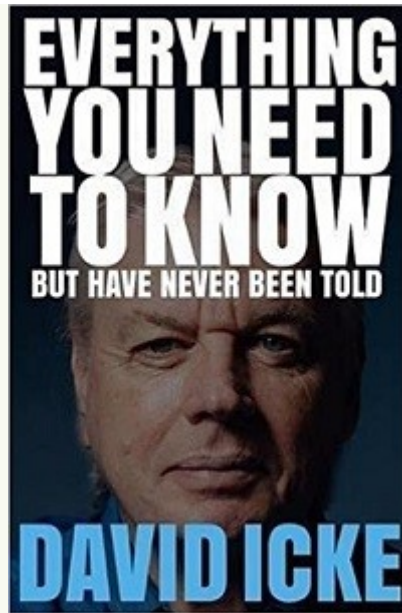


Making sense(?) of the conspiracy views on 5G and the coronavirus

Trying to make sense of the conspiracy views linking the coronavirus to 5G, which is by no means easy: there seem to be two views. The "health concern" view claims that 5G weakens our immune system, so we are more susceptible to any viruses that happen to be around (as in Wuhan). The "paranoid conspiracy" view of David Icke bypasses the need for a virus and claims 5G prevents the uptake of Oxygen, which causes severe lung problems. None of these views is supported by evidence, since the spread of 5G doesn't match the incidence of COVID-19 infections (and where it does, like in large cities, more down to earth explanations are possible, such as high population density).

The pinnacle of paranoia is Icke's suggestion that, since the number of COVID-19 deaths is much lower than predicted, 5G masts are built near hospitals as much as possible to kill more and more people—who have died of the so-called coronavirus.

A HIERARCHY OF EVIL BEINGS



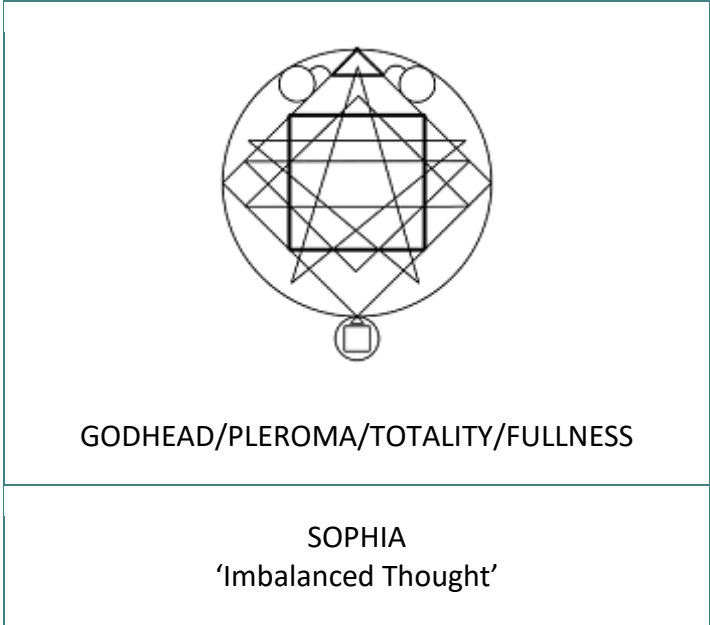
Icke: 'Our simulated reality is the work of a highly negative force.'

This quasi-religious worldview of enslavement and liberation, fear and love, shows affinity with a certain historical worldview that is worth going into. In his recent book [*Everything You Need to Know But Have Never Been Told*](#) (2017) Icke gives some glimpses into this worldview. It turns out he is a modern-day gnostic, when he extensively quotes from the [Nag Hammadi Library](#), a collection of early Christian and Gnostic texts discovered near the Upper Egyptian town of Nag Hammadi in 1945. The [Christian gnostics](#) (there were many others) were a group of sects who believed the Jewish God was not the highest Power but one of the lesser gods, and not a very exalted one at that. In the Old Testament he indeed comes across as rather jealous and vengeful. This lesser God the Greeks called the "[Demiurge](#)", which is not the Almighty Creator. In this

cosmology, there is a whole hierarchy of beings, from the lowest [Satan](#), the Prince of this World, and his angels to [Sophia](#) in the spiritual world and the [Pleroma](#) above it. (See table 1).

Icke shows affinity with this worldview: "I have been convinced long before I saw the Nag Hammadi texts that our simulated reality is the work of a highly negative force and this is what the Gnostics go on to describe." In his universe, the world is under the spell of evil influences, which feed on hatred, violence and anger. Hence they are keen to provoke wars and disaster in every possible way. From the two World Wars to 9/11, Icke sees the hand of this hierarchy of evil beings, often called by him "the [Illuminati](#)" or "[Lucifer](#)". According to him, their work includes the foundation of the United Nations, which aims at a [New World Order](#), and every attempt to come to a World Government. The end goals of these beings, he feels, is to enslave humanity. The only way out of this, he concludes, is to lead a life of love and awareness, which makes one invulnerable against these influences.

Table 1 - The Gnostic-Ickian Cosmology





DEMIURGE/JEHOVA/YAHWEH/YALDABAOTH
ARCHITECT/SAMAEL/SATAN/LUCIFER/DECEIVER
'Different names, same force.'

ANGELS/ARCHONS/DEMONS/CYBORGS/VAMPIRE
GODS

Against this particular interpretation of the Demiurge by the Christian gnostics the Greek philosopher [Plotinus](#) would later write his famous "Against those that Affirm the Creator of the Kosmos and the Kosmos Itself to be Evil", or "[Against the Gnostics](#)" for short. Here's a quote:

Moreover it is wrong to assume an evil origin and evil being (*to kakos gegonenai*) of this world, because of all the difficulties in it. This is rather the expectation of those who believe this world must be as perfect as the intelligible when it is merely its image. And if we look around, we must admit that there could be no fire, no earth, no celestial dome and no sun better than those of our world, other than their intelligible counterparts. *This world is as perfect as a corporeal world can be.* (Plotinus, *Against the Gnostics*, Enneads II.9, Ch. 4)

Ken Wilber discusses this topic in *Sex, Ecology, Spirituality* (1995) in the paragraph "Plotinus's Attack on the Gnostics" (p. 341-344). "Plotinus was uncompromising with those who wanted to glorify either this world or the other world—they were both missing the point entirely." In the terminology of Wilber, these Gnostics were "Ascenders", who viewed all manifestation as nothing but shadows, and evil shadows at that. The so-called "Descenders" recognized only the visible, tangible world. A more nondual view sees all aspects of reality as infused with divinity, even if in different layers of intensity. Wilber sees Plotinus as the "luminous beacon" in the West of this balanced approach.[4]

This explains why Icke's focus is on wars, disharmony and manipulation, where Wilber's focus is on development and evolution. Wilber's metaphysics is different: he sees Spirit as descending to the lowest level of matter, after which it returns back and upwards towards the spiritual realms. He sees the phenomena of evolution *as such* as "evidence for Spirit".[5] It is all a matter of emphasis. One can justify any metaphysics by pointing to things happening in the real world, both positive and negative. Icke's selection of events comes across as rather paranoid—behind the scenes, they are out to get you.

Some aspects of Icke's worldview border on the ridiculous—and here are the Reptilians:



Icke's "reptoid hypothesis" posits that humanity is ruled by descendants of reptilians from Draco.

Icke believes that the universe is made up of "vibrational" energy and consists of an infinite number of dimensions that share the same space. He advocates the existence of an inter-dimensional race of reptilian beings called the Archons (or Anunnaki) who have hijacked the earth and that a genetically modified human-Archon hybrid race of shape-shifting reptilians known as the Babylonian Brotherhood, the Illuminati, or the "elite", manipulate global events to keep humans in constant fear so the Archons can feed off the "negative energy" this creates. He claims many prominent public figures belong to the Babylonian Brotherhood and are propelling humanity toward an Orwellian global fascist state, or New World Order, a post-truth era where freedom of speech is ended. Icke believes that the only way this 'Archontic' influence can be defeated is if people wake up to the truth and fill their hearts with love. ([Wikipedia](#))

One wonders, if Icke is really exposing the powers of evil at such a grand scale, wouldn't they come to get him? To end on a lighter note: If it turns out that [Reptilian Overlords](#) are behind the scene of all earthly events—why hasn't anybody worried about the Amphibians?

The Brotherhood which controls the world today is the modern expression of the Babylonian Brotherhood of reptile-Aryan priests and 'royalty' which came together there after the flood. It was in Babylon in this post-flood period from around 6,000 years ago that the foundation beliefs - manipulated beliefs - of today's world religions were established to control and rule the people. (David Icke, *The Biggest Secret*, 1999)

NOTES

[1] "David Icke, [The Coronavirus Conspiracy: How COVID-19 Will Seize Your Rights & Destroy Our Economy](#), www.londonreal.tv, April 7, 2020 , 2:33:28. This page has over 8.000 comments. The video can be watched on [www.bitchute.com](#). [Full transcript](#).

[2] "[Fixed Wireless Communications at 60GHz Unique Oxygen Absorption Properties](#)", www.rfglobalnet.com, April 10, 2001. "Due to the high levels of atmospheric RF energy absorption, the millimeter wave region of the RF spectrum is not usable in long haul, wireless communications segments. However, for short haul, "last mile" segments, the expanded RF data bandwidth available in the millimeter wave region makes it ideal for interference free, fiber speed connectivity."

[3] "[China Focus: Top mobile operators switch on commercial 5G services](#)", www.xinhuanet.com, October 31, 2019. "The 5G commercial services are now available in 50 cities, including Beijing, Shanghai, Guangzhou and Shenzhen. Shanghai had activated 11,859 5G base stations by mid-October, which will support the 5G network coverage across the city's key outdoor areas, said the municipal administration of communications Thursday."

[4] For a critique of Wilber's take on Plotinus see: Brian Hines, "[What Wilber gets wrong about Plotinus](#)", www.integralworld.net, November 2009. Hines states Plato or Plotinus were Ascenders, and less nondual than Wilber wants us to believe.

[5] Ken Wilber, *The Religion of Tomorrow*, Shambhala, 2017.

...the "creative advance into novelty" that is demonstrated by evolution itself ... is inexplicable by mere "chance mutation" (the evolution from strings to quarks to subatomic particles to atoms to small molecules to massively interconnected molecules to asexual cells and early organisms—just for

starters—is an awful lot of evolution in a universe that is supposed to be "running down" but can easily be seen as yet more evidence of creative Eros or Spirit-in-action, "a self-organizing self-transcendent drive," as Erich Jantsch put it)... (p. 498)

FURTHER READING

INITIAL SCIENCE REPORTS

["Severe acute respiratory syndrome coronavirus 2 isolate Wuhan-Hu-1, complete genome"](#), NCBI, GenBank: MN908947.3, 18-MAR-2020.

Zhu N et. al., "[A Novel Coronavirus from Patients with Pneumonia in China, 2019](#)", Pub Med, www.ncbi.nlm.nih.gov, N (*The New England Journal of Medicine.*, 2020 Feb 20).

Jeong-Min Kim et. al., "[Identification of Coronavirus Isolated from a Patient in Korea with COVID-19](#)", Osong Public Health Res Perspectv.11(1); 2020 FebPMC7045880.

Victor M Corman et. al., "[Detection of 2019 novel coronavirus \(2019-nCoV\) by real-time RT-PCR](#)", PMC, www.ncbi.nlm.nih.gov, (*Euro Surveillance*, 2020 Jan 23).

POPULAR SCIENCE

["What does 5G have to do with coronavirus? Where did it come from? Your questions answered"](#), dw.com (a German media organization Deutsche Welle).

Nicole Jawerth, "[How is the COVID-19 Virus Detected using Real Time RT-PCR?](#)", www.iaea.org, March 27, 2020.

["Report of the WHO-China Joint Mission on Coronavirus Disease 2019 \(COVID-19\)"](#), WHO, 16-24 February 2020.

Ethan Siegel, "[The Science Of Why 5G Is \(Almost\) Certainly Safe For Humans](#)", www.forbes.com, Nov 1, 2019.

["2019-20 COVID-19 outbreak"](#), rationalwiki.org

SOCIO-CULTURAL

Jules Evans, "['Conspirituality': the overlap between the New Age and conspiracy beliefs](#)", medium.com, April 17, 2020.

Jaron Harambam & Stef Aupers, "[From the unbelievable to the undeniable: Epistemological pluralism, or how conspiracy theorists legitimate their extraordinary truth claims](#)", journals.sagepub.com, December 17, 2019.

NEWS ABOUT ICKE

Leo Kelion, "[Coronavirus: YouTube tightens rules after David Icke 5G interview](#)", www.bbc.com, 7 April 2020.

Part 2: Debunking Andrew Kaufman's Virus Equals Exosome Hypothesis

FRANK VISSER

A VIRUS OR NOT A VIRUS...

As a matter of fact, whenever I read an article on Corona and came upon the phrase "what is really going on", I stopped reading.

Having spent the past couple of weeks reading up on the "coronavirus" (how could one avoid it at all?), and the many conspiracy theories that have sprung up around it, I wrote up my impressions of the interview David Icke gave to London Real, which was banned from YouTube in a few days after its release, as you can read more fully in "[Corona, Oxygen, 5G](#)".[1] I added more and more material and videos to the essay (please watch them there), until I considered making a sequel essay, where I could draw some conclusions about this phenomenon of a global pandemic that has taken over all over our media outlets, both offline and online, and has promoted so many contrarian views among the general public.



Icke: 'There is
no COVID-19.'

But first lets give an overview of the many possible ways people can deviate from the currently accepted scientific view of the Corona pandemic—if we can even speak of such a view. Bear mind that many scientists are very careful in making general statements or predictions, and are well aware of how much they still don't know about this particular virus and its spread around the world (even if we have sequenced all of its 30.000 nucleotides). It is those harbouring some kind of conspiracy

theory that often show no such hesitations. They are fully convinced they know "what is really going on." As a matter of fact, whenever I read an article on Corona and came upon the phrase "what is really going on", I stopped reading. This is a sure sign the author of the piece goes for a simple explanation for a phenomenon that is very complex, and by far not fully understood.

Most alternative views spread in conspiracy circles deny one or more of the following steps. Let's do a simple test. Just say Yes/No to the following claims. If you say Yes to all (even if tentatively), you reach the accepted science view. If you say No to one or more of these items, you might belong to some or other conspiracy subculture:

The Conventional View of the Origin, Nature and Treatment of the Corona Virus

The coronavirus:

1. Exists
2. Is contagious
3. Is harmful
4. Has a natural origin
5. Is not spread on purpose
6. Is not spread accidentally
7. Is the result of disturbing wildlife
8. Comes to us most probably from bats
9. Through an intermediate animal (pangolin)

Furthermore, as to its treatment:

10. We must live in a temporary lockdown
 11. Until a vaccin has been found, if at all
 12. And the virus will weaken down

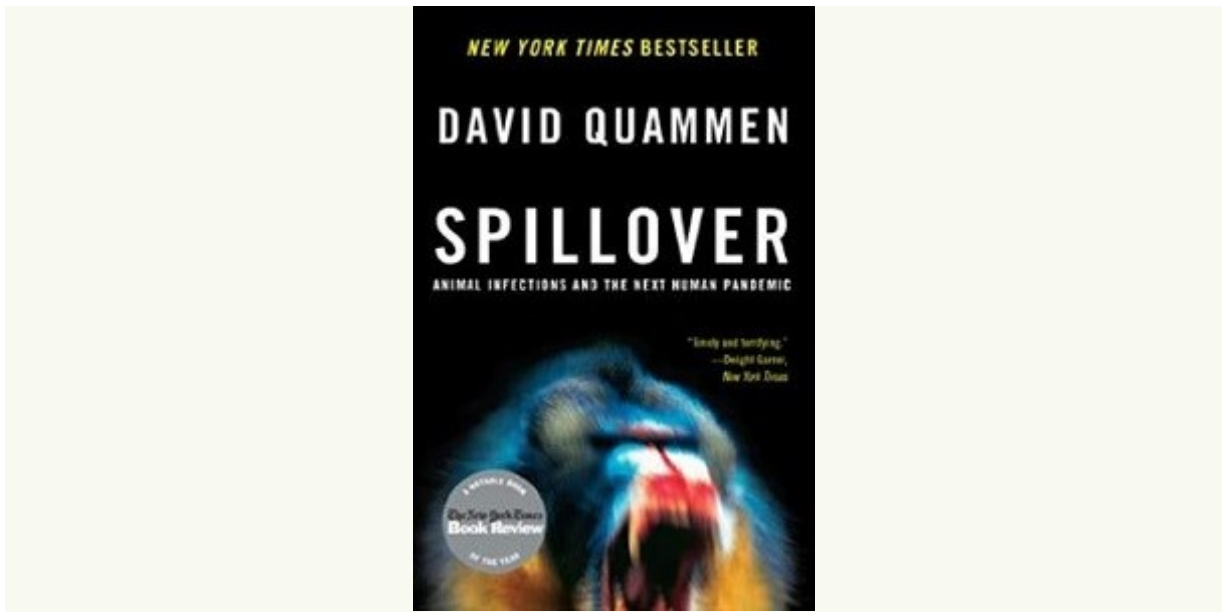
Each of these "Twelve Steps of Science" can be denied, on either factual or imaginary grounds, leading to dissident science or conspiracy views.

To stimulate your imagination a bit, let's walk through these points one by one.

The first thing one would have to accept about the coronavirus is of course, that it exists. But David Icke bluntly stated as his opinion: "There is no COVID-19. It doesn't exist." For reasons I haven't been able to fathom, Icke mixes up the name of the virus (SARS-CoV-2) and the name of the disease it causes (COVID-19). It shouldn't be too difficult, because the "D" in "COVID-19" is the "D" of "Disease". But anyways. He denies that it exists (including both the virus and the disease of that name). He does not deny people show symptoms attributed to COVID-19 or even die from it. What he wants to make clear is that these people suffer from a *different* disease. It is here that he largely relies on the opinions of Andrew Kaufman, as he has offered them in a widely viewed YouTube video. More on that later.

Next, even if one accepts the existence of the coronavirus, one might deny it is contagious. Some extremely dangerous viruses, such as the Ebola virus, are not very contagious. It is a not very effective strategy for a virus, because if you kill your host (the body you have infected) before you have reach a new victim, you have reached a dead end. But some anti-vaxxers have something else in mind: they deny *any* virus is contagious, so no vaccination is needed. How they explain the spread of an epidemic or pandemic without a contagious virus is beyond me, but usually they point to other common causes, such as the presence of toxic substances or poverty.

And again, even if the contagiousness of the coronavirus is granted, one could make the point that it isn't really that harmful. Some point to the fact that in terms of total deaths it doesn't really exceed a heavy flu season. And even if our Intensive Care departments are overcrowded with patients suffering from severe respiratory symptoms at the moment, this only includes those of old age, who often suffer from multiple ailments (and it is not always easy to decide what actually caused their death). Elderly people are usually the first victims of a flu season.



Then we have to face the question of its origin: was it natural or manufactured by humans? A natural origin means that the virus passed on from some animal species to our own species. As you can read in David Quammen's book [*Spillover: Animal Infections and the Next Human Pandemic*](#) (2013), most viruses live in a given species (the "reservoir"), where they don't make this species ill, or at least not very seriously. Bats, of the mammalian order chiroptera (or "hand-wing") are often the most likely candidate. Their viruses can sometimes jump to another animal species (the "vector", which can be a camel or a pangolin or a chimpanzee). This particular animal comes in close contact with human beings and passes its viruses on to them. And in some cases, the virus learns to adapt to the human body and reproduce itself. And if the virus is "lucky", we pass it on to others, by coughing and sneezing—and flying in airplanes. The result is a worldwide pandemic.

Some people suspect—and now we are in conspiracy territory—that the coronavirus doesn't have a natural origin. It is either manufactured in a Chinese lab, with evil intentions to be used as a bio weapon, or it accidentally escaped from such an environment. It should surprise nobody that such viral labs exist in many countries, either to understand the behavior of viruses when they have jumped to humans, or to be prepared when foreign enemies use biowarfare against us. Since the genome of viruses can be sequenced fully it is in principle possible to detect

any such signs of doctoring. As of now, this does not seem to be the case for the coronavirus.

But assuming a natural origin of the virus doesn't mean we humans are not involved. Most environmentalists, including Quammen, argue that it is our relentless invading of the remaining jungles of the world for our own economic gain that has disturbed the habitat of these viral reservoir-host animals such as bats. They are forced to leave their familiar niches and move over to our life world—if we don't eat them. It is true that plagues have occurred in all times and ages, but due to the fact that the [human population](#) is now 7.783.557.722 billion (as of today, May 10th, 2020, 20:27 CET) and we have inhabited almost all continents, the chances of such a viral spillover have only increased.

Then, as to the best way to treat this pandemic, scientists almost all over the world advise a lockdown, global distancing and hygienic measures, for several months. Since this policy has severe consequences for the economy, many feel that the cure is worse than the disease here, and suspect ulterior motives behind our scientists and politicians. Others argue that, given the newness of the virus and its *potentially* disastrous impact, it's better to stay on the safe side and try to "flatten the curve", until a proper vaccin has been developed and distributed. Again, this is food for those conspiracy theorists who think these compulsory vaccination programmes will only poison or even kill us—they might even implant nanotechnology in our blood to spy on us! Some see a dystopian surveillance society on the horizon.

Incidentally, there are currently over 100 vaccin proposals under investigation, and they follow different principles. For none of them it is guaranteed they will work safely and effectively, so a lot of time consuming testing is in order. And it is not even certain a vaccin for COVID-19 will be found at all, since these RNA viruses have a habit of mutating rather fast (as do the regular flu viruses). But whenever a safe and effective vaccin has been produced and distributed, scientists expect that this particular coronavirus will weaken to the level of a "regular" flu. That means we will never fully get rid of it, and it is there to stay for a very long time indeed.

Each of these "Twelve Steps" can be denied, on either factual or imaginary grounds, leading to dissident-scientific or conspirational views. Yes, the coronavirus *might* have been escaped from a lab by accident, it *might* not be as harmful as many scientists have predicted, it *could* be unrelated to any wet market in China.

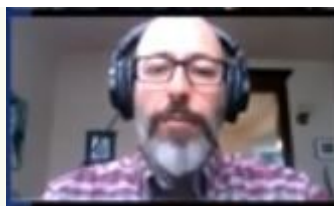
Or it might not even exist at all... Yes#151;believe it or not—that too is possible.

MEET THE VIRUS DENIALISTS

Why on earth would we have an immune system in the first place if not to combat these invisible intruders?

Enter the conspirational world of David Icke and his "brilliant scientist" Andrew Kaufman, who both turn out to be virus denialists.

As I described in "[Corona, Oxygen, 5G](#)" Icke denies the existence of the virus, because he has another culprit: in his considered opinion it is 5G that is causing all the trouble, and the coronavirus is only a cover up for this project. I will leave that idea to rest here, because I am more interested in the biological evidence he provides for the non-existence of the SARS-CoV-2 virus. He is fully dependent on Kaufman here, so we will see what he has to offer to advance this rather outlandish point of view.



Andrew Kaufman: 'I think I know what is really going on.'

Now why would someone want to deny the *existence* of this virus—or in fact the existence of *any* virus? More moderate alternative views usually acknowledge the existence of a virus, but deny either its contagiousness or its harmfulness. More importantly, they promote a different view of health and disease. It is not the germ or virus that makes us sick but our

weak immune system, or so they say, which should be boosted by several means (vitamins, good food, no electro-smog, etc.). On [Kaufman's YouTube channel](#) we see videos on health food, detox, dentistry, etc., so he definitely belongs to that camp. Now it seems to me patently obvious that nobody argues that the immune system is irrelevant in this discussion. Why on earth would we have an immune system in the first place if not to combat these invisible intruders?



Here's Kaufman's YouTube video in which he presents his "virus equals exosome" hypothesis (see also [Part 1](#) for more details and a critical take down). It has received close to 165.000 views as of today. Oddly enough, it carries the title "SPECIAL REPORT: Humanity is NOT a virus!" Is anybody claiming it is? The real title of this video is "Is COVID-19 really an exosome and not a virus?" Again, this is funny: it is a question a sceptic would raise when viewing his video. The question he answers himself is rather the opposite: "Is COVID-19 really an virus and not an exosome?" That is what Kaufman is questioning: the existing of the virus that causes COVID-19.

Andrew Kaufman, "Is COVID-19 really an exosome and not a virus?"

Kaufman argues along the following lines: the coronavirus has not been isolated, so it can't be called the cause of any disease if we are to follow the so called [Koch's postulates](#), after the German physician Robert Hermann Koch (1843-1910). Koch's postulates are the following:

1. The microorganism must be found in abundance in all organisms suffering from the disease, but should not be found in healthy organisms.

2. The microorganism must be isolated from a diseased organism and grown in pure culture.
3. The cultured microorganism should cause disease when introduced into a healthy organism.
4. The microorganism must be reisolated from the inoculated, diseased experimental host and identified as being identical to the original specific causative agent.



Kaufman: 'There is no evidence for a virus.'

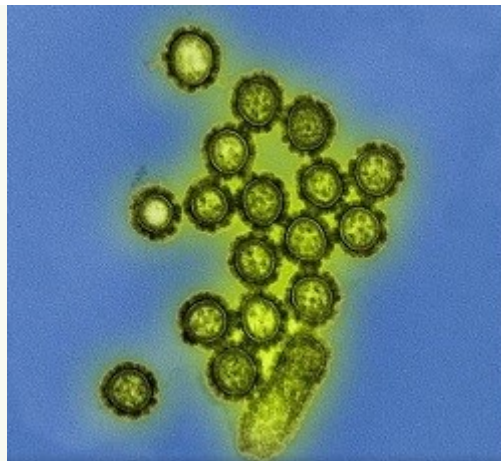
These postulates, however, were formulated when the existence of viruses was not yet established, and makes sense when applied to bacteria. In the case of viruses, the first postulate doesn't apply, because they can also be found in healthy people (the so called "asymptomatic" cases). Of course, one can argue what it means to be healthy, and if that only means the absence of symptoms or really the absence of viruses. The second postulate, too, doesn't apply, because viruses are a form of quasi-life, that can't be grown in a culture as is the case with bacteria; they only thrive when they have infected a cell. That's in fact how viruses are studied by science.

More importantly, Koch noticed himself that these postulates needed some amendment:

However, Koch later abandoned the universalist requirement of the first postulate altogether when he discovered asymptomatic carriers of cholera[4] and, later, of typhoid fever. Asymptomatic or subclinical infection carriers are now known to be a common feature of many infectious diseases, especially viral diseases such as polio, herpes simplex, HIV/AIDS, and hepatitis C. As a specific example, all doctors and virologists agree that poliovirus causes paralysis in just a few infected subjects, and the success of the polio vaccine in preventing disease supports the conviction that the poliovirus is the causative agent. ([Wikipedia](#))

Likewise, "all doctors and virologists" agree that the SARS-CoV-2 virus causes the severe acute respiratory syndrome (the meaning of "SARS") "in a few infected subjects", and that the

success of a future vaccine against this virus "supports the conviction" that this virus is the causative agent of COVID-19. Koch's postulates have been expanded upon by several scientists (most notably [Thomas Rivers](#)), but "these modifications are still controversial in that they do not account well for established disease associations" ([Wikipedia](#)). Obviously, we should take these rules lightly. We are talking about "established disease associations" only (you can find more on Koch and Rivers in [Part 16](#)).



Colorized transmission electron micrograph showing H1N1 influenza virus particles ([wikimedia](#))

Kaufman argues from a different standpoint: it is not that viruses may or may not be the causative agent for a certain disease, but that they don't exist in the first place! As he concludes his presentation: "there's no evidence for a virus." This is quite odd, given the fact that the SARS-CoV-2 virus has been fully sequenced last January, and that its place within the evolutionary family tree of corona viruses has been established based on these data. Furthermore, viruses have been photographed with the help of electronmicroscopy with a very fine details (see the H1N1 influenza particles image showing the surface proteins on the virus particles in black).

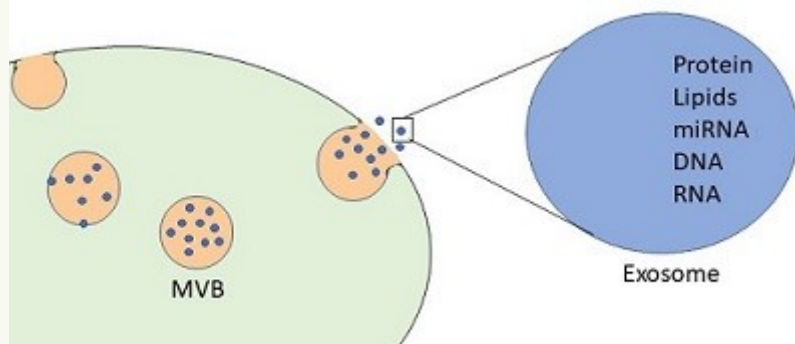
Instead of accepting the plain existence of viruses, Kaufman argues that what is actually seen under a microscope are so called "[exosomes](#)", and this is what the larger part of his presentation deals with. Exosomes can be seen as the "garbage bags" of a cell, that are able to dispose of cell material by packaging it in a small membrane and fusing this with the cell's

own membrane. They also serve a communication function between cells.[2]

Now a virus has four challenges to face, according to Quammen, before it can be successful in an evolutionary sense (Quammen, *Spillover*, p. 268):

1. How to get from one host to another
2. How to penetrate a cell within that host
3. How to commandeer that cell's equipment and resources for producing multiple copies of itself
4. How to get back out—out of the cell, out of the host, onto the next

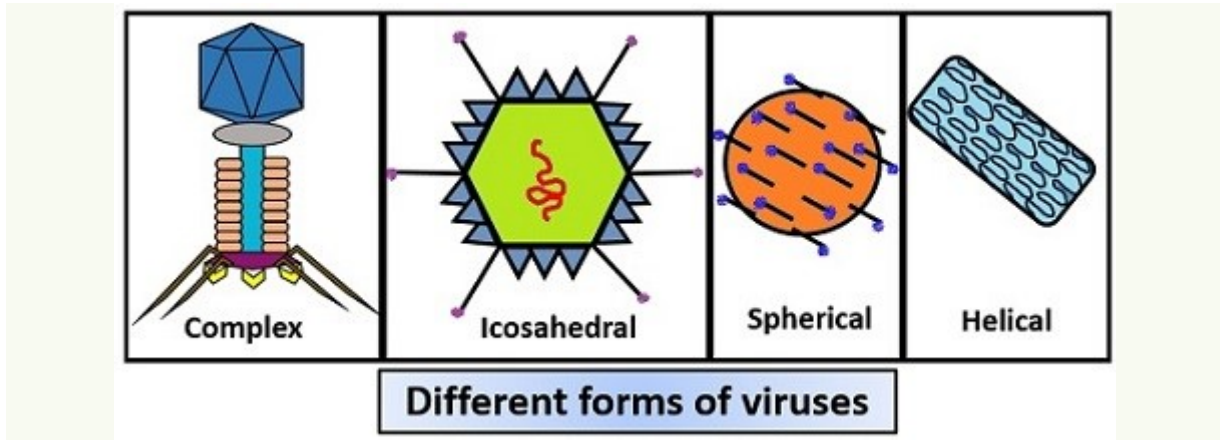
It is step 4 that shows similarity to what exosomes usually do: dispose of cell material. It is discussed in the literature that the ability to form these vesicles might have been the result of past viral infections, in which the genes for building these packages are integrated permanently in the host cell's genome. There's even a kind of spectrum between active viruses, inactive viruses, exosomes with viral genetic material and exosomes without any viral genetic material. These exosomes turn out to play a role both in viral infections and their suppression. But that is another story.[3]



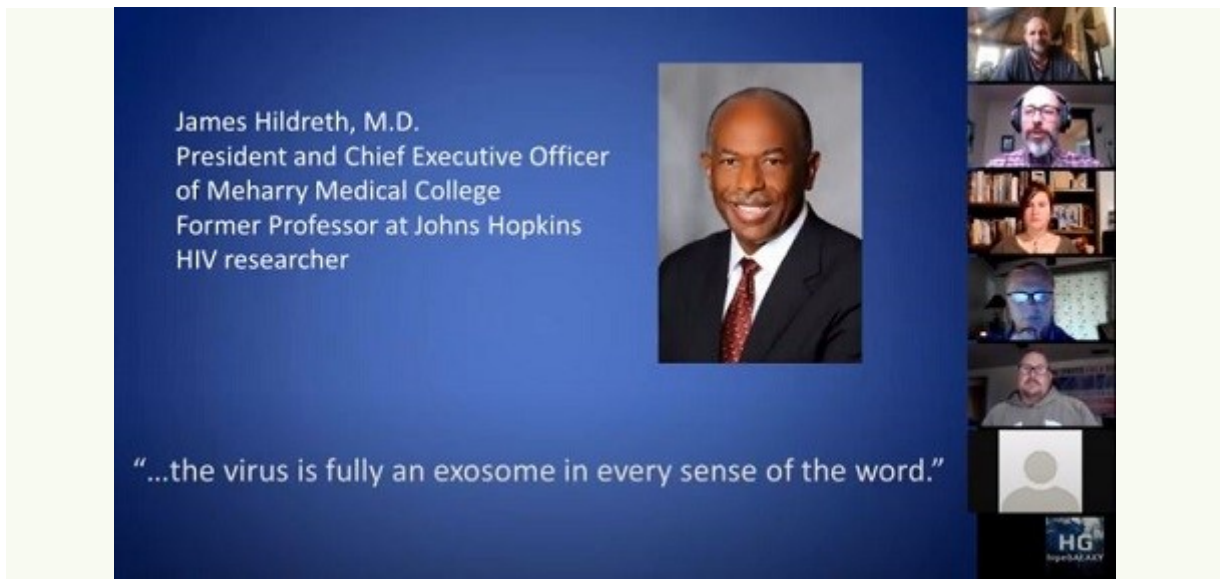
Exosomes are extracellular vesicle having a unique biogenesis pathway via multivesicular bodies.
[\(Wikipedia\)](#)

Now, Kaufman points to the visual resemblance between the coronavirus and exosomes. Some virus types might superficially look like exosomes under a microscope, but that's not the case for all virus types. Some are indeed spherical, but some are

complex (like a moon-lander), icosahedral (geometric) or helical (spiral):



To establish the link between viruses and these exosomes, small vesicles which exist in most cells of the body, in his presentation Kaufman prominently quotes a well-known AIDS virologist James E.K. Hildreth as saying "the virus is fully an exosome in every sense of the word."



Andrew Kaufman misquotes James Hildreth in support of his own opinion that viruses are actually exosomes (confirmation bias).

Here's what Kaufman says about how his opinion about viruses being exosomes was "confirmed" by the scientific literature—and it is telling about how he operates:

I happened to look into the virology literature and actually they *also* think that viruses and exosomes are *possibly* the same thing. This is James Hildreth, a very famous researcher and academic physician

in the field of virology and HIV research [lists his many other credentials] and he wrote this paper with two of his colleagues there, and what he said, and I quote, "the virus is fully an exosome in every sense of the word." Now this was just a great confirmation of what I was already thinking. I was kind of blown away when I read this in a paper. Because this was one of the *last* papers I looked at. To find that they have come to the same conclusion really helped validate my opinion." (25:00)

Does this sound like competent research? Looking "into the virology literature" makes someone conclude viruses don't exist and are really something else? Or was it only the last paper he looked at that gave him that erroneous impression? Has he really read and understood this paper (which is about viruses hijacking exosome pathways in cells, not about viruses and exosomes being the same thing)? Kaufman just grabs a quote, from "one of the last papers I looked at", and sees confirmation of his own views (and was even "kind of blown away"). And even if he phrases it with caution, "possibly the same thing", he gets carried away by his preconceived notions about viruses actually being exosomes. Confirmation bias is in full swing here.

And no, the author quoted here, James Hildreth, does not believe that "viruses and exosomes are *possibly* the same thing". Not even as a possibility.

'THE VIRUS IS REAL. THE PANDEMIC IS REAL.'

This sentence "the virus is fully an exosome in every sense of the word" actually occurs as a quote attributed to Hildreth in the article "[When is a virus an exosome?](#)" by William A. Wells[4]. (The very title of the Wells article suggests of course that there are many cases where a virus is *not* an exosome.) And in this article the quote is not referenced. The article by Hildreth and two colleagues to which Kaufman most probably refers, "The Trojan exosome hypothesis"[5], is listed in the references of the Wells article, but doesn't contain this quote "the virus is fully an exosome in every sense of the word" at all. But it has gone viral in the alt-medicine communities by now.

The Wells article starts like this (and this basically says it all): "A bold new theory suggests that retroviruses have hijacked an intercellular communication system for both their biogenesis and spread."

Now I don't claim any medical expertise in this area, but when I read this article as an interested layman, I get the message that under certain circumstances, an AIDS virus can hijack the exosome pathway (i.e. the ability to create vesicles and hide within them, and thus escape the cell's immune system). The very first line of the summary of "The Trojan exosome hypothesis", of which Hildreth is mentioned as the last author (usually the group leader or supervisor) reads:

We propose that retroviruses exploit a cell-encoded pathway of intercellular vesicle traffic, exosome exchange, for both the biogenesis of retroviral particles and a low-efficiency but mechanistically important mode of infection.

So we have (retro)virussen on the one hand, and exosomes, or their cellular pathways, on the other, which get exploited by these viruses. One wonders what words in this sentence Kaufman didn't understand.

Just to give you a flavor of real science, I give you a long quote from the Wells article, from where you can see that "the virus is fully an exosome in every sense of the word" is an unreferenced quote, attributed to Hildreth:

Hildreth was looking at human proteins that HIV acquires during its biogenesis, and noticed that lysosomal proteins were in the mix. This ties in with recent findings in this and other journals that HIV is packaged in late endosomes (for review see Amara and Littman, 2003). In uninfected cells, this endosomal compartment invaginates to form small, internal vesicles. The bag of vesicles, or multivesicular body, can fuse with the plasma membrane to disgorge these vesicles, named exosomes, which then travel to other cells to transmit messages. In the immune system, exosomes transfer peptide-laden MHC proteins to noninfected cells, and also act as miniature versions of antigen-presenting cells.



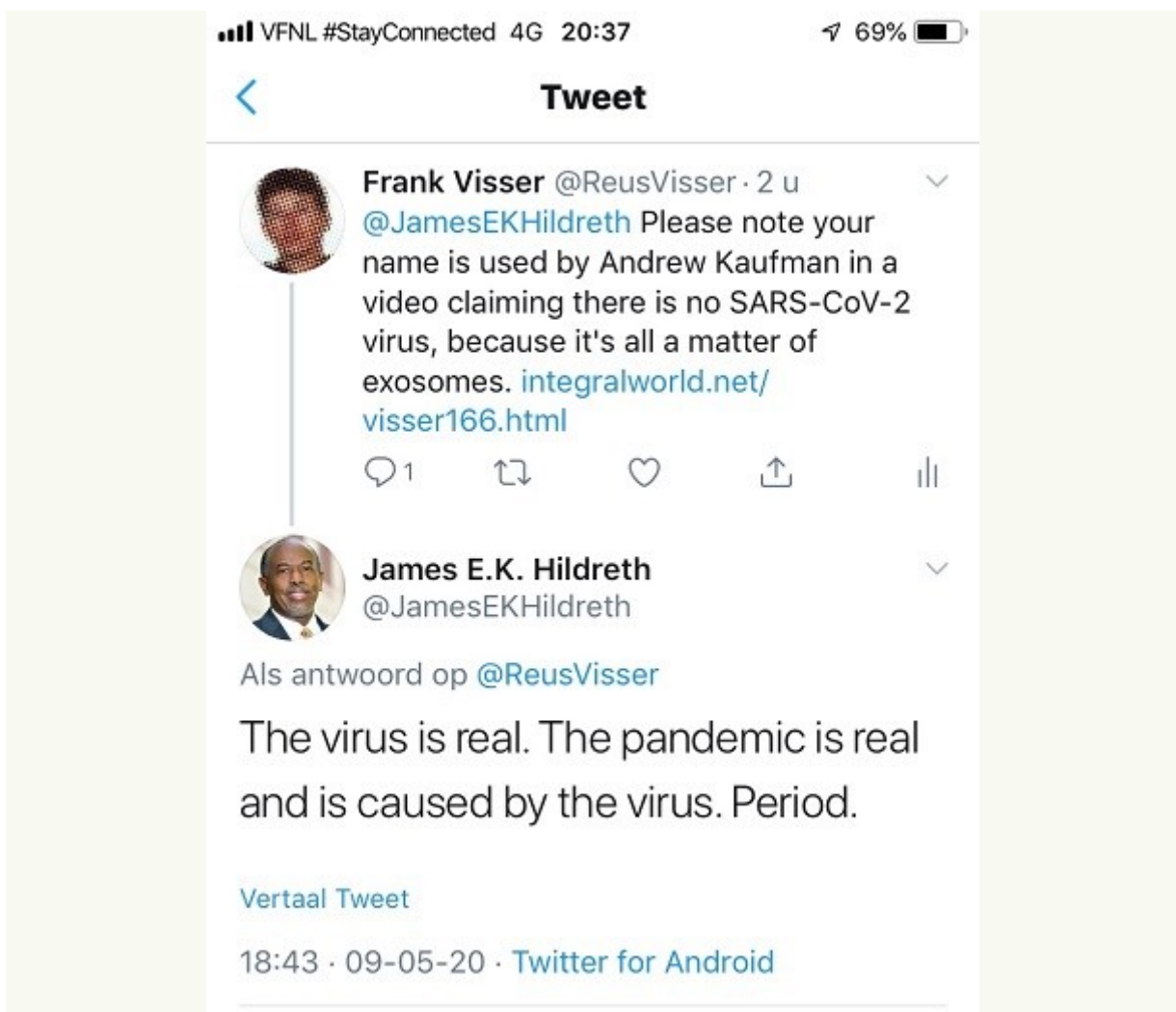
Hildreth: 'The virus is real.'

Hildreth now proposes that **"the virus is fully an exosome in every sense of the word."** Others have found that HIV particles contain MHC, but by the exosome hypothesis they may also contain proteins

that exosomes use to fuse with target cells and to avoid attack by complement. As Gould points out, an exosome makes a perfect vector for HIV, because an exosome “is not just proteins in a vesicle, it's something that is meant to traffic.” The idea may explain how HIV both infects cells that lack receptors for its surface gp120 protein, and avoids robust, virus-directed immune responses. “Even if one completely blocks the gp120-related pathway of entry, HIV will have this second, albeit less efficient, means of getting into cells,” says Hildreth.[2] (emphasis added)

Now, all medical subtleties aside, I read this as an interesting field of study of the behavior of the HIV virus within an infected cell, not as an argument for the equivalence of viruses and exosomes! Let alone as an argument to do away with viruses altogether!

Just in case you still might have any doubts, I checked with Hildreth on Twitter about him being quoted by Kaufman on the matter of viruses being exosomes, and not the cause of COVID-19 at all, and this was his almost immediate response:



And here's another Twitter post from Hildreth, in which he explicitly distances himself from Kaufman and confirms he is taking the coronavirus very seriously:



So much for the scientific credibility of Andrew Kaufman's pronouncements on viruses being exosomes... As to viruses being exosomes, he doesn't even bother to refute this, because he knows some viruses just know ways to co-opt cellular

processes, including exosome pathways.[5] There is no equivalence between viruses and exosomes.

See [Part 3](#), in which I take a deeper dive into the phenomenon of exosomes, and the literature Kaufman has "quoted" in support of his opinions.

KAUFMAN'S PROFESSIONAL TRACK RECORD

Checking up on Kaufman's medical career, I found the following information on [Docinfo](#) about forensic psychiatrist Andrew Russell Kaufman, MD (graduated from South Carolina in 2004, so this must be him): SUSPENSION OF MEDICAL LICENCE, four years after graduation, and REPRIMANDED some years later (in both cases no details are listed).

Thanks to the research of [Dr. Kevin McCairn](#) (from "Hoaxes Debunked") the reasons for the suspension have been uncovered:

Cause: Dr. Kaufman participated in a research project that offered participants a \$25 gift code to amazon.com as an incentive. After the study concluded Dr. Kaufman used nearly all the remaining gift codes, which had been purchased with unrestricted grant money from a pharmaceutical company, to purchase personal items. Dr. Kaufman later took steps to cancel the order and return the merchandise. However, as a result of his actions, Dr. Kaufman was suspended from the residency program and notified that his status would be listed as nonprogram completion, which caused his resident training license to become inactive. Duke University and Dr. Kaufman have since executed an agreement providing for a six-month remediation program beginning on January 1, 2009 that will enable Dr. Kaufman to complete his residency program.

Action: 11/26/2008. Consent order executed: Dr. Kaufman is issued a resident training license. Simultaneously, with the issuance of said RTL, the license is suspended for six months but stayed except for a period of 30 days beginning on December 1, 2008, during which Dr. Kaufman shall serve an active suspension. Dr. Kaufman is placed on probation for the duration of his resident training program and must comply with conditions. ([North Carolina Medical Board](#), 2008)

Education

Medical University of South Carolina College of Medicine
Year of Graduation: 2004

Certifications 1

Forensic Psychiatry *
Psychiatry *

Active Licenses

New York

Actions

North Carolina

2008-11-26

SUSPENSION OF MEDICAL LICENSE

No document available; refer to board site

Ohio

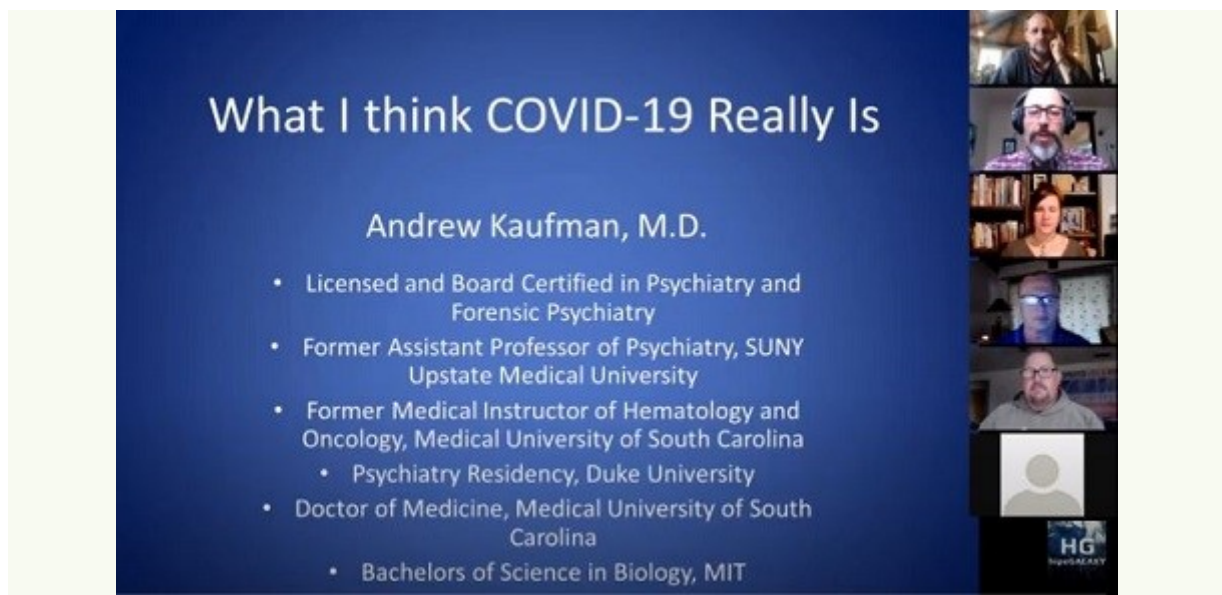
2011-03-09

REPRIMANDED

No document available; refer to board site

Medical record on Docinfo of psychiatrist Andrew Russell Kaufman, MD.

This matches the credentials Kaufman gives in his video:



The image shows a Zoom meeting interface. On the left, a presentation slide is displayed with a blue background and white text. The slide title is "What I think COVID-19 Really Is" and the presenter is "Andrew Kaufman, M.D.". Below the name is a bulleted list of credentials. On the right side of the screen, there is a vertical grid of five video thumbnails showing participants in the meeting. The bottom right corner of the grid shows a logo for "HG" with "HYPERGLASS" written below it.

What I think COVID-19 Really Is

Andrew Kaufman, M.D.

- Licensed and Board Certified in Psychiatry and Forensic Psychiatry
- Former Assistant Professor of Psychiatry, SUNY Upstate Medical University
- Former Medical Instructor of Hematology and Oncology, Medical University of South Carolina
 - Psychiatry Residency, Duke University
- Doctor of Medicine, Medical University of South Carolina
 - Bachelors of Science in Biology, MIT

Kaufman's video has now been flagged by YouTube as "inappropriate content"—I am sure conspiracy theorists will scream "censorship"!



This video may be inappropriate for some users.

I UNDERSTAND AND WISH TO PROCEED

A MORE INTEGRAL VIEW OF HEALTH

So to conclude, we have the very odd situation of:

- A medical amateur David Icke, arguing for an unsupported connection between 5G and COVID-19,
- Who relies on a scientist Andrew Kaufman, who had not found any evidence for this connection.

To make things worse,

- Kaufman, who is not a virologist, argues for the non-existence of viruses and/or the equivalence of viruses and exosomes, and quotes a real virologist James Hildreth in support of that claim.
- But when asked Hildreth denies to hold any such view. Hildreth fully acknowledges the existence and causal agency of the SARS-CoV-2 virus for the COVID-19 pandemic.

Layers upon layers of quicksand, until we reach the rock bottom of science.

So much for these conspiracy claims beings based on science. And this disinformation is transmitted to millions of people, under the guise of individual freedom of speech, by the platforms of Icke and London Real.

The causes of disease can be both biological (bacteria, viruses) *and* physical (toxic substances, pollution).

I found it also quite ironic that all these germ- or virus denialists who are in favor of good food and immune system boosting practices and hope this will cure all of our ills, see themselves as fighting a huge medical-financial establishment, which tries to force vaccines on us and worse, and robs us of all our individual freedom (and health). But if you look into the history of medicine, the germ-theory of disease had to fight the rigid establishment of folk medicine and practices, which held on to the so called "[miasma theory](#)" of disease ("miasma" meaning "pollution"). So disease was caused by toxic elements in the environment or lack of fresh air, not germs. The resistance to

the suggestion of Semmelweis to doctors to wash their hands before investigating pregnant women, which saved millions of lives, is illustrative of the strength of this pre-scientific worldview. It was only when Pasteur formulated the germ-theory of disease that this advice was understood and followed.

Be that as it may, we shouldn't exchange one half-truth for another half-truth. Why not see the complete picture? Taking a more integral of health and disease, we should accept both the idea that some (but definitely not all) germs can cause disease, and that a clean and healthy environment is conducive to health. The causes of disease can be both biological (bacteria, viruses) as in the scientific view *and* physical (toxic substances, pollution) as in the alternative view. Why deny one over the other? I suspect that those who resonate with these odd virus denialists are afraid germs are seen by science as the *only* causal agents in disease, to the neglect of environmental factors. But that is not a necessary conclusion at all.

We can acknowledge both the existence and (sometimes) harmfulness of bacteria and viruses and at the same time see most of them as inseparable and necessary parts of nature and our bodies. There is no need to let amateurism and unsupported claims get the better of us. Least of all to listen to viro-nutcases like Icke and Kaufman, who with no or little real expertise try to challenge the scientific world.

NOTES

[1] Frank Visser, "[Corona, Oxygen, 5G: The Paranoid Worldview of David Icke](#)", www.integralworld.net, April 2020.

[2] Viviane Callier, "[Cells Talk and Help One Another via Tiny Tube Networks](#)", quantamagazine.org, April 23, 2018.

[3] Esther Nolte-'t Hoen et.al., "[Extracellular vesicles and viruses: Are they close relatives?](#)", *Proc Natl Acad Sci U S A*. 2016 Aug 16; 113(33): 9155-9161.

[4] William A. Wells, "[When is a virus an exosome?](#)", *J Cell Biol*. 2003 Sep 15; 162(6): 960.

[5] Stephen J. Gould, Amy M. Booth, and James E. K. Hildreth, "[The Trojan exosome hypothesis](#)", Proc Natl Acad Sci U S A. 2003 Sep 16; 100(19): 10592-10597.

Part 3: We Need to Talk about Exosomes

FRANK VISSER

Denying the existence of the SARS-CoV-2 virus, and not just its harmfulness or contagiousness, is a very irresponsible and dangerous act.

Who would have thought that I ever had to write an essay about exosomes for Integral World? *Exo-what?* The concept was introduced to me by [Andrew Kaufman](#) in his video about the non-existence of the coronavirus (which had been promoted by [David Icke](#) in his notorious interview with London Real). In his opinion, "there is no evidence for a virus." Instead, according to Kaufman, what is really causing the symptoms of COVID-19 is something else, (an insult, toxins, radiation), and this causes exosomes to show up in cells. And these exosomes look very similar to the supposed coronavirus, or so he thinks, that's why they are mistaken to for a virus. What is more, these exosomes are a good thing, not a bad thing like a virus, says Kaufman, because they get rid of cell waste products.

Andrew Kaufman's "Virus Equals Exosome" Theory about COVID-19.

KAUFMAN	SCIENCE
Unspecified causes (stress, toxins, injury, psychological trauma, etc.) ↓	SARS-CoV-2 virus A real virus ↓
"COVID-19" A so-called "viral disease" ↓	COVID-19 A real viral disease ↓

EXOSOMES expel waste from cells	Vaccination and social measures
---	------------------------------------

This highly unorthodox and dubious view of COVID-19 has been debunked in [Part 1](#) and [Part 2](#) of this series, but we need to focus more on the concept of the exosome itself now, to really understand what Kaufman is driving at. And we need to assess if he was justified to quote virologist James Hildreth out of context to the extent that "the virus is fully an exosome in every sense of the word"—and hence claim confirmation from science for his own opinions—given the fact that Hildreth, as we have seen, firmly believes in the existence of the coronavirus, as he was quick to communicate to me on Twitter when I notified him about Kaufman's claims.

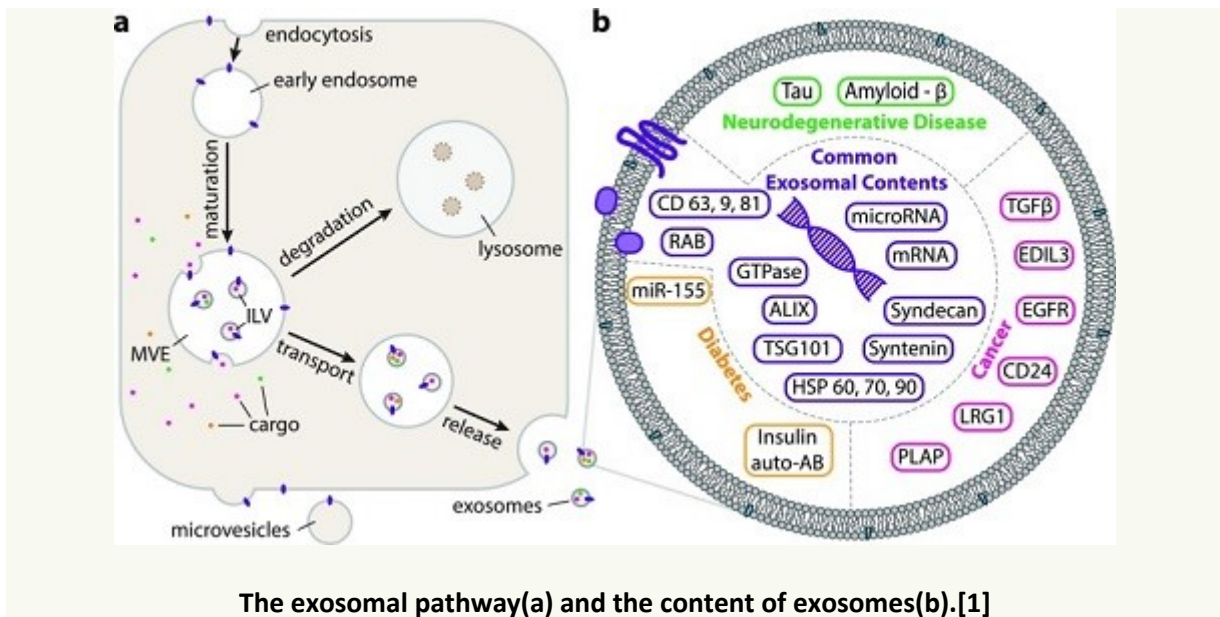
Andrew Kaufman, "Is COVID-19 really an exosome and not a virus?"

WHAT ARE EXOSOMES?

So first, what *are* exosomes according to regular science, and why should we bother?

Exosomes are membrane bound extracellular vesicles (EVs) that are produced in the endosomal compartment of most eukaryotic cells. The multivesicular body (MVB) is an endosome defined by intraluminal vesicles (ILVs) that bud inward into the endosomal lumen. If the MVB fuses with the cell surface (the plasma membrane), these ILVs are released as exosomes. In multicellular organisms, exosomes and other EVs are present in tissues and can also be found in biological fluids including blood, urine, and cerebrospinal fluid. They are also released in vitro by cultured cells into their growth medium. ([Wikipedia](#))

This would be enough for most of you to stop reading, but let me try to summarize. Exosomes are small bubbles within most of our cells, both sick and healthy, which are produced by these cells and contain various material. They can leave the cell (hence *exosome*) and enter other cells or the extra-cellular areas, with various consequences. Research into the origin of these exosomes, their role in disease and possible therapeutic applications has really taken off in the past decade.



From a very recent (2019) overview article on exosome research we learn:

Exosomes are small (~30-140 nm) lipid bilayer-enclosed particles of endosomal origin. They are a subset of extracellular vesicles (EVs) that are secreted by most cell types. There has been growing interest in exosome research in the last decade due to their emerging role as intercellular messengers and their potential in disease diagnosis. Indeed, exosomes contain proteins, lipids, and RNAs that are specific to their cell origin and could deliver cargo to both nearby and distant cells. As a result, investigation of exosome cargo contents could offer opportunities for disease detection and treatment.[1]

Kaufman gives a table in his presentation about the supposed similarities of exosomes and the SARS-CoV-2 virus, implying that scientists might very well have confused the two. But these similarities are deceptive or even non-existent.

	Exosomes	COVID-19
Diameter inside cell	500 nm (MVE)	500 nm
Diameter outside cell	100 nm	100 nm
Receptor	ACE-2	ACE-2
Contains	RNA	RNA
Found in	Bronchoalveolar (lung) fluid	Bronchoalveolar (lung) fluid

Similarities between exosomes and SARS-CoV-2 according to Andrew Kaufman.

Kaufman claims these exosomes look very much like viruses, but that's not the case. Multiple exosomes in a cell exist within a Multivesicular Endosome (MVE) or Multivesicular Body (MVB), so the size of the exosome (both within and outside the cell) is much smaller than that of the MVE/MVB. It is unclear why Kaufman thinks that the virus in the cell would be five times bigger than an extracellular virus! As explained earlier, viruses have various forms, from spherical to geometric to spiral, and even the similarity between the new coronavirus and exosomes is superficial: exosomes don't have the spikes that are so characteristic of coronaviruses. Besides, exosomes don't multiply like viruses typically do within the cells they have infected.

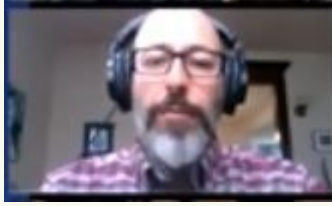
So what's the point of drawing attention to these "similarities", to be able to deny the existence of the virus itself? In Kaufman's opinion, these "bubbles" are not the cause of COVID-19 but the result of it. They are especially produced in sick cells. Wrong again, they are produced in healthy cells as well.

Some of the False Statements about COVID-19 by Andrew Kaufman

KAUFMAN	SCIENCE
Exosomes and viruses look the	WRONG: viruses have various

same, and are indistinguishable.	shapes, and differ from exosomes.
Exosomes and coronaviruses look the same.	WRONG: coronaviruses typically have large spikes.
Exosomes are produced by sick cells in lungs.	WRONG: exosomes exist in most cell types.
"The virus is fully an exosome in every sense of the word"	WRONG: exosomes don't have spikes and don't reproduce.
There is no evidence for a virus, it doesn't exist.	WRONG: SARS-CoV-2 has been fully sequenced.
COVID-19 has other causes than a virus (such as toxins).	WRONG: symptoms can specifically be related to the virus.
The causes of COVID-19 are mostly environmental.	WRONG: symptoms spread like an infectious disease.

In a long interview with London Real—the same medium that featured the interview with David Icke as discussed in [Part 1](#)—Kaufman elaborates further on the relationship/identity of viruses and exosomes:



Andrew Kaufman: 'I think I know what is really going on.'

So the structure of exosomes would be, they are very simple, very small, the same size as virus particles, there is a range of sizes as there are for viruses as well, and they have a very simple structure, a membrane, several proteins on the membrane, one of them is a receptor, like a key mechanism that finds the right lock of the target cell, so it can to into the target cell with which it is supposed to communicate, and then inside the vesicle there is some kind of genetic material. And it could be a variety of different materials, it could be various forms of DNA and RNA - just as it has been described in virus particles. So, there is another role that has been demonstrated in scientific studies where sometimes these exosomes can take up toxic materials, like bacterial endotoxins, from the environment outside the cells, and then prevent the cells from being exposed to these toxic materials. So that may be one role.

So, the reason why this is so important is, one, the similarities have been recognized by scientists, including virologists, and many times scientists have actually said they are the same thing, or they have substantial overlap. Including prominent virologists. And they also found them to have a combination of what they call viral RNA or DNA mixed with human RNA or DNA. So remember from what I said earlier that we don't know the true source of what they call "viral genetic material". And nonetheless, whatever it is, they found it in our own body, in these exosomes. (1:40) [2]

Now this is patently untrue. Kaufman suggests that we have never seen viruses (but check out some stellar photos of the SARS-CoV-2 virus at the bottom of this article), and that what we see under a microscope are actually exosomes, which look very similar (in his opinion). And this has been "recognized by scientists, including virologists"? Care to name a few? Here's another vague generalization: "many times scientists have actually said they are the same thing." Again, no references are given. And to top it off: "Including prominent virologists." He obviously has James Hildreth in mind, whom he quotes in his earlier video on COVID-19. These exosomes can indeed contain viral RNA or DNA (not "what they call viral RNA or DNA", no, from a real virus) for reasons that Kaufman cannot explain to you. The true source of "what they call 'viral genetic material'" is very well understood by science, as you can see when you read the relevant literature. But Kaufman claims support from a

famous scientist who doesn't share his views—the deep pit of pseudo-science.

I am afraid dr. Kaufman cannot tell us fact from fiction, as the title of this London interview proudly claims: he adds more fiction of his own. It is not entirely clear what his agenda is: cast doubt on the existence of viruses *as such*? Or only this particular virus? Might as well deny the existence of atoms. Perhaps he does as well.

Is it more economical to explain COVID-19 symptoms with some unspecified cause than with the SARS-CoV-2 virus? If these symptoms are caused by an unspecified other cause (or causes), how can the contagiousness of the disease be explained? Take a simple example like the following. Most members of a Washington choir become ill after only two rehearsals, due to one of its members having COVID-19.[3] Two died, 87% developed symptoms. Food poisoning, stress, fear, cancer, 5G, toxins? A virus is the most economical explanation for this spread of the disease, especially because it is transmitted from the human throat through the air, and collective singing of course intensifies this risk considerably. Lack of ventilation finishes the job.

Denying the existence of the SARS-CoV-2 virus, and not just its harmfulness or contagiousness, is a very irresponsible and dangerous act. It leads to behavior that increases the chances it will spread to all of us. It will divert our attention from the real harm that is being done by the coronavirus. Kaufman recommends: just take Vitamin C! (I am serious).

- Vitamin C

- Powerful antioxidant helps reduce damage from toxin-induced oxidative stress (free radicals)

Medical advice from Andrew Kaufman against COVID-19.

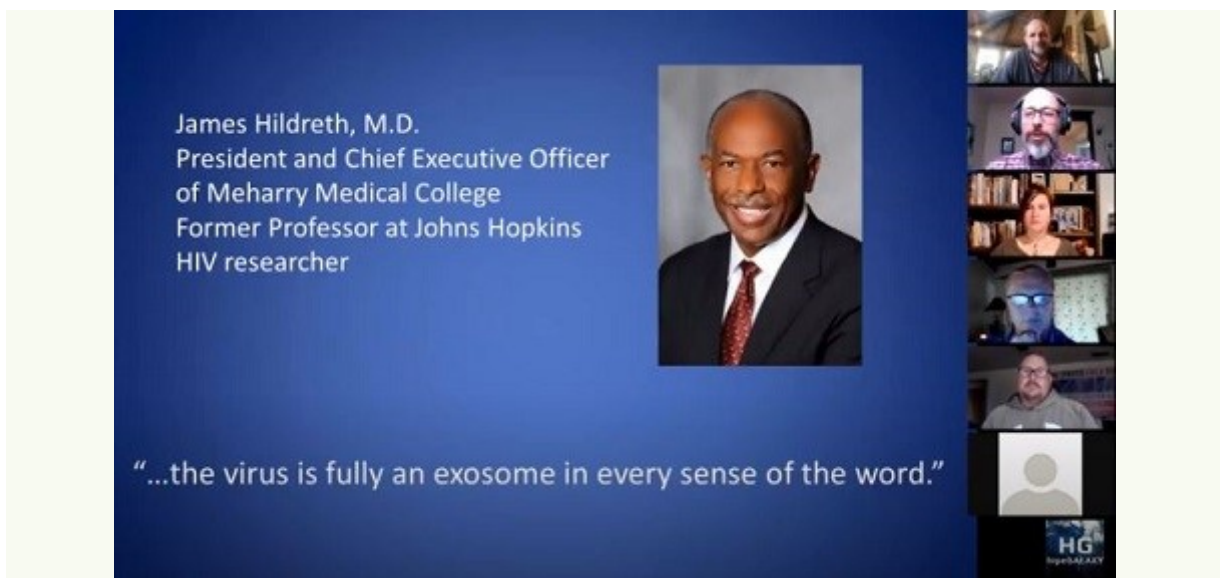
Rebecca Novick, in a long article on *Medium* in which she debunks Kaufman's video point by point, has called this behavior "sinister", and I agree:

Most conspiracists I've come across accept the real and present danger of the coronavirus while claiming that it's man-made and/or designed to re-boot society in some way post lockdown to strip us of individual rights. These people do not suggest that the coronavirus is not real or not a health risk, although some may think it's dangers are being over-sold. Others, however, go further. It is in this more sinister camp that we find the likes of Dr. Andrew Kaufman... [4]

Check ou [Part 2](#) to see the twelve aspects of the scientific view of COVID-19 that can be denied by
conspirationists or dissident-scientists.

QUOTING SCIENCE OUT OF CONTEXT

As discussed in Part 1 and 2, Kaufman makes much of a quote by James Hildreth as saying "the virus is fully an exosome in every sense of the word" , as you can see in this slide of his video:



Andrew Kaufman misquotes James Hildreth in support of his own opinion that viruses are actually exosomes (confirmation bias).

Did Hildreth mean that viruses observed under the microscope are actually exosomes? Not by any stretch. His "Trojan hypothesis" postulates that (real) viruses can *hide within* exosomes, and thus escape our immune system's attention. (Hildreth's quote refers to the AIDS virus, which works different from the coronaviruses, but never mind the details.) In computer language, a "trojan horse" is a sort of malware which is the camouflaging of authenticated or legitimate software. The similarity with real viruses is very illustrative: they hide their true nature so they can pass the virus-scan (the computer's immune system). As we can be misguided by a computer virus, so can the

cell mistake a virus for an exosome that is just doing its daily duties.

Hildreth now proposes that "the virus is fully an exosome in every sense of the word." Others have found that HIV particles contain MHC, but by the exosome hypothesis they may also contain proteins that exosomes use to fuse with target cells and to avoid attack by complement. As Gould points out, an exosome makes a perfect vector for HIV, because an exosome "is not just proteins in a vesicle, it's something that is meant to traffic."

The unreferenced quote ascribed to Hildreth in Wells' 2003 article.

Unfortunately this quote from Hildreth has now gone viral (pun intended) by Kaufman's misuse of it. His video has been watched by an incredible number of 166.000 people by now, and that number will most likely increase even more.

I have been searching for the context of this particular quote from Hildreth, but found it only mentioned in passing in the article "When is a virus an exosome?" by William A. Wells[5]. Wells references an article of which Hildreth was co-author called "The Trojan exosome hypothesis"[6], but unfortunately that article doesn't contain that particular quote. When I asked Hildreth on Twitter for clarification directly he did not respond. Obviously he doesn't want to waste time on these pseudo-scientific fabrications. So what I did instead is search the recent overview literature on exosome research for any reference to Hildreth's "Trojan hypothesis".

This is what I found about the "cargo" of these vesicles, again in the same overview article I quoted from earlier—and again, bear with me about the medical jargon:

In addition to proteomic cargoes, exosomes carry genetic materials including miRNA, various non-coding RNAs, mitochondrial RNAs, and mRNAs [Fig. 1(b)].³⁰ The mechanisms for loading these cargoes is not yet known, though it has been proposed that RNA cargo associates with sphingomyelin and cholesterol enriched regions of the budding membrane prior to bud formation.³¹ A different model involves the sorting of RNA by sumoylated hnRNPA2B1 via the presence of a "zip code" in the 3'UTR of mRNA.^{32,33} Conversely, it has been noted that exosomal RNA cargo reflects the state and cytoplasmic content of the cell of origin.³⁴ Regardless of the loading mechanism, it has been determined that exosomes provide a method to exchange genetic information between cells.³⁵ Considered the main functional component of the exosome, once in the recipient cell, RNA plays the role it would in the cell of origin (e.g., miRNA repressing target mRNA).³⁶ That said, the RNA

transported by exosomes is not always native to the cell; infected cells have been noted to produce exosomes containing RNA of viral origin which, upon uptake, infects the recipient cell.³⁷ An extreme example of this can be seen with the Human Immunodeficiency Virus (HIV) for which it has been postulated that the membrane casing of the virus is in fact a hijacked exosome carrying viral RNA.³⁸[1]

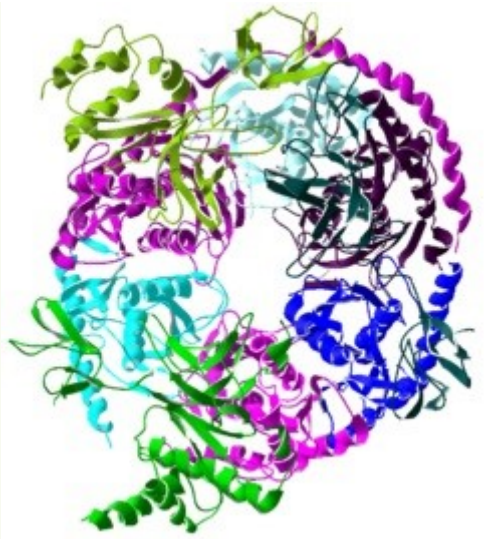
These are the key sentences: "the RNA transported by exosomes is not always native to the cell; infected cells have been noted to produce exosomes containing RNA of viral origin which, upon uptake, infects the recipient cell." So viral genetic material can hide within exosomes to exit the cell and continue its devastating work. This is followed by a direct reference to Hildreth's Trojan hypothesis: "An extreme example of this can be seen with the Human Immunodeficiency Virus (HIV) for which it has been postulated that the membrane casing of the virus is in fact a hijacked exosome carrying viral RNA." So this is a particular hypothesis ("it has been postulated") by Hildreth about the behavior of the AIDS virus. It is not a categorical statement about *any* virus being *actually* an exosome, as Kaufman wants us to believe. Far from it.

Novick is therefore again spot on when she concludes:

Is SARS-CoV-2 an exosome? No. But it would like you to think it is. It certainly has Dr. Kaufman fooled. And it also fools our immune systems... Exosomes and SARS-CoV-2 are, he claims, "essentially the same in every important way." All except for one very important way, Dr. Kaufman. An exosome is an enzyme that holds great promise for our understanding of cell communication and chemical pathways. SARS-CoV-2 is a virus that walks, talks and acts like an exosome and has infected, crippled and killed millions of human beings.[3]

Is SARS-CoV-2 an exosome? No. But it would like you to think it is. It certainly has Dr. Kaufman fooled. And it also fools our immune systems...

WE NEED MORE SCIENCE, NOT LESS



"Ribbon view" of the human exosome complex.

In the science view everything can in principle be specified: how the virus infects the cell, how it reproduces, how it leaves the cell, and how it further infects new cells. In Kaufman's medical "theory", there is no mechanism specified between the various causes and the symptoms of the disease, other than that they supposedly weaken our immune system. But even if that were the case, for example because of 5G—remember, this was the main thesis of David Icke in his London Real interview—it would require a *real virus* to take advantage of that weak immune system.

But Kaufman doesn't even consider that option: he plainly denies the virus is real. "There is no evidence for a virus." His contention that the virus is actually an exosome is without any factual basis. To repeat: science offers a much more interesting connection between viruses and exosomes: in a certain phase of the viral life cycle, when the virus needs to exit the infected cell, it hijacks the already existing exosome pathways to encase itself in a way that escapes the immune system's attention. Again, science can specify the mechanisms involved to the very molecular detail. Pseudo-science cannot do this, or it invents imaginary mechanisms of its own, which results in disinformation.

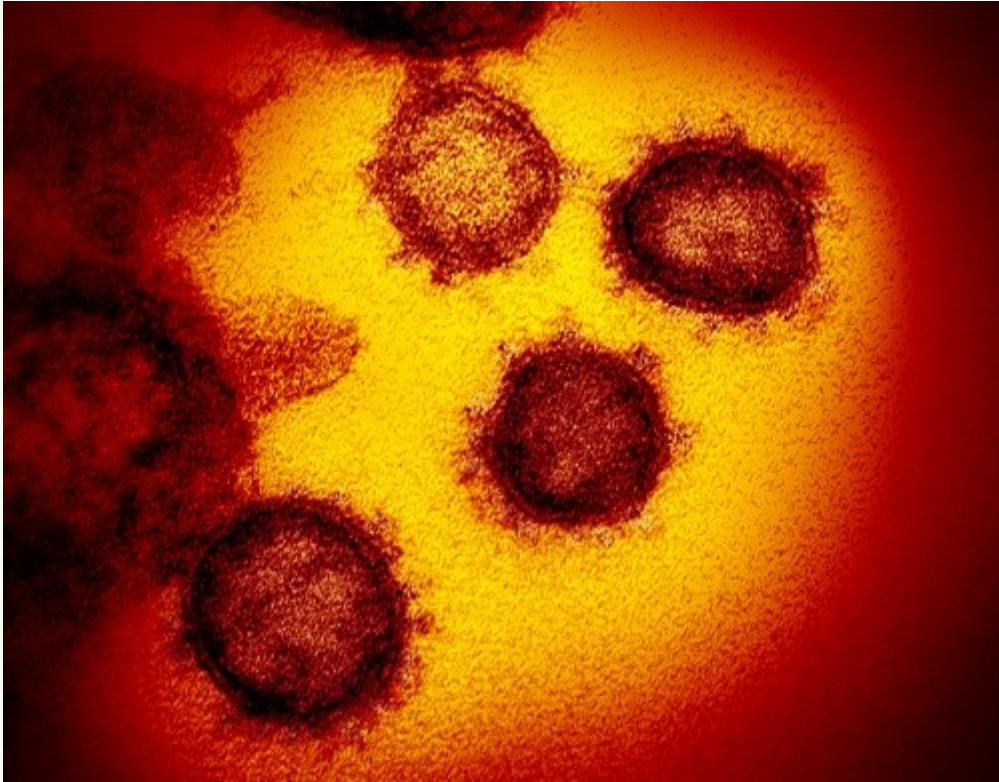
COVID-19 can lead to terrible complications, including not only the lungs, but the heart, blood vessels, digestive tract, kidneys,

brain and even the central nervous system.[7] This is due to the receptor it uses and which exists in many parts of the body. Remember the US doctor that told us in a widely distributed video that "it's not pneumonia, it is something else!". Conspiracy theorists saw this as "evidence" that we are not being told the whole story—their bottom line conviction—but science just investigates further to find facts about how SARS-CoV-2 actually ravages our health. Those who think that the many people who have been reported to have died from this disease actually died from secondary illnesses again might be wrong: SARS-CoV-2 attacks exactly these weakened systems in the body to kill the patient.

That's what we need: fact-based information about this global pandemic, not simplistic solutions coming from an over-heated paranoid brain, or health-food advice from quacks who cherry-pick science to suit their needs. As a first line of defence, boosting your immune system may be a very good idea, but this is an enemy that requires stronger measures. Some have suggested that attacking David Icke and Andrew Kaufman for their mistaken views on COVID-19 is low hanging fruit, but given the huge audience they reach—Icke's now banned YouTube channel had over one hundred million(!) views—the serious damage done by these two gentlemen should not be underestimated.

EPILOGUE

So, dr. Kaufman, does this look like an exosome to you? Or a real virus?



This transmission electron microscope image shows SARS-CoV-2—also known as 2019-nCoV, the virus that causes COVID-19—isolated from a patient in the US, emerging from the surface of cells cultured in the lab. (Image: NIAID-RML)

NOTES

- [1] Xia Li, et. al. "[Challenges and opportunities in exosome research: Perspectives from biology, engineering, and cancer therapy](#)", APL Bioengv.3(1); 2019 MarPMc6481742.
- [2] Dr. Andrew Kaufman, "[Unmasking The Lies Around COVID-19: Facts vs Fiction of the Coronavirus Pandemic](#)", londonreal.tv, no date.
- [3] David Williams, "[How coronavirus spread from one member to 87% of the singers at a Washington choir practice](#)", cnn.com, May 13, 2020.
- [4] Rebecca Novick, "[10 things a conspiracy theorist taught me about the novel coronavirus](#)", medium.com, Apr 16, 2020.
- [5] William A. Wells, "[When is a virus an exosome?](#)", J Cell Biol. 2003 Sep 15; 162(6): 960.

[6] Stephen J. Gould, Amy M. Booth, and James E. K. Hildreth, "[The Trojan exosome hypothesis](#)", Proc Natl Acad Sci U S A. 2003 Sep 16; 100(19): 10592-10597.

[7] Johnny Wood, "[These are the ways doctors think coronavirus can attack the body](#)", 01 May 2020.

PHOTOS OF SARS-COV-2

If you still need to be convinced about the real existence of the COVID-19 virus, check this stellar collection of photos:

- "[COVID-19 PHOTOS: Up Close with the Deadly Coronavirus](#)", India | Reuters, March 31, 2020
- Amos Chapple, "[Up Close With The Enemy: The Coronavirus In Stunning Detail](#)", Radio Free Europe Radio Liberty, March 31, 2020.

Part 4: Why Viruses are Not Exosomes

FRANK VISSER

Real scientists publish their views in scientific journals, not through YouTube videos or obscure online radio shows.

Researching further on the topic of exosomes, and their supposed equivalence with viruses—an idea proposed by conspiracy-scientist [Andrew Kaufman](#)—I found two relevant videos that clarify the scientific point of view even further. I also contacted several real experts in the field of exosome research to see if my essays contain any errors. To recap: Kaufman believes there is no virus, but people get sick because of stress, radiation, toxins or any other environmental impact. We have discussed his views in Parts 1-3.

But first, let's give a bit of chronology of the various YouTube video postings following Andrew Kaufman's original presentation containing this claim, which expose him as a pseudo-scientist who cherry picks from the scientific literature whatever (he thinks) supports his own opinions—disregarding large areas of solid science.

A BIT OF CHRONOLOGY

The original Icke/Kaufman videos

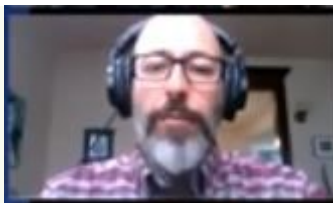


David Icke: 'There is no COVID-19. It doesn't exist.'

- Andrew Kaufman, "[SPECIAL REPORT: Humanity is NOT a virus! \[Is COVID-19 really an exosome and not a virus?\]](#)", YouTube, March 31, 2020

- Brian Rose & David Icke, "[The Coronavirus Conspiracy: How COVID-19 Will Seize Your Rights & Destroy Our Economy](#)", YouTube, April 6, 2020 (reposted on Bitchute, when this video was banned from YouTube due to the spreading of medical disinformation. Kaufman is cited in this video).



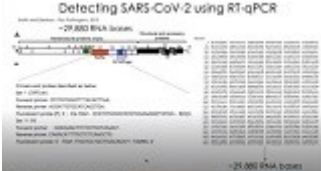
Online Criticisms of Icke/Kaufman



Andrew Kaufman: 'I think I know what is really going on.'

- Coffeezilla, "[Debunking David Icke's Crazy Coronavirus Conspiracy on London Real](#)", YouTube, April 9, 2020.
- Kevin W. McCairn, "[Grifter Busting Mr. Andrew R. Kaufman supposed 'Dr.'](#)", YouTube, April 11, 2020.
- Kevin W. McCairn, "[Grifter Busting Mr. Andrew R. Kaufman supposed 'Dr.' #2](#)", YouTube, April 12, 2020.
- Kevin W. McCairn, "[Grifter Busting Mr. Andrew R. Kaufman supposed 'Dr.' #3](#)", YouTube, April 14, 2020.
- Kevin W. McCairn, "[Zombie-SARS-Grifter Busting Andrew Kaufman again!](#)", YouTube, April 15, 2020.
- Kevin W. McCairn, "[David Icke and Andrew Kaufman Debunked: Koch's Postulates Stand for SARS-CoV-2](#)", YouTube, April 21, 2020.
- Kevin W. McCairn, "[Pounding Andrew Kaufman and Richie from Boston with Koch](#)", YouTube, April 27, 2020.
- Kevin W. McCairn, , "[rt-Penetration \(Brian Rose - Andrew Kaufman\): Live Peep Show Grifter Version \(real time commentary\)](#)", April 30, 2020.
- Kevin W. McCairn, many short clips on his [London Fake](#) YouTube channel about Brian Rose, David Icke or Andrew Kaufman.

- Another Perspective, "[David Icke is WRONG about COVID19! Scientific evidence, molecular biology perspective](#)", YouTube, April 21, 2020.
- Another Perspective, "[Dr. Andrew Kaufman is WRONG about COVID19! Scientific evidence, molecular biology perspective](#)", YouTube, April 28, 2020.
- Another Perspective, "[Dr. Andrew Kaufman is WRONG about COVID19! Part 2: Kary Mullis and James Hildreth](#)", YouTube, May 19, 2020.

		
<p style="text-align: center;">Coffeezilla</p>	<p style="text-align: center;">Kevin W. McCairn</p>	<p style="text-align: center;">Another Perspective</p>

THE REAL EXOSOME EXPERTS

Searching in Google for any other relevant attempts to debunk Kaufman's ideas about the SARS-CoV-2 virus, I stumbled on two highly relevant vlogs between to exosome experts. They don't mention Kaufman by name but because the commenters to their videos bring up his ideas, they felt compelled to respond:

- Jan Lötval, "[Is COVID-19 virus an Exosome? Ken Witwer and Jan Lötval - the extracellular vesicle angle](#)", YouTube, April 16, 2020.
- Jan Lötval, "[Conspiracy theories about exosomes and COVID-19. Jan and Ken Witwer come back to the comparisons...](#)", April 24, 2020.

[Jan Lötval](#) is an expert on exosomes, as his Wikipedia page tells us:



Jan Lötvall

Jan Lötvall (also spelled Lotvall) is a Swedish clinical allergist and scientist working on translational research primarily in the field of asthma. He is the former director of the Krefting Research Centre at the University of Gothenburg.[1] Lötvall's group notably contributed to early research on extracellular vesicles such as exosomes and microvesicles as shuttles of RNA molecules between cells.[2] Specifically, Lötvall's group showed that mRNA in exosomes are functional when taken up in recipient cells. A year later, the biomarker potential of RNA in microvesicles was described Xandra Breakefield/Johan Skog (Harvard University),[3] confirmed that also microRNA could be functional when transferred via extracellular vesicles from one cell to another. Lötvall was a member of the Executive Committee of the European Academy of Allergy and Clinical Immunology, its secretary general from 2005 to 2009, and its president from June 2009 to June 2011.[4] Lötvall was also co-editor-in-chief of *Respiratory Research* from 2003 to 2018.[5] He was the first president of the [International Society for Extracellular Vesicles](#) (2012-2016) and chaired the first society meeting in Gothenburg, in April 2012.[6] Lötvall is the Editor-in-Chief of [Journal of Extracellular Vesicles](#) from 1 August 2019. (Wikipedia)

Methinks we have a scientific authority here who can dispel erroneous notions of the SARS-CoV-2 virus actually being an exosome.

Lötvall speaks in these two videos with [Kenneth Witwer](#), who has the following credentials in this particular field:



Kenneth W. Witwer

Kenneth W. Witwer is an associate professor of molecular and comparative pathobiology and neurology at the Johns Hopkins University School of Medicine in Baltimore, Maryland, United States. His laboratory studies extracellular vesicles (EVs), extracellular RNA (exRNA), and retroviruses,

including HIV. Witwer has served as Secretary General and Executive Chair of Science and Meetings of the International Society for Extracellular Vesicles (ISEV), has been a scientific advisor to the US Environmental Protection Agency and the US National Institutes of Health, and is an associate editor of the *Journal of Extracellular Vesicles*. (Wikipedia)

According to his LinkedIn page, Witwer has been active in combatting the [HIV/AIDS denialism](#) movement, consisting of the small but vocal minority of scientists who deny that HIV causes AIDS, through the website [AIDSTruth.org](#). Apparently, he is now confronted with "scientists" who deny that SARS-CoV-2 causes COVID-19. Some extremists, like Kaufman, deny even the very existence of this virus.

Let's see what these exosome-experts have to say about these conspiracies about COVID-19.

Is COVID-19 virus an Exosome?

Is COVID-19 virus an Exosome? Ken Witwer and Jan Lötvall.

TAKE-HOME MESSAGE FROM THIS VIDEO
The coronavirus is a in a very specific sense an "exosome", but be careful, it has a very different biogenesis.
Viruses and exosomes are both similar and different in various aspects (content, size, origin, behavior, healthy/unhealthy).
coronaviruses are everywhere but some varieties unfortunately can cause significant mortality.
The virion (virus particle) is produced under tightly controlled conditions of protein incorporation.

Some viruses essentially are using the exosome pathway, and so it is with this coronavirus.

Conspiracy theories about exosomes and COVID-19

Conspiracy theories about exosomes and COVID-19.

TAKE-HOME MESSAGE FROM THIS VIDEO

Why somebody would believe [that the virus doesn't exist or is harmless] in the face of overwhelming scientific evidence is unclear.

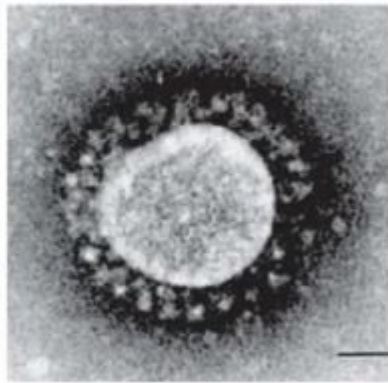
We don't confirm the presence of viruses by looking at them through a microscope (but by qPCR), so it doesn't matter how closely their appearance resembles exosomes.

When viruses were discovered Koch's postulates were revised to account for the [specific nature of the] virus.

Some bacteria (and of course viruses) cannot live outside the host, but that doesn't mean they cannot become infectious.

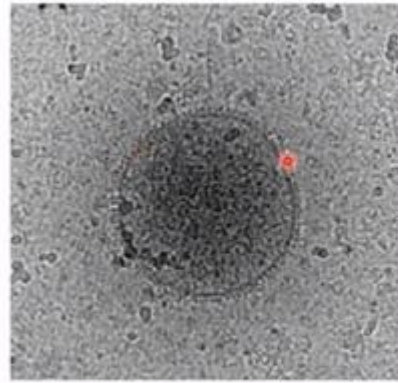
Even though the corona virus is hijacking the exosome manufacturing process, it is still a fundamentally different beast.

Coronavirus



https://iv.m.wikipedia.org/wiki/F2.3_D_medical_animation_coronavirus_structure.jpg

**Extracellular Vesicles
"exosomes"**



Microscopy/Structural Analysis of Exosomes Using Different Types of Electron Microscopy|Hyosun Choi1, Ji Young Mun, Applied Microscopy

Think twice, Andrew Kaufman, before you equate and confuse these two entities.

DIFFERENCES THAT MAKE A DIFFERENCE

You might recall that in his video presentation Kaufman stressed the (supposed) similarities between exosomes and viruses, with the implication that they might be the same thing. Let me repeat his claims: "many times scientists have actually said they are the same thing, or they have substantial overlap." (see [Part 3](#))

This is from an interview Kaufman did with London Real, the same platform that interviewed David Icke—which started off this whole series of articles:

So, the reason why this is so important is, one, the similarities have been recognized by scientists, including virologists, and many times scientists have actually said they are the same thing, or they have substantial overlap. Including prominent virologists. And they also found them to have a combination of what they call viral RNA or DNA mixed with human RNA or DNA. So remember from what I said earlier that we don't know the true source of what they call "viral genetic material". And nonetheless, whatever it is, they found it in our own body, in these exosomes. (1:40) [["Unmasking The Lies Around COVID-19: Facts vs Fiction of the Coronavirus Pandemic"](#), londonreal.tv, no date.]



Edwin van der Pol

I have looked around for scientists to question these dubious claims, and found one very close to home. [Edwin van der Pol](#), Assistant Professor Biomedical Engineering & Physics at the Amsterdam University Medical Center, wrote his PhD on "[Detection of extracellular vesicles: size does matter](#)" (University of Amsterdam, 2015) and is co-author of 41 publications on exosomes. He is interested in the detection of exosomes, microvesicles and other extracellular vesicles as possible biomarkers for disease. He sent me the following information, which highlights the salient *differences* between viruses and exosomes, and which I reproduce below with his permission:

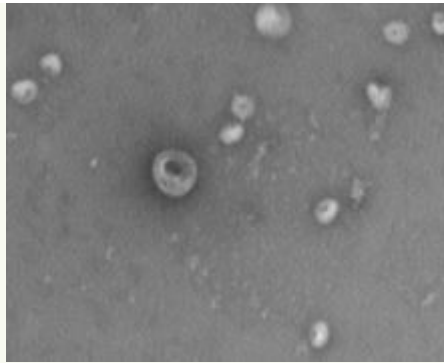
The international society for extracellular vesicles (ISEV) endorses “extracellular vesicle” (EV) as the generic term for particles naturally released from the cell that are delimited by a **lipid bilayer** and **cannot replicate**, i.e. do not contain a functional nucleus. Since consensus has not yet emerged on specific markers of EV subtypes, such as endosome- origin “exosomes” and plasma membrane-derived “ectosomes” (microparticles/microvesicles) assigning an EV to a particular biogenesis pathway remains extraordinarily difficult unless, e.g. the EV is caught in the act of release by live imaging techniques [1].

	Extracellular vesicles	Viruses
Ability to replicate	No	Yes
Appearance cryo-electron microscopy	5 nm thick bilayer [7]	Depends on capsid and/or envelope
Appearance transmission electron microscopy	Mostly cup-shaped [6]	Intact
Most abundant molecules	Water and phospholipids	Proteins, lipids, RNA
Membrane	Lipid bilayer	Capsid and/or envelope
Nucleic acids	May be	Yes
Refractive index	Low (<1.42) [3,4]	High (>1.42) [5]
Shape	Spherical (EVs < 500 nm) [7]	Depends on morphology
Size distribution	Polydisperse (broad) [2]	Monodisperse (narrow)

Some salient differences between extracellular vesicles and viruses.

- EVs including exosomes have a broad size distribution [2].
As far as I know, most viruses have a narrow size

distribution. We therefore sometimes even use viruses as a reference material [5].



Cup shaped morphology of an exosome.

- EVs can be seen as phospholipid bags filled with water and some RNA / proteins. Hence, the refractive index, which tells how efficient an EV scatters light, is lower than the refractive index of viruses [3-5]. For the same reason, EVs are vulnerable once exposed to the vacuum of transmission electron microscopes. Due to the vacuum, the main content of EVs, water, evaporates, resulting in a cup-shaped / doughnut morphology (like a deflated football) [6]. I suppose most viruses do not suffer from the evaporation of water, as viruses are more dense in proteins, lipids and nucleic acids.
- Depending on the composition of an EV, EVs would have a hard time remaining intact without water (water keeps the phospholipid molecules together).
- EVs do not necessarily transport nucleic acids.
- Once imaged by cryo electron microscopy, EVs can be differentiated from other particles in blood plasma by the presence of a 5 nm thick bilayer [7]. All EVs <500 nm in diameter are spherical [7]. Slide 26 of: "[Refractive index of](#)

[extracellular vesicles by nanoparticle tracking analysis](#)":

Discussion - urinary vesicles contain mainly water

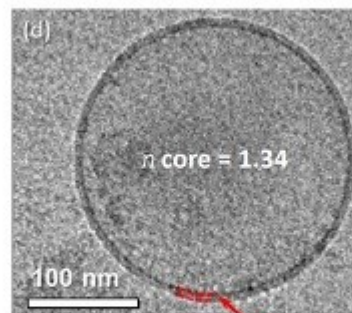


image courtesy of Issman et al., PLoS ONE (2013)

* van Manen et al., Biophys. J. (2007)

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- Once a virus transports itself in the blood circulation, it's for the body and immune system "fully an exosome" [a reference to [James Hildreth](#), FV].

Perhaps Kaufman should look more closely at the photos he comments on, or through his microscope, if he does that at all, or even better, use multiple detection techniques to see the real and relevant differences between exosomes and viruses.

MORE THEN A THOUSAND WORDS...

As a bonus, and to add animations to words, here is a simple, two-minute video about the nature and behavior of these "circulating microvesicles" or exosomes.

TAKE-HOME MESSAGE FROM THIS VIDEO

Exosomes are membrane enclosed structures that are released into the extra-cellular space of various cell types.

Once released from the cell circulating microvesicles can be detected in a

<p>variety of body fluids.</p>
<p>Circulating microvesicles can transfer their content to other cells, in support of various biological processes.</p>
<p>Circulating microvesicles can contain biomarkers to diagnose the presence of a disease.</p>
<p>Circulating microvesicles can contain cell material (RNA, proteins) from their cell of origin.</p>

END OF THE VIRUS = EXOSOME STORY

This concludes my series on Icke, Kaufman, viruses and exosomes and hopefully it has become clear that disinformation about these scientific topics can only be dispelled by allowing ourselves to be educated by real science.

Self-appointed exosome specialists, like Andrew Kaufman, who declare there is no virus to worry about, and that the cause of COVID-19 is 5G, stress or any other environmental variable, but who neglect to mention sophisticated disciplines such as [bioinformatics](#) and [genomics](#), are irresponsible and should be refuted.

Real scientists publish their views in scientific journals, not through YouTube videos or obscure online radio shows, seeking recognition and fame directly from the public, as fringe scientists such as Andrew Kaufman tend to do. For example, at the start of his presentation Andrew Kaufman thanks the following people who have been "instrumental and inspiring" to him. So you know where he is coming from:

Acknowledgements

- Thomas S. Cowan, M.D.
- James True
- Richie Comito aka Richie From Boston
- Jason Lindgren and Crow
- My patient and supportive children
- Stefan Lanka, Ph.D.
- Nancy Turner Banks, M.D.

- [Thomas S. Cowan](#), alternative medicine celebrity, author of *Human Heart, Cosmic Heart, Cancer and the New Biology of Water* and *Vaccines, Autoimmunity*. [Links COVID-19 to 5G](#): it weakens our immune system (so he does believe in viruses!). Recommends Vitamin C, like Kaufman does.
- [James True](#): "Author, Seer. Literary alchemist." Author of *Technology of Belief. Blueprints of Mind Control* and *Spell of Six Dragons*. See: www.jtrue.com/
- [Richie from Boston](#): "5G: The most important conspiracy of all time", right-wing YouTuber with 100.000.000+ views. "If you are closed minded, leave, leave now."
- [Jason Lindgren and Crow](#): rado host Ccrow777, "belief is the enemy of knowing", UFOs, astrology, "the highest quality UFO and anomaly footage possible".
- His children. I first read this as "my patients" but it was "my patient and supportive children". No comment.
- [Stefan Lanka](#): German molecular biologist who denies the existence of any virus. Offered €100,000 for proof of the existence of the measles virus. See: "[David Bardens vs. Stefan Lanka law suit](#)". See: wissenschaftplus.de. See [Part 7](#).
- [Nancy Turner Banks](#): "Do Infectious & Pathogenic Viruses Even Exist?", author of *The Slow Death of the AIDS/Cancer*

Paradigm and AIDS, Opium, Diamonds and Empire. As to viruses: "They never isolated anything."

They have turned into viruses themselves by spreading their harmful memes of misinformation across the Internet.

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ACKNOWLEDGEMENT

Thanks to Edwin van der Pol who reviewed this series of essays for accuracy and provided valuable input on the differences between exosomes and viruses.

Part 5: The Alternative Facts of Virus Denialism

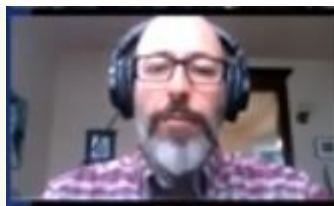
FRANK VISSER

The idea of a virus that makes you sick is a transparent fraud, a fatal lie with dramatic consequences.
—Stefan Lanka

This is a game of playing fast and loose with scientific facts, in support of an anti-science natural medicine ideology.

We have had quite a bumpy ride in this series on the Corona Conspiracy. First, David Icke, the King of Conspiracy, claimed a connection between 5G and COVID-19, while at the same time denying there was any virus to worry about: "There is no COVID-19. It doesn't exist." His interview with London Real attracted over one million viewers. His source for this claim was psychiatrist Andrew Kaufman, a self-styled expert on virology and health, who admitted he had found no evidence for it. Science-Quacks: 1-0.

Kaufman, in turn, claimed that viruses actually didn't exist. "There is no evidence for a virus." Scientists had mistaken very small cell particles called "exosomes" to be viruses. But exosomes, far from being harmful to our health, are in fact helpful because they help us to get rid of toxins, he said. COVID-19, if it existed at all, was a variety of ailments, mostly caused by environmental factors or stress. In support of his virus-exosome equivalence claim he quoted AIDS virologist James Hildreth, who had been reported as saying "the virus is fully an exosome in every sense of the word." However, this quote was taken out of context. Hildreth is a staunch believer in the reality of viruses, as is any mainstream scientist. When asked, he flatly rejected Kaufmans interpretation. "The virus is real. The pandemic is real and is caused by the virus." Science-Quacks: 2-0.



Andrew Kaufman: 'I think I know what is really going on.'

Then, to touch basis with the exosome research community, which is a very specialized area of cell biology, in [Part 4](#) I contacted three exosome experts, from Sweden, the US and the Netherlands, to verify Kaufman's suggestions in more depth. None of them saw any value in these fabrications. Some viruses may look like exosomes under the microscope, in some phases of their life cycle, but that doesn't apply to all viruses everywhere. Viruses differ widely in their visual appearance. And more importantly, relying solely on a microscope is old school virology, since genomics and bioinformatics have now taken over, much to the benefit of our understanding of the various life forms and how they relate to each other. Everything under the sun—from animals and plants to fungi, viruses and bacteria, even the most primitive *archaea*[1]—has been sequenced these days and aligned within the larger Tree of Life. Science-Quacks: 3-0.

The message is clear: there is no virus, actually there are no viruses at all. Science is mistaken if it thinks it has sequenced the full genome of SARS-CoV-2, all of its 30,000 base pairs, because it has just sequenced random cell material, that occurs naturally in all humans. "The virus has never been isolated." As a consequence, the genome sequences of this particular coronavirus, which are now available by the thousands, are unreliable artefacts of the methodology followed. The core claim of these virus denialists is that the so called PCR test, which is designed to detect viral material, is highly unreliable, because it doesn't detect anything interesting, other than random cell material. And didn't the inventor of this test, Kary Mullis, a Nobel Prize winner no less, clearly say it could not be used to detect viruses? No, he said exactly the opposite, as we have seen in [Part 1](#). These tests, if they are well prepared, are highly specific and perfectly capable of detecting SARS-CoV-2. Science-Quacks: 4-0.

Now there is a clear pattern here: this is a game of playing fast and loose with scientific facts, in support of an anti-science natural medicine ideology. What motivates these people, and is there any factual basis for these extreme claims? And what are the wider ideological backgrounds often related to these views? We quickly end up in right-wing, anti-government, conservative, nationalistic territory. A spirit of rebellion and privileged

knowledge ("we know what is really going on") is cherished. Remember David Icke's book title: *Everything You Need to Know But Have Never Been Told?* As the conservative blogger and commentator [Michelle Malkin](#) said it in a recent protest against compulsory vaccination: "They may have billions of dollars, but we have truth and light.... We are on the side of God, God is watching over us!" Resist! This is the heartland of Conspiracy Country.

The message is clear: there is no virus, actually there are no viruses at all. Science is mistaken if it thinks it has sequenced the full genome of SARS-CoV-2, all of its 30.000 base pairs, because it has just sequenced random cell material, that occurs naturally in all humans.

A DOZEN DENIALISMS

In [Part 2](#) I listed twelve aspect of the current scientific view of COVID-19, and explained how all of these could be questioned, either from a dissenting-scientific or conspiracy point of view. Let's flesh this out first, to get a feel of the extent to which this view can be and has been denied.

Scientific and alternative facts about the coronavirus pandemic.

SCIENTIFIC FACTS	ALTERNATIVE FACTS
The virus exists	The virus does not exist
It is contagious	Contagion does not exist
It is harmful	It is harmless, if it exists at all
It has a natural origin	It does not have a natural origin
It is not spread on purpose	It is a secret bio-weapon

It is not spread accidentally	It has escaped from a viral lab
It is the result of disturbing wildlife	It is not the result of disturbing wildlife
It comes to us most probably from bats	It does not come to us from bats
Through an intermediate animal (pangolin)	It does not come through an intermediate animal
We must live in a temporary lockdown	A lockdown is an unnecessary tyranny, meant to enslave and monitor us
Until a vaccin has been found, if at all	Vaccins are dangerous and will be used to spy on us
And the virus will weaken down	Viruses have always been there, if they exist at all

As you may have noticed in the last item, "Viruses have always been there, if they exist at all", there is an incompatibility here between those who flatly deny the existence of viruses, so the whole pandemic is a staged "plandemic", and those who accept their existence but don't see them as major enemies to our health. There's a similarity here with what we saw in the times of AIDS, when some flatly denied the HIV virus exists (Stefan Lanka is an example, we will come to him in a moment), while others more specifically denied HIV causes AIDS (Peter Duesburg represented this view). We could compare this as well to the Young Earth creationists (who literally believe creation happened 6000 years ago) and the Old Earth creationists (who accept the age of the earth as taught by science): their views are

incompatible but both oppose the standard scientific view of evolution.

THE VIRUS GOES TO COURT



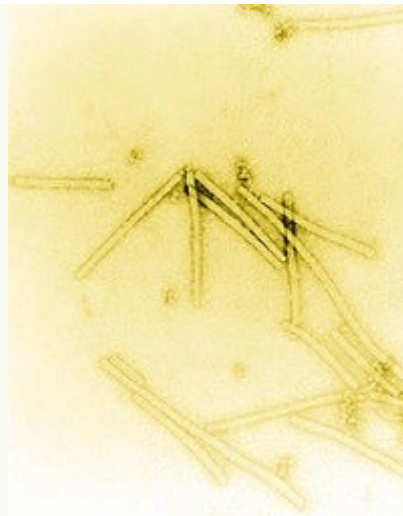
Stefan Lanka

It is the most extreme form of denialism, which denies the very existence of the SARS-CoV-2 virus—or *any* virus for that matter—which interests us here. Kaufman refers to [Stefan Lanka](#) as his major source for this point of view. Lanka is a German biologist who wrote his PhD on virus infections in brown algae, but who turned virus-denialist at some point of his career. He became famous when in 2011 he announced a prize of €100.000 for anyone who could show him a scientific publication that provided evidence for the existence of the measles virus (and its size).[2] When medical student [David Bardens](#) sent him six articles doing exactly that and claimed the prize, Lanka refused to pay. Bardens went to court and the judge in a regional court ordered Lanka to pay the reward. However, Lanka successfully appealed to a higher regional court, which decided Bardens' submission did not meet Lanka's requirement of getting just one publication, from the Robert Koch Institute. In alt-med circles this was celebrated as legal proof that viruses don't exist. Of course, it is nothing of the kind. In the end this question is decided by science. One might as well ask for an article that proves the moon exists. One would be hard pressed to find one. Does that mean there is no moon?

Where does this view come from, that illnesses are not caused by viruses but are psychosomatic in origin? One would suspect that without a virus, the whole worldwide phenomenon of a new disease spreading throughout the world and causing

hundred thousands of deaths is impossible to explain. Is it all a matter of environmental pollution, misdiagnosis, mass hysteria, government oppression and evil forces and so on, as virus denialists want us to believe?

Viruses have actually played a large role in history, and will always do. When the Spanish conquerors invaded South America, large populations of indigenous tribes were decimated because they were infected with smallpox and measles, for which these tribes had no immunity (contrary to the Europeans). When large numbers of French soldiers died of yellow fever in Haiti, Napoleon decided to sell large parts of his New World territory to the new US government, which could expand its own territory without going to war with European powers. And because so many native Indians had died of contagious diseases, the slave trade received a boost because black people turned out to be immune to yellow fever, which had its origin in Africa.[3] Did these indigenous populations really just die of separation anxiety, water pollution or bad diets?



**Tobacco mosaic virus particles
negative stained to enhance visibility
at 160,000x magnification**

The core argument of Lanka c.s. seems always to be that viruses have never been "isolated" and that electron-microscopic photos are in reality photos of normal cell particles. It must be understood that, according to standard scientific theory, viruses behave differently from bacteria, which can easily be isolated and grown in a lab. Viruses are non-cellular forms of life, which can't reproduce themselves unless they have entered a cell. Outside of cells there are just particles (called *virions*), but once

inside a cell, they hijack the cell's machinery to multiply themselves.

The first virus that was discovered was the [Tobacco mosaic virus](#), in the late nineteenth century. Even though it would take a long time before viruses could be photographed, it was suspected there should be entities smaller than bacteria that could cause infectious diseases. Viruses are smaller than the wavelength of light (which is 400-700 nm), so can't be viewed with a light microscope. When electron-microscopy was discovered, black and white pictures of viruses could be taken (which were often artificially colored to enhance visibility). Virus denialists like Kaufman and Lanka often claim these pictures are actually of regular cell components or are manipulated, but that's irrelevant. The original form is clearly preserved, color is secondary. It's like seeing beautiful Hubble telescope pictures of galaxies, these are also artificially colored. Does that mean there are no galaxies? What is more, does this Tobacco mosaic virus particle look like a random cellular particle? Not at all.

In Lanka's worldview, viruses exist everywhere in nature, but are harmless. Huh? Didn't he deny the existence of viruses? The only viruses he acknowledges to exist are [bacteriophages](#) ("bacterium eaters"), which he interpretes in his own peculiar way:

In one liter sea water there are for example hundred million different viruses. As a matter of luck our health professionals and doctors have not yet heard of it, otherwise we would soon have a law which allows for bathing in the sea only with a body-sized condom.[4]

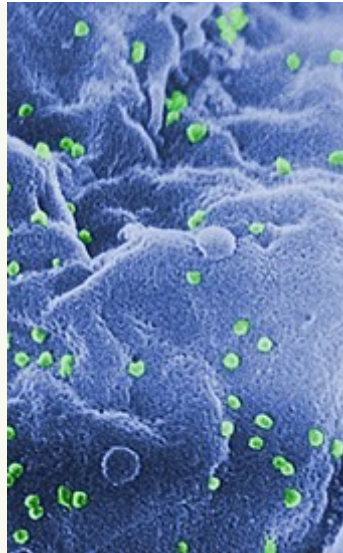
This is plain silly. The fact that we are surrounded by viruses does not mean they are all dangerous to human life, far from it. "Many viruses cause little or no disease and are said to be "benign". The more harmful viruses are described as virulent." (Introduction to viruses, [Wikipedia](#))

But according to Lanka, all in nature works out for the good:

Biological structures, that produce something negative, have never existed. The foundation of all biological life is being together, is symbiosis, and there is no place for war and disturbance. War and disturbance in biological life is an opinion of sick and criminal brains.[4]

Has Lanka never heard of the survival of the fittest? [Evolutionary arms races](#)? Snake poison? For him it is all a matter of symbiosis, viruses all living happily together with us. There is a curious imbalance in this view of nature. All life and no death. All cooperation and no competition.

Lanka goes on:



Scanning electron micrograph of HIV-1 viruses, coloured green, budding from a lymphocyte

During my studies I have never found any evidence for the existence of viruses that make one sick... Structures that have been characterized as viruses can be found in many types of bacteria and in simple, bacteria-like forms of life... Very important, viruses are components of very simple organisms... and of many bacteria. In bacteria they are called phages. But in more complex organisms, especially human beings, or in animals and plants, none of the structures that have been called viruses have ever been observed. Unlike bacteria in our cells, the mitochondria... viruses can leave the cells because they are not needed for their survival. So viruses are components of cells that can leave the cells. They support other cells, in that they transfer energy substances to them. Nothing else has ever been observed. The viruses known by science have in the highly complex events of the cell a helping, supporting and not at all a disturbing function. Also in sick people one has never in the sick organism or its fluids ever observed or isolated a structure, that can be called a virus. The idea of a virus that makes you sick is a transparent fraud, a fatal lie with dramatic consequences.[4]

Lanka seems to treat viruses as exosomes, or extra-cellular vesicles, as Kaufman now does as well. When it comes to photos of viruses in human cells, how much denialism is every enough to ignore them? There are simply too many of them.

GERMAN NEW MEDICINE



Ryke Geerd Hamer

Lanka's view on a viral disease such as the measles is that it is "basically a skin irritation caused by a mixture of psychosomatic triggers and poisoning" (Wikipedia). He wrote the book in German: *Der Masern-Betrug* (2006, The Measles Fraud). But Lanka is no psychologist or psychiatrist, so we must look elsewhere for his sources. We find it in the so called "[German New Medicine](#)" created by [Ryke Geerd Hamer](#) (1935-2017). It sounds strange to call a medical approach "German", as if there is French science, Italian science and German science. At most we can say there is science, and then there is alternative "science", in its many forms. The term becomes more ominous when we read that

Hamer claimed that his method is a "Germanic" alternative to mainstream clinical medicine, which he claimed is part of a Jewish conspiracy to decimate non-Jews. (Wikipedia).

It gets even more absurd, paranoid and ridiculous:

Hamer purported that his method is a "Germanic" alternative to mainstream clinical medicine, which he claimed is part of a Jewish conspiracy to decimate non-Jews. In this, Hamer repeated the antisemitic claims of Nazi physician Gerhard Wagner. More precisely, Hamer asserted that chemotherapy and morphine are used to "mass murder" Western civilisation, while such treatment is not used in Israel... Hamer promoted the idea that most German oncologists are Jewish and that "no Jew is treated with chemotherapy in Germany"... Hamer also believed that the denial of recognition of his theories and the revocation of his practitioner's licence is due to a Jewish conspiracy. In 2008, Hamer presented a document where one "Chief Rabbi" "Esra" Iwan Götz confirmed the existence of a conspiracy among Jewish oncologists to use the "torture" of chemotherapy on all non-Jewish patients, while Jewish patients were to receive the "correct" treatment of GNM. Götz, a German holocaust denier active in the German Reich revivalism scene, has been repeatedly

convicted by German courts, fraud, defamation, misuse of academic titles (the title "Chief Rabbi" is not legally protected in Germany), and the falsification of documents, among others. (Wikipedia).

So... the Jews use a method of cancer treatment devised by a German antisemite, while at the same time they are using real science to decimate non-Jews. David Icke, who is also into the Jewish conspiracy business, would have nodded approvingly.

"Icke antisemitic conspiracies viewed over 30 million times, new research shows. Centre for Countering Digital Hate calls for removal from social media." ([The Jewish Chronicle](#), May 1, 2020)

Lanka said this about his indebtedness to Hamer in the following interview in the German magazine *Vitalstoff Journal*:

For viruses as the cause of illness there is really no place in biology. Only when I ignore the New Medicine from Dr. Hamer, according to which shock events are the cause of many diseases, when I ignore the knowledge of chemistry about the effects of poisoning and deficiency and if I persistently ignore knowledge of physics about the effects of radiation, there is room for fancies like pathogenic viruses.[4]

Here we have them again: trauma, pollution and radiation—but no virus in sight. It is the same analysis that Kaufman provided (see [Part 1](#)).

In Hamer's excentric form of alternative medicine, there are "five biological laws":

1. 1st law ("Iron Rule"): Severe diseases originate from a shock event which is experienced by the individual as very difficult, highly acute, dramatic and isolating.
2. 2nd law (Two phased nature of disease): a conflict phase is followed by a post-resolution phase, which has more risks and a complete cure only comes upon its completion.
3. 3rd law (Ontogenetic system of diseases): Hamer proposes that disease progression is primarily controlled by the brain, either by the "old brain" (brainstem and cerebellum) or the "new brain" (cerebrum).
4. 4th law (Ontogenetic system of microbes): Microbes do not cause diseases but are used by the body, coordinated by the brain, to optimize the healing phase, provided that the required microbes are available when needed.

5. 5th law ("Quintessence"): The conflict active phase and the healing phase of diseases, as described above, constitute "special meaningful programs of nature"

As [Wikipedia](#) concludes:

Therefore, according to Hamer, no real diseases exist; rather, what established medicine calls a "disease" is actually a "special meaningful program of nature" (*sinnvolles biologisches Sonderprogramm*) to which bacteria, viruses and fungi belong. Hamer's GNM claims to explain every disease and treatment according to those premises, and to thereby obviate traditional medicine. The cure is always the resolving of the conflict. Some treatments like chemotherapy or pain relieving drugs like morphine are deadly according to Hamer. These "laws" are dogmas of GNM, not laws of nature or medicine, and are at odds with scientific understanding of human physiology.

What is worse, "Hamer served numerous prison sentences for illegally treating patients: in 1992 and from 1997 until 1998 in Cologne and from 2004 until 2006 in France. After his release he set up business in Spain and when things got too hot for him there he went into hiding in Norway. The total number of victims runs into the hundreds, and no cured patients are known." [5]

Here's a multi-part introduction of German New Medicine by [Caroline Markolin](#), a former teacher of German language and literature in Montreal who discovered Hamer's work in 1999 and started studying with him in 2002. She is spreading Hamer's message, who died in 2017, to the English speaking world.

German New Medicine and the Five Biological Laws - Part 1 of 7

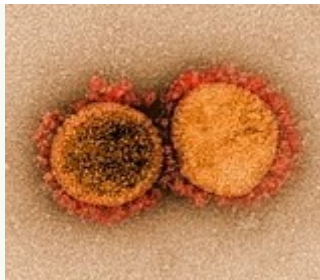
DENYING DENIALISM

It is the totalizing nature of these medical claims that should raise suspicion, especially when it is presented as a cancer treatment. Cancer is a terribly complicated disease for which no single model suffices at the moment—let alone that one model could accommodate all illnesses. By declaring cancer to have psychological causes, one burdens the patients with a terrible plight: if you die, your belief just wasn't strong enough. Just read Ken Wilber's *Grace and Grit* (1991), who went over this territory when his wife was diagnosed with high grade breast cancer.

As cancer surgeon and skeptic David Gorski comments, in a devastating critique of German New Medicine:

If there's one thing about the German New Medicine that feeds in to what I've thought for a long time now, it's that many "alternative medicine" beliefs seem to demand some sort of "meaning" from disease. The cancer patient, when faced with the horror of his or her disease, will rail against the unfairness of it all. And indeed it *isn't* fair. It isn't fair at all. Cancer sucks... The second, even worse thing, about the German New Medicine is that it feeds into another common strain in "alternative medicine" thought, namely to blame the victim. In the case of this particular form of cancer quackery, cancer isn't a disease but rather a manifestation of something going on in the mind. If the cancer patient can't overcome this "trauma" and thus dies, the implication is that it's the cancer patient's fault. If only he had believed more or done more to follow the particular woo that is supposed to save him, he would still be alive today. That, I find to be the most despicable aspect of all when it comes to cancer quackery.[6]

We see all these themes coming back in social media discussions about the coronavirus. We don't get sick from a virus, but from the vaccination we are forced to take. Our government doesn't try to flatten the curve, it is trying to rob us of our freedom. When we are told we have cancer the shock we feel produces cancer. Scientific theories are put under the microscope, but alternative "theories" about the cause of disease can flourish freely. And so on. But we can heal ourselves!



False-coloured electron micrograph of novel coronavirus - just random cell material?

I won't drag you further into this cesspool of virus denialism, cancer quackery and raging antisemitism, but you see the common elements: medical science is denied *in toto* in favor of some self-fabricated "Theory of Everything Medical". Viruses and bacteria are re-interpreted as throughout beneficial and not the cause of any disease, if they exist at all. Instead of relying on science, all kinds of health products are sold, promising cures and wellbeing. The paranoid feeling of "everybody is against us

but we know the real truth" is cherished. This is paranoid science in optima forma.

Now there is, of course, nothing wrong with having a healthy lifestyle. On the contrary, it may even prevent many of our Western diseases like obesity, diabetes and stress. The reason why I dig up this background material of Kaufman's claims is that I perceive a tendency towards false dichotomies in this field. People are said to die, not from SARS-CoV-2, but from underlying illnesses. That doesn't contradict SARS-CoV-2 from pulling the trigger. Yes, environmental pollutions worsens our health conditions, but are not in itself the cause of this viral disease. And yes, elderly people are always more vulnerable to the flu, but this particular pandemic seems more severe, especially in its later stage complications.

The picture of health and disease is always complex, and theories are very difficult to test in this field. But what doesn't help is that one part of the story—even the very existence of its most probable cause—is flatly denied, in favor of untested and all-encompassing claims to health and wellbeing. If one wants to overturn science, the first step is to have an accurate knowledge of it, including its most recent advances. Even though [the origin of viruses](#) has not been fully clarified, there is at the same time [so much knowledge](#) about these entities in science, that dismissing this out of hand, without actually engaging the field in the proper forums and journals is unproductive. Assuming professional scientists are duped by the photos of little blobs in cells into thinking they see viruses is just beyond any reasonable plausibility.

We've had [evolution denial](#), [holocaust denial](#), [climate change denial](#). Now we have virus denial, or more in general [germ theory denial](#). What's next: atom denial, gravity denial, reality denial? What's so attractive in these extremist states of mind?

It is time to deny denialism.

In the sciences, denialism is the rejection of basic facts and concepts that are undisputed, well-supported parts of the scientific consensus on a subject, in favor of radical and controversial ideas.

([Wikipedia](#))

NOTES

[1] Sarah Zhang, "[The 'Dark Matter' of the Microbial World](#)", *The Atlantic*, March 7, 2017

[2] See: "[The David Bardens vs. Stefan Lanka law suit](#)", Wikipedia.

[3] Michael Oldstone, *Viruses, Plagues and History: Past, Present and Future*, Oxford University Press, 2010.

[4] "[Keine Panik - Die Wahrheit über Vogelgrippe, H5N1, Impfen und AIDS - Interview mit Dr. Stefan Lanka](#)", *Vitalstoff Journal, Unabhängiger Informationsdienst für Naturheilkunde und orthomolekulare Medizin*, www.naturepower.de, 2005.

[5] "[German New Medicine \(GNM\): Hamer House of Horrors](#)", anaximperator.wordpress.com, July 1, 2009.

[6] David Gorski, "[The 'Iron Rule of Cancer': The dangerous cancer quackery that is the 'German New Medicine'](#)", sciencebasedmedicine.org, October 5, 2009.



Part 6: The Subtle Science of Whole Genome Sequencing

FRANK VISSER

Genomics has transformed the biological sciences... The genomes of simple bacteria and viruses can be sequenced in a matter of hours in a device that fits in the palm of your hand. The information is being used in a way unimaginable a few years ago.
— John Archibald, *Genomics: A Very Short Introduction*, 2018, xv.

We have seen in the past few episodes 1-5 of this Corona Conspiracy series a lot of disinformation regarding the new coronavirus. Various alternative health celebrities deny either the harmfulness of the new coronavirus—or even its very existence.

DISSIDENT VIEWS ON CORONA/COVID-19

Various questionable medical arguments have been put forward by these alternative medics/healers/advisors:

- viruses as such, as harmful germs, don't exist in nature,
- the virus has never been "isolated", following Koch's Postulates,
- it has not been proven that the SARS-CoV-2 virus causes COVID-19,
- there is no amount of excess deaths, hospitals are not overflowing,
- people are dying of diseases they are always dying of, they die *with* Corona rather than directly *of* it,
- or they die out of fear they might *catch* this new disease,
- COVID-19 is an umbrella term for various diseases unrelated to a virus.
- it is much better to focus on health and the prevention of illnesses than on fighting disease.

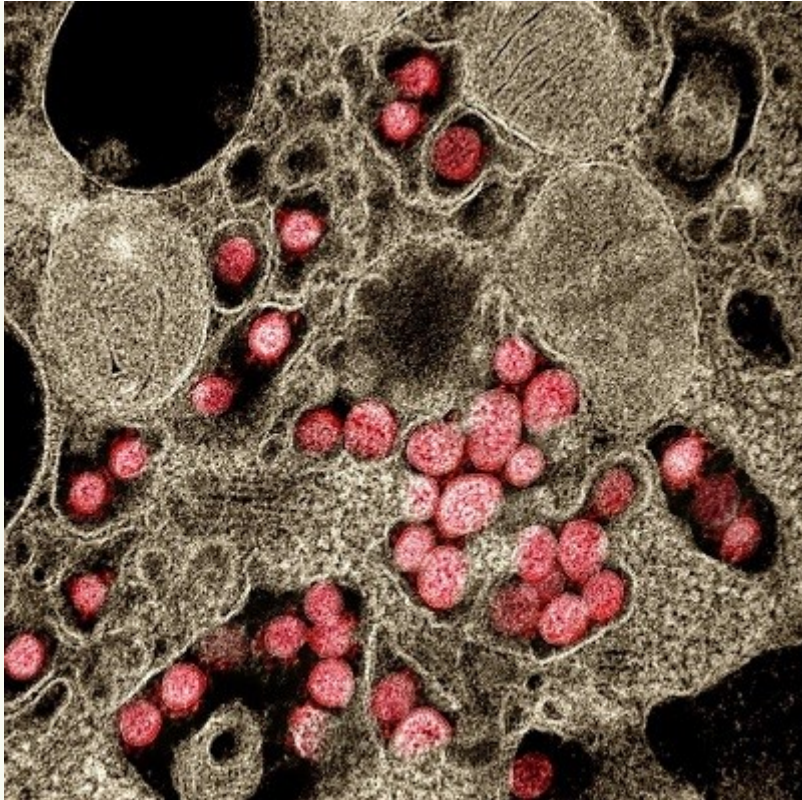
Other arguments, of a more technical nature, frequently brought forward are:

- electronmicroscopic photos of viruses are in reality photos of normal cell components such as exosomes,
- the virus tests are unreliable because they almost always lead to false positives (which means: falsely claiming you have a disease),
- these tests test not for a specific virus but for general human cell material, disregarding the need for controls,
- the full genome sequences that have been published of this and other viruses are just random artifacts of the chosen methodology,
- a virus test was offered to the WHO before the data about the new virus was even officially published.

And finally it is argued there is a larger, ominous background behind all this:

- since there is no virus, this is all a set up, mass hysteria and fear mongering,
- the current worldwide lockdown measures are unnecessary or counterproductive, a cure worse than the disease,
- they violate our basic rights to freely live life the way we want,
- they hurt our economies, leading to unemployments and suicides,
- they are part of a sinister attempt to make us slaves of Big Pharma and authoritarian governments, under a New World Order.

So there are medical, technical and cultural dimensions to this worldwide Corona pandemic and the various dissident-scientific and/or counter-cultural or conspiracy-related responses it has generated. We will focus on the technical objections here, because first and foremost we need to make sure we really *have* a real virus in our midst.



Novel Coronavirus SARS-CoV-2. Transmission electron micrograph of SARS-CoV-2 virus particles, isolated from a patient. (Credit: NIAID)

DO WE REALLY HAVE A VIRUS?

A good start is one of the first publications about the new virus, published in February 2020 in *Osong Public Health Research and Perspectives*, a publication of the Korean Centers for Disease Control and Prevention. It states: "This study reports the full genome sequencing of SARS-CoV-2 isolated from putative the 2019 novel coronavirus disease (COVID-19) patients in Korea, by cell culture. The isolated SARS-CoV-2 was named BetaCoV/Korea/KCDC03/2020".[1]

This is highly technical material, and I will do my best to understand and report on it correctly, because it touches on two fundamental questions: do we have a new virus, and can we reliably test for it? These are the things the alt-medics such as Stefan Lanka and Andrew Kaufman usually call into question, without providing much details to their readers, to be able to dismiss the contributions of regular virological and genomic science in favor of their own health ideologies.

The Korean article contains a few instructive photos and a phylogenetic tree diagram:

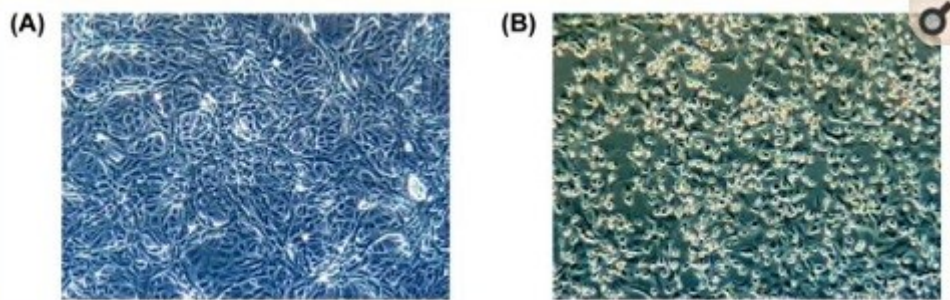


Figure 1: Cytopathic effect of SARS-CoV-2 on Vero cells. (A) Mock inoculated cells (B) SARS-CoV-2 inoculated cells.

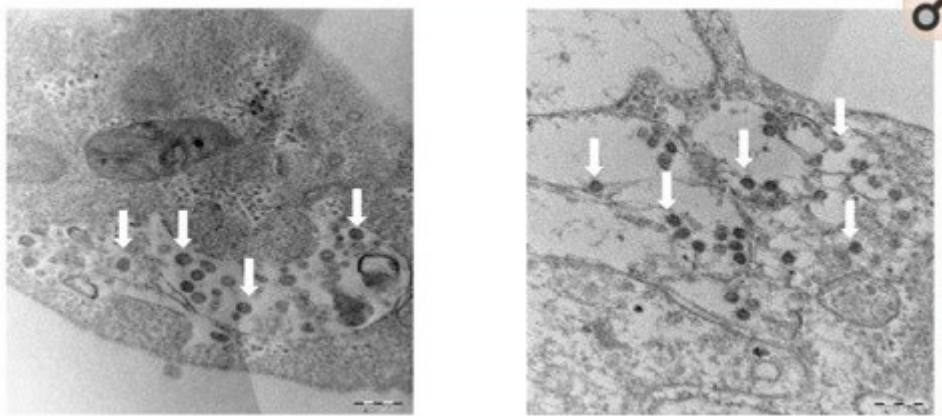


Figure 2: Thin section electron micrographs of Vero cells infected with SARS-CoV-2. White arrows point to aggregates of assembled intracellular virions.

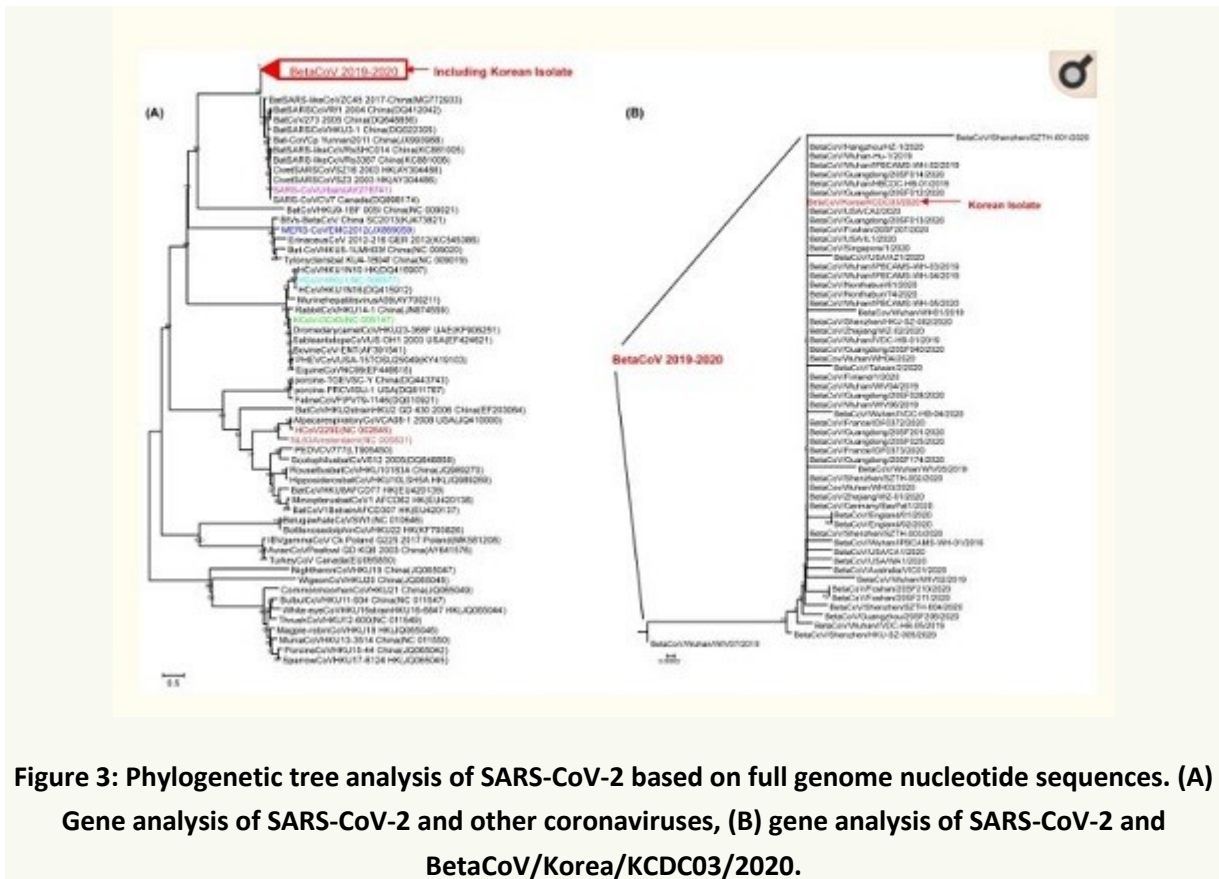


Figure 3: Phylogenetic tree analysis of SARS-CoV-2 based on full genome nucleotide sequences. (A) Gene analysis of SARS-CoV-2 and other coronaviruses, (B) gene analysis of SARS-CoV-2 and BetaCoV/Korea/KCDC03/2020.

The point I would like to make here is: the isolated viral material had an observable pathogenic effect on cells, which the control test did not have. Under a microscope, the viral particles were recognizable as coronaviruses. And the full genome of this particular SARS-CoV-2 viral sample was compared to (1) other coronaviruses (of bats, cows, horses, birds, etc., on the left) and (2) other SARS-CoV-2 genomes (as recently found in China, Singapore, Taiwan, England, the USA, etc., on the right) in the customary phylogenetic tree diagram. And where the photographic material might lead to interpretative difficulties (the major argument of alt-meds), the genomic data are highly specific and meaningful, even painfully precise in their detailedness.

Everything under the sun has been genomically sequenced these days: humans, neanderthals, fossil bones, animals, plants, fungi, bacteria, archaea and even viruses. Based on this information the Tree of Life, which currently includes three large domains (Archaea, Bacteria and Eukaryotes), has been fine-tuned to a very high degree. Strange as it may seem, viruses don't really fit

in this scheme of all living beings. John Archibald concludes his chapter on "Genomics and the microbial world":

Do viruses belong on the tree of life? The jury is still out, but what is inescapable is that viruses are firmly 'plugged in' to the tree of life and capable of shuttling genes from branch to branch. As long as their have been cells on earth, there have been viruses.[2]

And perhaps even before there were cells, they infected simple molecular replicators.

This may come across as a rather artificial way to establish the existence of viruses. But face it: we know the genomes by now of many visible organisms, from the very large to the very small. That should give us some confidence that the genomes we find for viruses and very primitive archaea, at the very base of the Tree of Life, also refer to real organisms, even if we can't always culture them in the lab, given their extraordinary life styles.

Given their small size, smaller than the wavelength of visible light (400-700nm), for a long time analyzing their composition posed a severe challenge to science. Electron microscopy was a huge step forward, but genomics gave us a base-perfect kind of look into their interiors. While their small size might seem a disadvantage, compared to genomes of eukaryotes viruses have less repetitive sequences, which makes their tiny genomes easier to read. Viruses have very compact, straightforward genomes.

As a result of this genomic research, it has been found that viruses differ considerably in size. The easiest way to show this is by counting the number of bases (A, C, G or T) they have in their genomes (note: this is not the number of genes, for genes may consist of hundreds of bases):

VIRUS TYPE	NUMBER OF BASES
Bacteriophage MS2 (RNA)	3.600 or 3.6 kb

Bacteriophage phiX174 (DNA)	5.400 or 5.4 kb
HIV	10.000 or 10.0 kb
Influenza	13.500 or 13.5 kb
Measles	15.900 or 15.9 kb
SARS-CoV-2	30.000 or 30.0 kb
Mimivirus	1.200.000 or 1.2 Mb
Pandoravirus	2.500.000 or 2.5 Mb
OTHER ORGANISMS	
NUMBER OF BASES	
E. coli bacterium	4.600.000 or 4.6 Mb
Homo sapiens	3.200.000.000 or 3.2 Gb



This image contains 34K information, slightly more than the coronavirus.

In sum, we have here quite distinct entities, each with its own characteristic genomes. From genomes we can go to the proteins they code for, and from there to their behavior in the cells they invade. As to the SARS-CoV-2 virus, biologists can read its genome and find areas that specifically code for the spikes or the envelop of the virus. Comparing this genome to other coronaviruses has taught us why this one is particularly harmful. And from that knowledge it becomes understandable that the new coronavirus can cause so many seemingly different types of disease.

DO WE HAVE RELIABLE TESTS?

This extremely specific and detailed nature of genomic data also translates into the specificity of virus tests. Instead of just "testing" for "general human genetic material", as the alt-medics usually claim, the tests target specific genetic sequences *which are unique to a specific virus only*. So let's turn to the second article.

Another landmark publication is about how to spot the virus with a so-called Real-Time RT-PCR test, published in January 2020 in *Euro Surveillance* by a German team. This article claims: "The workflow reliably detects 2019-nCoV, and further discriminates 2019-nCoV from SARS-CoV".[3] What made it possible to act so fast was their long-time experience with SARS-CoV, a similar virus that broke out in 2003, and the international nature of research in the present world. They "only" needed to zoom in on that which makes SARS-CoV-2 unique, a small sequences of bases (for example: GTGARATGGTCATGTGTGGCGG). This missing information was provided by Chinese researchers before the formal release of the full SARS-CoV-2 genome.

What we see here is how researchers specifically zoom in on certain small areas of the genome, which contain the genes RdRp (a RNA-dependent RNA polymerase gene), E (envelop protein gene) and N (nucleocapsid protein gene).

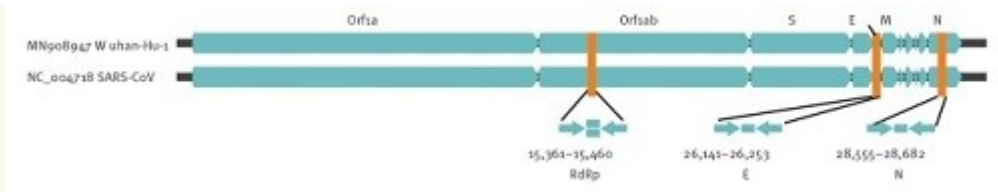


Fig. 4: Relative positions of amplicon targets on the SARS coronavirus and the 2019 novel coronavirus genome

And here you can see where the minimal differences between SARS-CoV-2 and various other viruses could be found (dots represent identical bases, only the base changes are specified where they have been found). They had six samples of the new coronavirus (where only dots can be seen: as to these genes they were identical) and compared it to the earlier SARS-CoV virus, a bat virus from China and a more distantly related bat virus from Bulgaria (where you see more base replacements show up).

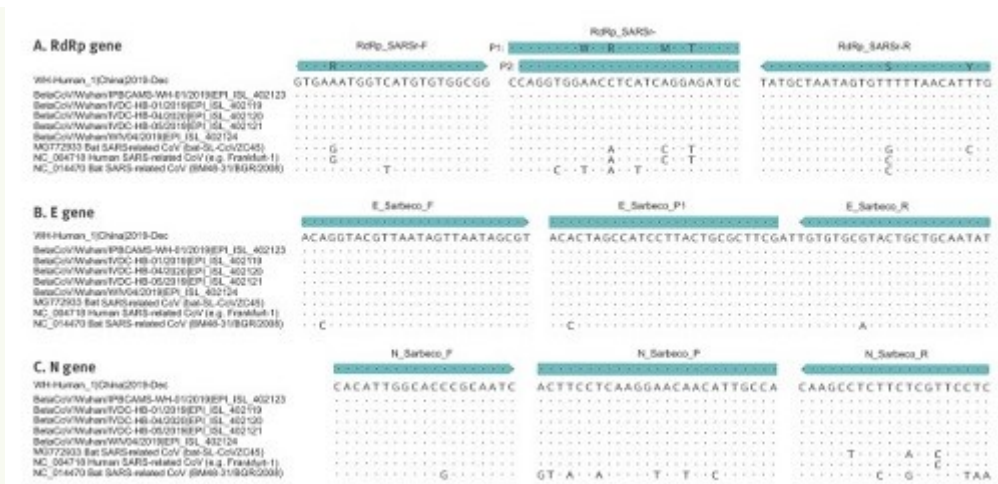


Fig. 5: Partial alignments of oligonucleotide binding regions, SARS-related coronaviruses (n=9)

They applied their test to 22(!) respiratory and other viruses (including MERS-CoV, Influenza, Rhinovirus, Adenovirus and Legionella, to name only a few), and concluded "In total, this testing yielded no false positive outcomes"—meaning, none of these related viruses were mistaken for SARS-CoV-2, which

would make the test useless for detecting this virus. The test only reliably detected SARS-CoV-2. Talking about specificity!

The authors conclude: "The relative ease with which assays [tests] could be designed for this virus, in contrast to SARS-CoV in 2003, proves the huge collective value of descriptive studies of disease ecology and viral genome diversity."



[MinION](#), Oxford Nanopore Technologies ([NRC](#))

Great insight into how virological science-in-action works is given by "Rapid SARS-CoV-2 whole genome sequencing for informed public health decision making in the Netherlands", which is currently (2020/6/27) only available as preprint on bioRxiv, and is published by a Rotterdam based research group.[4] On February 27th the first COVID-19 case was found in the Netherlands, and two days later(!) the first complete SARS-CoV-2 genome sequences of the first two patients were generated, analyzed and shared.

By March 15th, 189(!) full genome sequences were generated and released on [GISAID](#), a worldwide database that contains 55.000 genomic sequences of SARS-CoV-2 submitted from all over the world. This Whole Genome Sequencing (WGS) was accomplished by so-called multiplex PCR for [Nanopore sequencing](#), in which 86 overlapping sequences of 500 base pairs, with 75bp overlap, were used to span the full 30.000bp genome—on a device that can be held in the palm of your hand. This is a stunning scientific and technological accomplishment.

The interesting thing is that these relatively cheap and fast devices can directly be put to use in health policy decisions. The tiniest mutations anywhere in the complete viral genome can be detected as it is assembled from patient's samples, and it becomes possible to trace the complex spread of infections across national borders.

ASSEMBLING THE VIRAL GENOME

Alt-medics such as Kaufman and Lanka often suggest these whole genomes are useless artefacts, because they are based on snippets of RNA that first get multiplied and then arbitrarily "stitched together" with the help of advanced computers to form a digital whole genome sequence, which might as well be related to normal human cell material. This shows a complete lack of understanding of how digital genome assembly works.

In the most simple of terms:

- a **virus test** works by targeting specific viral material in a sample (say sputum or lung fluid), and multiplying that material so it can be made visible by fluorescence techniques. This doesn't mean that everybody will test positive if enough multiplications are done; if you don't have the viral material present, no multiplication will help you. You will *never* get a false positive.
- Building the **whole viral genome** is done by producing and detecting small segments of the genome in huge quantities (so not only the segments that are unique to that virus, but *all of them*, the whole string of bases), and then "assembling" these again on a computer, which can be done because these snippets show overlaps on both sides.

A good explanation of how genome assembly works in practice can be found in this video from [Bioinformatics DotCa](#) a Canadian Open Source bio-informatics educational institute:

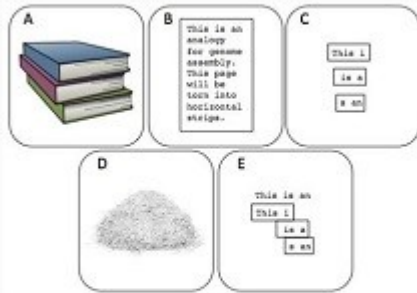
Source: Fundamentals of Genome Assembly, Bioinformatics DotCa.

A more homely example would be: putting multiple copies of a book through a shredder and re-assembling all the pages and sentences in a single, complete book again by comparing the various fragments. Of course, this is a Herculean task no human being would be able to accomplish, but computers can do this ever faster and faster, especially today.

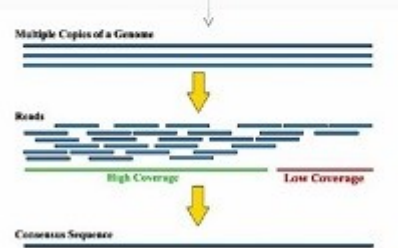
With long snippets or "reads" the genome assembly would be easier, but these are very difficult to make. Hence genome

sequencing works with relatively small sequences, which can be assembled into a full genome. But the smaller these snippets are, the more challenging the task becomes. Hence the need for high performance computers.

Example: Genome Assembly



We need multiple copies of each book (genome) to arrive at a *consensus* text (DNA sequence) of the original



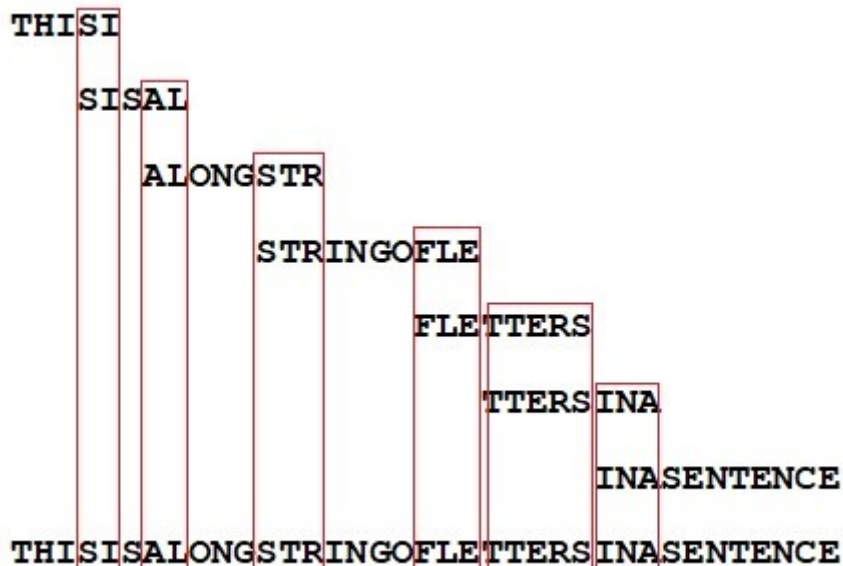
If your genome was a book that had its sentences chopped into fragments, assembly is analogous to reconstructing all the sentences.

Great explanation of DNA sequence assembly: <http://gcat.davidson.edu/phast/>

Source: [Introduction to Genetics and Genomics \(Slide 20\)](#).

Here's a final example, of my own making. Say we have several copies of a long sentence, which get cut up in smaller fragments. If the fragments are too small, of the size of individual letters, no sentence assembly will be possible. But if the fragments contain a string of letters, even if the fragments themselves make no sense to us, a computer can assemble the full sentence if it has *multiple versions* of this fragmented sentence at hand for comparison (in this case there are seven):

THIS IS A LONG STRING OF LETTERS IN A SENTENCE
 THIS **IS** A LONG STRING OF LETTERS IN A SENTENCE
 THIS IS A **LONG** STRING OF LETTERS IN A SENTENCE
 THIS IS A LONG **STR**ING OF LETTERS IN A SENTENCE
 THIS IS A LONG STRING OF **LETTERS** IN A SENTENCE
 THIS IS A LONG STRING OF **LETTERS** IN A SENTENCE
 THIS IS A LONG STRING OF LETTERS **IN** A SENTENCE
THIS IS A LONG STRING OF LETTERS IN A SENTENCE



Sentence-assembly based on a set of randomly cut off fragments is feasible if these overlapping fragments have been taken from multiple copies of the sentence.

So we end up here, not with a random string of meaningless fragments "stitched together", but with a meaningful sentence that has a unique structural order.

I leave it to you to further explore and read these scientific articles and training videos, to get a feel for the complexity and usefulness of modern genomics. This is how science goes about in knowing viruses to the very base of their genomes.[5] If you want to follow the real-time mutations happening now in the various strands of SARS-CoV-2 that are freely roaming around in

the world, do regularly check out the fabulous Nextstrain.org website.[6]

Personally I think that dismissing these research data out of hand borders on the insane. Instead of babbling about bubbles in cell photos, Lanka and Kaufman should familiarize themselves with the fields of bioinformatics and genomics. Dismissing these data as nothing more than the observation of exosomes under a microscope (Kaufman), or as the sequencing of mere "dead cell material" caused by the way viruses are cultured during sequencing procedures (Lanka), is without any reasonable scientific ground. You simply don't get this precise and specific knowledge about viruses and their evolutionary relationships based on dead human cell material.[7]

Viral biology is an entirely different ball game these days.

Personally I think that dismissing these research data out of hand borders on the insane. Instead of babbling about bubbles in cell photos, Lanka and Kaufman should familiarize themselves with the fields of bioinformatics.

NOTES

[1] Jeong-Min Kim et.al., "[Identification of Coronavirus Isolated from a Patient in Korea with COVID-19](#)", *Osong Public Health Research and Perspectives*, 2020 Feb; 11(1): 3-7

[2] John Archibald, [Genomics A Very Short Introduction](#), Oxford University Press, 2018, p. 101. A superb and up-to-date introduction to the wide field of genomics.

[3] Victor M Corman et.al., "[Detection of 2019 Novel Coronavirus \(2019-nCoV\) by Real-Time RT-PCR](#)", *Euro Surveillance*, 2020 Jan 23; 25(3).

[4] Oude Munnik, B.B. et.al., "[Rapid SARS-CoV-2 whole genome sequencing for informed public health decision making in the Netherlands](#)", *bioRxiv*, April 25, 2020.

[5] Ranjit Sah et.al., "[Complete Genome Sequence of a 2019 Novel Coronavirus \(SARS-CoV-2\) Strain Isolated in Nepal](#)", *American Society for Microbiology, Microbiology Resource Announcements* Mar 2020, 9 (11).

[6] [Nextstrain, Real-time tracking of pathogen evolution.](#)

Nextstrain is an open-source project to harness the scientific and public health potential of pathogen genome data. It provides a continually-updated view of publicly available data alongside powerful analytic and visualization tools for use by the community. Its goal is to aid epidemiological understanding and improve outbreak response. It contains real-time information about the prevalence and spread of SARS-CoV-2, Seasonal Influenza, the West Nile Virus, Mumps, Zika, West-African Ebola, Dengue, Avian Influenza, Measles, Enterovirus and Tuberculosis. Have fun!

[7] We will analyse Stefan Lanka's view of viruses and their supposed non-existence in [Part 7](#) of this series.

Part 7: Stefan Lanka's Vanishing Virus Act

FRANK VISSER




The viruses known by science have in the highly complex events of the cell a helping, supporting and not at all a disturbing function. Also in sick people one has never in the sick organism or its fluids ever observed or isolated a structure, that can be called a virus. The idea of a virus that makes you sick is a transparent fraud, a fatal lie with dramatic consequences. —Stefan Lanka, Interview *Vitalstoff Journal*, 2005.[1]

What I've done is I've looked at the scientific literature about this alleged corona virus and I've looked at all the government data on mortality and such and what I've determined is that there is actually no evidence of a virus that's been isolated or shown to cause any new disease and there's also no evidence of any rise in mortality that would suggest there's a new illness. —Andrew Kaufman, *The Infinite Fringe* #137, 2020.[2]

There is a smug superiority in all this amateurism, full of contempt for real science.

Let these two quotes really sink in. With over 10.000.000 registered cases and a worldwide death toll of over 500.000 deaths as of today (June 30, 2020),[3] there are still some reckless souls who have the guts to say: there's no virus, there's no disease, there are no excess deaths. So yeah, people die, but they die from causes they always die from. And if you test positive for COVID-19, that means nothing because it only tests for general human cell material, which everybody has, hence the large number of false positives. It's all fake news. And we are the *only* ones who are seeing it right. All of science just has it wrong. The thousands of current publications on SARS-CoV-2 are just bunk. Paranoid science.

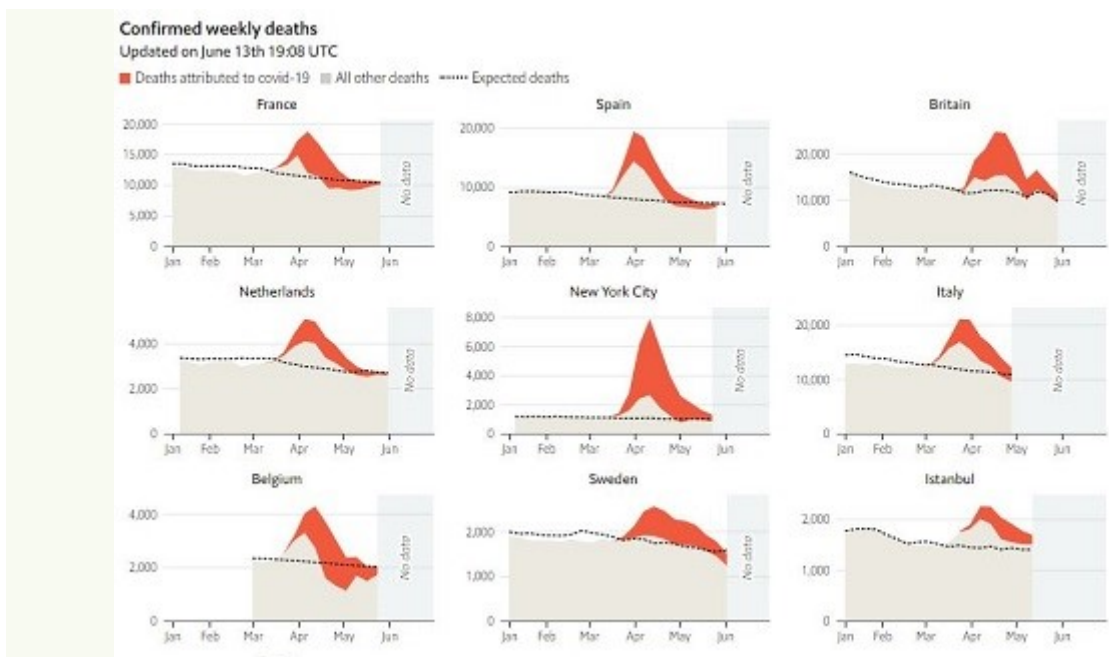
Here are the major players in this Vanishing Virus Act: David Icke, King of Conspiracy, kicked off in his interview with London Real early April, and launched forensic psychiatrist Andrew Kaufman as his major source into publicity. Stefan Lanka, a long term virus denier in Germany and a molecular biologist, is one of Kaufman's main sources for his "there is no virus" narrative. We have met Icke and Kaufman in previous parts of this series. We will now discuss Lanka in more detail.

		
DAVID ICKE	ANDREW KAUFMAN	STEFAN LANKA
'There is no COVID-19.'	'No excess deaths.'	'There is no virus.'

Major players in the Virus Vanishing Act: Icke, Kaufman and Lanka.

NO EXCESS DEATHS? NO COVID-19?

Let's first tackle the claim that there are actually no excess deaths anywhere. This graph from *The Economist* (posted in April, but updated until mid-June) speaks volumes against that claim:



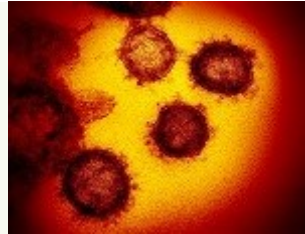
It is often claimed by these virus denialists that many deaths are misdiagnosed as COVID-19, to prop the faulty notion that there's a deadly virus going around. But even though diagnostics might be complicated when people have all kinds of underlying diseases ("you don't die *of* COVID-19 but *with* COVID-19", the sophistry goes), if you look at excess deaths this doesn't matter anymore. For *whatever reason* these people died, there is clearly a spike in deaths in many countries at the same time. In fact, many of these excess deaths were *not* attributed to COVID-19 (see the grey areas above the dotted line). This clear pattern, showing up in many countries, needs to be accounted for. And no, these are not seasonal peaks due to any winter flu, because the pandemic started in mid-March and peaked in early April.

Now, virus denialists try another tactic: there may be *something* going on here, but people are not dying from a virus. Instead, it may be stress, radiation (5G!), poison, pollution, wrong medication (vaccines!), trauma, fear of catching COVID-19 (I kid you not!) or anything these health freaks detest. But this does in no way explain the pattern we see of a sequential pandemic that started out in South-China, then spread to other countries in Europe and Asia, then on to the United States and is now ravaging South America, especially Brazil, two areas where virus denying presidents are in office. Do these countries suffer from simultaneous water pollution, psychological trauma or the rollout of 5G? There is no sensible way a case can be made for this.

"There's also no evidence of any rise in mortality that would suggest there's a new illness", said Andrew Kaufman in a tumultuous radio interview with Billy Ray Valentine. How far removed from sane facts and figures does one have to be to make such a delirious statement? What alternative facts does Kaufman have in mind here? Now why would anyone in his right mind want to deny the realities of the current pandemic? Look at Kaufman's second claim: "there is actually no evidence of a virus that's been isolated or shown to cause any new disease." It is because they don't believe in the existence of deadly viruses. That's where Stefan Lanka comes in.

Because Kaufman thinks there is no virus and no disease, and no excess deaths, for him everything boils down to mass hysteria cultivated by virologists and the WHO, and evil intentions by a world government that wants to enslave us. Yes, conspiracy.

THERE IS NO SARS-COV-2 VIRUS?

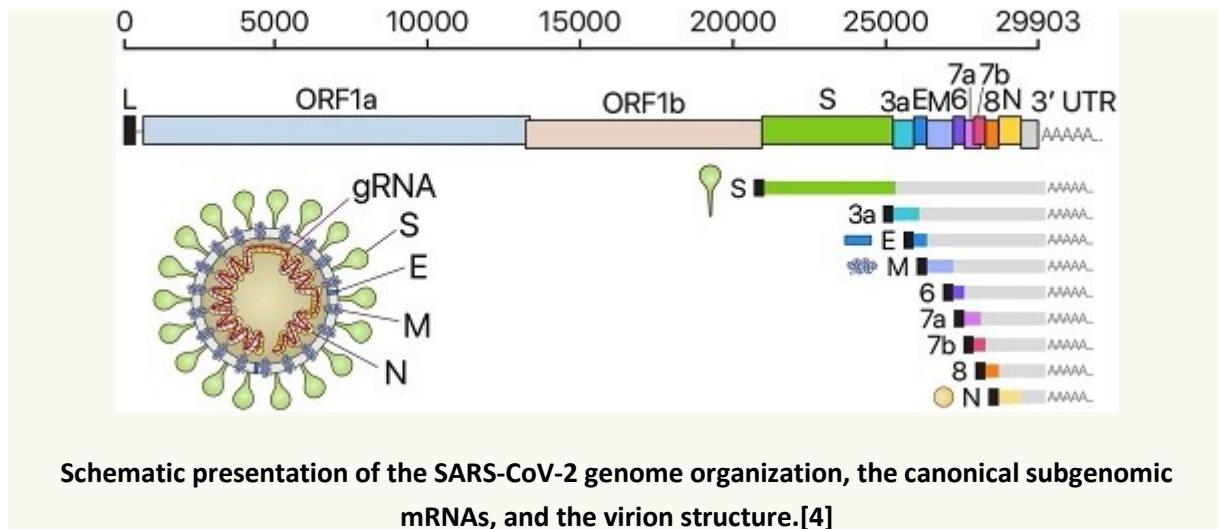


SARS-CoV-2 virus

We have heard Kaufman claim that there actually is no virus. What scientist mistake as a virus are normal cell particles called exosomes, which cells produce all the time, and especially when they are put under stress (and that specifically when cells are prepared for electron microscopy, where they undergo all kinds of chemical treatments.) The confusion is understandable, he asserts, because viruses and exosomes look very much alike under a microscope. He even claimed support from a real virologist, James Hildreth. As we have seen, Hildreth is a staunch supporter of regular science and believes in the reality and harmfulness of this new coronavirus. What makes things worse, as we also have seen, no exosome specialist will buy these half-baked theories from Kaufman. For one thing, most viruses do *not* very much look like regular cell particles at all.

But hasn't science fully sequenced the genome of SARS-CoV-2 by now, literally thousands of times—every one of its 30,000 bases—and gained intimate knowledge of its composition, behavior and its worldwide spread? Here, the tactic of these virus denialists is: that's all done with computers, and there's no guarantee that these supposed genomes relate in any way to real viruses. No virus has ever been "isolated" and proven to be the cause of COVID-19, they claim. What is actually sequenced is general human cell material, not a virus. If you would set up a proper control experiment and sequence this cell material, you would get the same genomes. Again, I kid you not.

Unfortunately for the virus denialists, the thousands of genomes published of SARS-CoV-2 show a very distinct structure, typical of this virus, and at the same time a family resemblance with SARS-CoV (as is to be expected) and other coronaviruses. Here you go:



Just for the fun of it, read the caption of this diagram, taken from the original article, to get a flavor of the real expertise involved here:

From the full-length genomic RNA (29,903 nt) which also serves as an mRNA, ORF1a and ORF1b are translated. In addition to the genomic RNA, nine major subgenomic RNAs are produced. The sizes of the boxes representing small accessory proteins are bigger than the actual size of the ORF for better visualization. The black box indicates leader sequence. Note that ORF10 is not included here because our data show no evidence for ORF10 expression.

True virus denialists will not be impressed by this display of knowledge, because they demand photos and even movies that prove that viruses exist and can enter cells. They might even grant the existence of the virus, but consider it a harmless and even beneficial entity. As Lanka said in the above quote "The viruses known by science have in the highly complex events of the cell a helping, supporting and not at all a disturbing function." Tell that to a patient who has a severe long infection, and on top of that a multitude of complications due to the versatility of this particular virus.

‘DISMANTLING THE VIRUS THEORY’



Stefan Lanka, virus denialist

[Stefan Lanka](#), a molecular biologist by training, did his [doctoral thesis](#) and subsequent PhD—irony of ironies—on the viral infection in brown algae, but other than a few co-written articles he hasn't contributed anything in terms of scientific publications. Rather, he has been on a crusade *against* the idea of viruses (harmful or otherwise) for decades. In the nineties he argued that [HIV did not exist](#). He vehemently debated with Peter Duesberg, another AIDS denialist, who at least believed in the existence of the HIV virus (but considered it a relatively harmless virus). A truly odd debate. A decade later Lanka wrote [books in the same denialist spirit](#) about the measles virus, the birds flue, AIDS and vaccination. He is owner of a publishing house [Klein-klein Verlag](#) and the magazin [Wissenschaftplus](#). In 2015 he earned the "[Goldenes Brett vorm Kopf](#)" award, organized by the German skeptical society, which is given out for the "most amazing pseudo-scientific nonsense" of the year.

So when and why did Stefan Lanka change his mind about viruses? How did a properly trained molecular biologist specialized in aquatic viruses turn into a paranoid-contrarian "scientist", who thinks measles is a skin irritation due to psychological trauma, vaccination is a vicious program set up by malevolent dictatorial governments that want to decimate the population and virologists of world fame just don't know the truth about viruses? Not to mention his alliance to the "Germanic" New Medicine movement of the anti-Semitic Ryke Geerd Hamer? A German [skeptical page about Lanka](#) provides more details about his career. He seems to have seen the court room from the inside many times (in 2002, 2005, 2007 2x, 2009 2x), mostly for repeatedly insulting government officials or scientists.

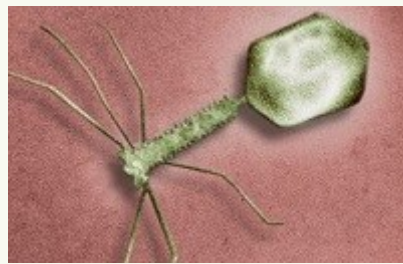
DISMANTLING THE VIRUS THEORY

Lanka published an English language article called "[Dismantling the Virus Theory](#)" on his personal website, so this seems to be the place to find an explanation for his "deconversion" from science.[5] He optimistically writes:

Anyone who has knowledge of biology and the genesis of life, of the development and functions of the tissue, of the body and of the brain, will automatically question the assumptions about viruses.[5]

Not many scientists will go along with that, for sure! And again, a very odd claim:

A different approach to the virus phenomenon is possible and necessary: any layman with some background knowledge reading scientific papers about pathogenic viruses can realize that such viruses do not exist and what is being described are only typical components and characteristics of cells.[5]



Bacteriophage ([micropia.nl](#))

He seems to deny the existence of all kinds of viruses, except one, the so called [bacteriophages](#) (lit.: "bacterium eaters"). However, he sees them as only beneficial instead of harmful, and of *bacterial origin* (without providing sources for these opinion other than "it was found"), where science views them as non-cellular life forms, anti-bacterial and parasitically invading bacterial cells.[11] [Nobel Prizes](#) have been won to elucidate the intricate processes involved here, but Lanka dismisses this work as simply a mistake. All that virologists are seeing under their microscopes, he maintains, are "dying cellular particles", but no viruses.

The "bacteriophages", correctly defined as incomplete mini spores and building blocks of the bacteria, have been scientifically isolated, while the supposed pathogenic viruses have never been observed in humans or animals or in their body fluids and have never been isolated and subsequently

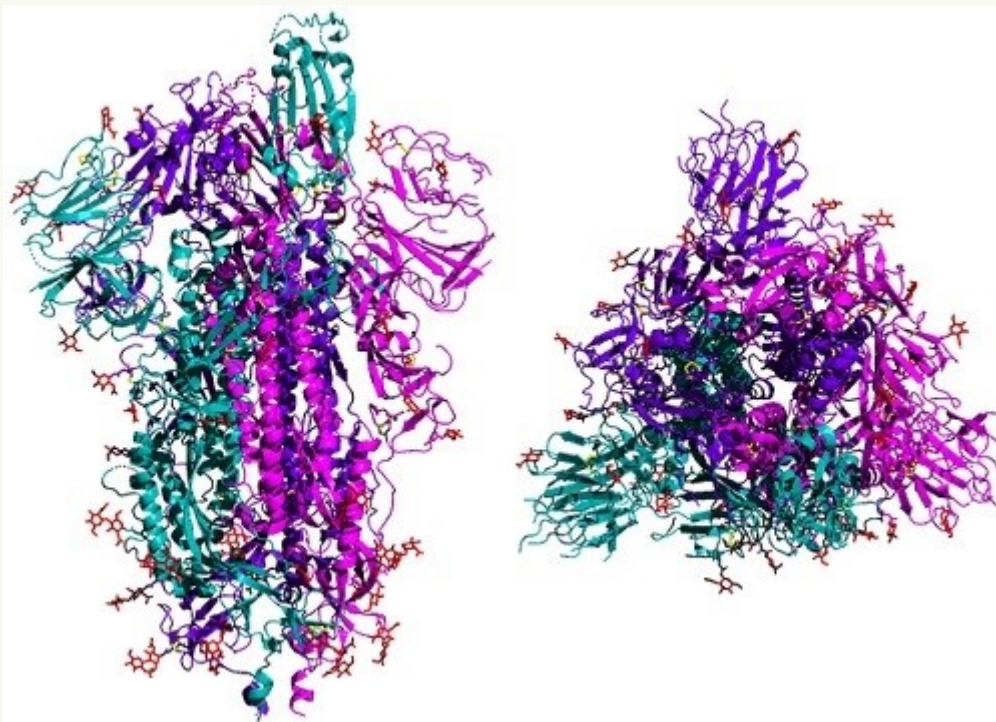
biochemically analysed. To date, none of the researchers involved in this kind of work seems to have realised this.[5]

When scientists use whole genome sequencing to prove the existence of viruses, they are mistaken too, says Lanka:

The result is that dozens of researchers teams work with short pieces of cell-specific molecules, after which—following a given model—they put all the pieces together on paper. However, this jigsaw puzzle made of so many pieces was never scientifically proven to exist as a whole and was never isolated from a virus, for a measles virus has never been seen, neither in humans nor in a test tube.[5]

Lanka claims that such a hypothetical genomic structure is not enough to prove the existence of viruses. It doesn't tell us much about "the exact molecular structure and functions" of these supposed viruses. But isn't that exactly what scientists have been doing in the case of SARS-CoV-2: predicting the structure and behavior of this virus from its genomic structure? Here's an example:

SARS-CoV-2 is genetically very similar to other human respiratory coronaviruses, including SARS-CoV and MERS-CoV. However, the subtle genetic differences translate to significant differences in how readily a coronavirus infects people and how it makes them sick.[7]

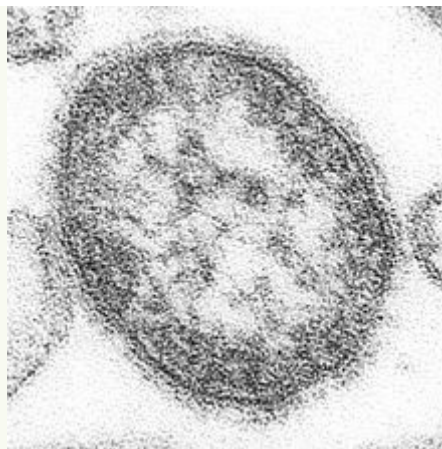


An illustration of the SARS-CoV-2 spike protein shown from the side (left) and top. The protein latches onto human lung cells.[7]

Science has an even stronger story to tell: very primitive archaea, living on the ocean floor between Norway and Greenland, have been found by sequencing mud from the bottom of the sea. In the Tree of Life they might bridge the gap between prokaryota (bacteria and archaea) and eukaryota.[8] They are called [Lokiarachaeota](#), after the Norwegian shape-shifting god Loki. Science is able to accomplish this, even though these organisms might never be able to live (and be cultured or "isolated") in our oxygen-rich environment. But wait, in January 2020 a Japanese research group managed to culture them, after a decade long effort.[9]

I only mention this in passing to indicate where genomic science is going these days (see [Part 4](#)). It only goes to show that hammering on the "viruses have never been isolated" drum is unproductive in the extreme. Lanka is disconnected from current science.

SUING SCIENCE, AGAIN



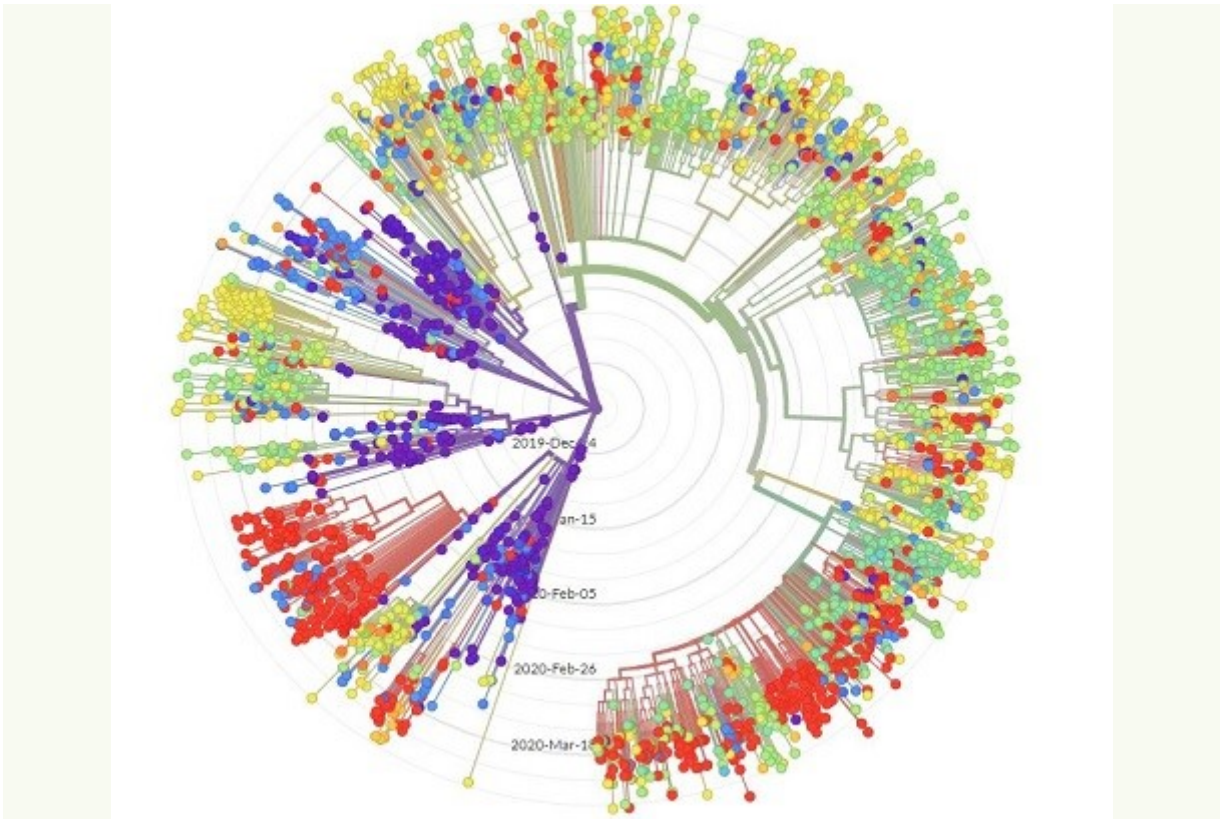
Measles virus, or dead cell particle?

Lanka also has a history of going to court over the matter of viruses, as we have seen in Part 5, where I described the court case [Stefan Lanka vs. David Bardens](#) that occurred in 2011, in which the existence of the Measles virus was at stake. I won't repeat the details here, because Lanka has again tried to go the legal route to get recognition. In a recent newsletter of his website *Wissenschaftplus* he announced he had sued (*anzeigen*) or publically accused the German top virologist [Christian Drosten](#), because he had violated scientific principles, by preparing a test for SARS-CoV-2 and offering it to

the WHO (which it gladly accepted and distributed) even before it was clear there was a dangerous virus in China, and for omitting to do a proper control test when sequencing the supposed new virus. He also accused him of "crimes against humanity", no less. More specifically, Lanka claimed that such a test cannot prove the existence of a fully functioning virus, but only detect viral fragments, and that Drosten had focused on only 2 of the 10 viral genes.[6]

Well, the existence of a virus is not proven by any virus test, that's not their purpose. These detect the presence of viruses by zooming specifically in on viral fragments that are *unique* for that virus. There is no need to test for all of the 10 viral genes. And whole genome sequencing, which assembles and identifies the whole virus, can be considered as proof for its existence. According to Lanka, these sequencing procedures will at most yield genetic information about human cell components—and he is certain about that! Where's the evidence, Mr. Lanka? Which of the 30.000 bases in the SARS-CoV-2 genome correspond to which of the 3.200.000.000 bases of the human genome? Care to mention any details? We are not told.

And if it is all a matter of *human* genetic material after all, how does he explain the elaborate evolutionary trees that have been generated for SARS-CoV-2 in all its local evolutionary variations, in which even the tiniest mutation, anywhere within all of its 30.000 bases, is documented by science? You don't get that from dead cell material.



Genomic epidemiology of novel coronavirus - Global subsampling ([Nextstrain.org](https://nextstrain.org)).

If the viral genome assembled by science is in fact related to normal metabolic process in human beings, which are these processes? Isn't it telling that this genome is all about how to build spikes and capsids, so typical of viruses, but not of hands and brains? And if the viral RNA found in virus tests is nothing more than fragments of human RNA, as Lanka consistently claims, does he have any evidence for this? Is there even the beginning of a theory here? Shouldn't be too difficult to compare a few human and viral RNA sequences?

This is the story about Christian Drosten, a world authority about SARS viruses, if every there was one—and now history seems to repeat itself with SARS-CoV-2:



Christian Drosten

Drosten is one of the co-discoverers of SARS-associated coronavirus (SARS-CoV). Together with Stephan Günther, a few days after identification and before the Centers for Disease Control and Prevention (CDC) in Atlanta, he succeeded in developing a diagnostic test for the newly identified virus in 2003. Drosten immediately made his findings on SARS available to the scientific community on the internet, even before his article appeared in *New England Journal of Medicine* in May 2003. Among others, this was honoured by the journal *Nature*. For the coronavirus SARS-CoV-2, which first appeared in December 2019, the research group led by Drosten developed a test that was made available worldwide in mid-January 2020. The group also published the sequenced genome from samples obtained in Germany. In the course of the COVID-19 pandemic, Drosten advises politicians and authorities and gets invited as an expert in the media, among others in the podcast *Das Coronavirus-Update mit Christian Drosten* (English: The coronavirus update with Christian Drosten), initially published daily during the week since 26 February 2020 in Norddeutscher Rundfunk (NDR), the frequency of the podcast having been gradually reduced from April 2020 until becoming weekly from 15 June 2020. Drosten is committed to the transparent distribution of scientific data and therefore publishes in specialist journals such as *Eurosurveillance*, where all articles are freely available online. ([Wikipedia](#))

In a recent newsletter, dated 13 juni 2020, Stefan Lanka bluntly claimed:

If they [scientists] would carry out the control experiments, **they would find out** that ALL of the short gene sequences which they imagine are linked to a virus genome strand, originate from the human metabolism and not from outside, from a claimed virus... The answer to the crucial question of whether a new virus has actually been detected or whether only short pieces of genetic material produced naturally in the body are being passed off as components of a virus or misinterpreted as such, is decisive for whether the corona crisis can be brought to a rapid end... I can **predict with certainty** [sic] that people who release increased gene sequences from the tissue type of squamous epithelia, e.g. kidney patients, will be tested 100% "positive" with the PCR [virus test] developed by Prof. Drosten... It is **very likely** that all organisms can even be tested positive... I call on biochemists, biologists, virologists and cell culture specialists to carry out these control experiments, to publish them and to inform me about them. I have designed a control experiment which excludes from the outset the excuse that the sample material used has been contaminated

with the SARS-Cov-2 virus before or during the control experiment. The costs for the performance of the control experiments are covered if I and neutral observers are allowed to be present during the performance of the control experiments and each step is documented. Please contact the publishing house for contact details. The results will end the corona crisis immediately. It is of no use if only I present the results of the control experiments.[6] (translation [Natasha Tauber](#)) (emphasis added)

As to the claim that Drosten's preliminary virus test would just detect generic organic material, leading only to false positives (this is the major claim of Kaufman as well), as you can read in [Part 6](#), this test could even distinguish between SARS-CoV-2 and Sars-CoV, and a host of other related coronaviruses, of humans and animals, as well as other respiratory viruses. Drosten did do the proper controls in this respect. As he concluded: "In total, this testing yielded no false positive outcomes." So in no way can his test be said to be so unspecific that *any* organic cell material would be mistaken for the new coronavirus. It is *extremely* specific. This is just a bogus claim.

It is ironic how these virus denialists demand impeccable evidence from scientists (which they refuse anyways when they are presented with it), but don't do any research themselves to at least prove their own points.

It is ironic how these virus denialists demand impeccable evidence from scientists (which they refuse anyways when they are presented with it), but don't do any research themselves to at least prove their own points. Has Lanka done this research himself? No. How can he be so sure of the outcome if it would be done? He can't. But in science, such an experimental falsification of the dominant virus model would make Lanka instantly famous, so what's he waiting for?

THE BURDEN OF PROOF

Lanka and Kaufman (and their ilk) don't do real research, write up their findings and try to get it published in respected scientific magazines, so their work can adequately be reviewed by their colleagues. No, they start their own magazine, or post a few YouTube videos, falsely claiming expertise about virology or quoting famous virologists out of context, to impress their layman audience.

Quite typically, Kaufman claims the burden of proof is not on him, or his virus denialist colleagues, when they claim viruses don't exist, but on the scientific community that claims there *is* a harmful virus. And since they haven't met Koch's Postulates to prove as much (or so he maintains), all that's left to do is to put science aside.

I think it's important to point out that you don't necessarily need to have an explanation that is valid for these things [i.e. why hundreds of thousands of people are currently dying] to say that they're not dying from a virus because the burden of proof would be on whoever proposed that they're caused by a virus to actually prove that that is the case. And that proof doesn't exist. So you don't need to disprove something that's not been proven in the first place.[2]

You just have to sell powders and vitamin pills through your own webshop (see below image), and charge astronomical fees per hour for online consults, like Kaufman does.[2] In the meantime, Lanka seems to be doing his own [research](#), into [Ice Form X](#) or "dense water", which is at the basis of all life processes, or so he claims.[10]

This substance, which is energy and at the same time the building and informational substance of life, connects all material, organisms and functions. From this knowledge, basic knowledge arises about the origin, development and the meaning of life.

Obviously, this isn't science, but something completely different. Fake science.

There is a smug superiority in all this amateurism, full of contempt for real science, that is disgusting, considering the gravity of the current pandemic.

I think I am done with these guys.



● Dr. Lankas ReSet – groß

Gelumtropfen	100 ml
Kaiser Natron	100 Tabletten
Madeus Teststreifen	1 Set
Gehirn-Fit	30 Kapseln
Maltodextrin 19	30 g
Bio Traubenzucker	5 Rollen
Heilerde	10 Tütchen/6,5 g
EM-Trinkfertig/Manju	3 x 10 ml
Bachblüten Notfalltropfen	
Maunawai Flasche	0,5 liter
Chili-Likör	1 x 20 ml
Goldfolie Rettungsdecke	
Eimalwaschlappen	50 Stück
Verkaufspreis:	99,90 Euro

● Dr. Lankas ReSet – klein

Gelumtropfen	30 ml
Kaiser Natron	100 Tabletten
Madeus Teststreifen	1 Set
Maltodextrin 19	30 g
Bio Traubenzucker	1 Rolle
Heilerde	1 Tütchen/6,5 g
Bachblüten Notfalltropfen	
Goldfolie Rettungsdecke	
Eimalwaschlappen	50 Stück
Verkaufspreis:	39,90 Euro

Dr. Lankas ReSet ([Psiram](#))

NOTES

[1] "[Keine Panik - Die Wahrheit über Vogelgrippe, H5N1, Impfen und AIDS - Interview mit Dr. Stefan Lanka](#)", *Vitalstoff Journal*, *Unabhängiger Informationsdienst für Naturheilkunde und orthomolekulare Medizin*, www.naturepower.de, 2005.

[2] "[The Infinite Fringe #137 with Billy Ray Valentine: Andrew Kaufman](#)", available from the London Fake YouTube channel, 24 Jun 2020.

[3] [COVID-19 Coronavirus Pandemic](#), www.worldometers.info, June 30, 2020.

[4] Dongwan Kim et.al., "[The architecture of SARS-CoV-2 transcriptome](#)", *bioRxiv*, 2020.04.011.

[5] Stefan Lanka, "[Dismantling the Virus Theory](#)", *Wissenschaftplus*, June 2015, pp. 38-44.

[6] Stefan Lanka, "[Fehldeutung Virus II, Anfang und Ende der Corona Krise](#)", *Wissenschaftplus Magazin*, 02/2020 en [Wissenschaftplus newsletter](#) 13 juni 2020.

[7] Benjamin Neuman, "[Virologist Explains What The Coronavirus Does to Your Body That Makes It So Deadly](#)", The Conversation, 2 April 2020.

[8] Anja Spang, et.al., "[Complex archaea that bridge the gap between prokaryotes and eukaryotes](#)", *Nature*, *Nature*. 2015 May 14; 521(7551): 173-179.

[9] Hiroyuki Imachi, et.al., "[Isolation of an archaeon at the prokaryote-eukaryote interface](#)", *Nature* 577, 519-525 (2020).

[10] Stefan Lanka, "[Alles was lebt.](#)", wissenschafttplus.de

[11] Al-Shayeb, B., Sachdeva, R., Chen, L. et al. "[Clades of huge phages from across Earth's ecosystems](#)", *Nature* 578, 425-431 (2020).

FURTHER READING

In the current classification, the virosphere consists of: 4 realms, 9 kingdoms, 16 phyla, 2 subphyla, 36 classes, 55 orders, 8 suborders, 168 families, 103 subfamilies, 1421 genera, 68 subgenera, 6590 species. If you want to browse through the virosphere, you can check out the website of the [International Committee on Taxonomy of Viruses](#) (ICTV), or take a glance at the 5.000 or so viruses listed on [Wikipedia](#).

+ Realm: Duplodnaviria		1 kingdom	history
+ Realm: Monodnaviria		4 kingdoms	history
- Realm: Riboviria		2 kingdoms, 2 families, 4 genera	history
- Kingdom: Orthornavirae	Realm: Riboviria	5 phyla, 2 families, 1 genus	history
+ Phylum: Duplodnaviricota	Kingdom: Orthornavirae	3 classes	history
+ Phylum: Kinnorviricota	Kingdom: Orthornavirae	4 classes	history
+ Phylum: Lenarviricota	Kingdom: Orthornavirae	4 classes	history
+ Phylum: Megamaviricota	Kingdom: Orthornavirae	2 subphyla	history
- Phylum: Pisuviricota	Kingdom: Orthornavirae	3 classes	history
+ Class: Duplovirales	Phylum: Pisuviricota	1 order	history
- Class: Pisoviricetes	Phylum: Pisuviricota	3 orders	history
- Order: Nidovirales	Class: Pisoviricetes	8 suborders	history
+ Suborder: Abnidovirineae	Order: Nidovirales	1 family	history
+ Suborder: Arnidovirineae	Order: Nidovirales	4 families	history
- Suborder: Coronavirineae	Order: Nidovirales	1 family	history
- Family: Coronaviridae	Suborder: Coronavirineae	2 subfamilies	history
+ Subfamily: Letovirinae	Family: Coronaviridae	1 genus	history
- Subfamily: Orthocoronavirinae	Family: Coronaviridae	4 genera	history
+ Genus: Alphacoronavirus	Subfamily: Orthocoronavirinae	14 subgenera	history
- Genus: Betacoronavirus	Subfamily: Orthocoronavirinae	5 subgenera	history
+ Subgenus: Embecovirus	Genus: Betacoronavirus	5 species	history
+ Subgenus: Hibecovirus	Genus: Betacoronavirus	1 species	history
+ Subgenus: Merbecovirus	Genus: Betacoronavirus	4 species	history
+ Subgenus: Nobecovirus	Genus: Betacoronavirus	3 species	history
- Subgenus: Sarbecovirus	Genus: Betacoronavirus	1 species	history
Species: Severe acute respiratory syndrome-related coronavirus		Subgenus: Sarbecovirus	history

The SARS-CoV-2 Coronavirus and its place in the virus taxonomy.

See also: Coronaviridae Study Group of the International Committee on Taxonomy of Viruses, "[The species Severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2](#)", Nat Microbiol. 2020; 5(4): 536-544.

Part 8: Coping with Corona: The Cautious vs. The Reckless

FRANK VISSER

I think some common sense might work wonders in this general atmosphere of hysteria on the one hand and paranoia on the other.

What has struck me most during my weeks of researching the current Corona pandemic are the different responses and theories it has generated among the educated and not-so-educated public. On the one hand we have the scientific view, which has taken this pandemic as something to be understood and battled, or even prevented in the future. All over the world, thousands and thousands of studies have been and are being published detailing the workings of the SARS-CoV-2 virus, often even before the scientific community has been able to filter the wheat from the chaff.

On the side of society, there is a sharp division between those who accept the efforts and conclusions of science as rational and sensible—even if always tentative—and therefore subject themselves freely to the prescriptions of mask-wearing and social distancing, and those who vehemently oppose these measures, often with quasi-religious arguments about individual freedom and alternative medicine. For that science-skeptical group, the danger doesn't lie in a new and unknown virus, but in an evil and hostile government that threatens our basic freedom and is bent on enslaving and poisoning us with vaccines.

This has become a veritable culture war, especially in the United States, but also in the Netherlands, where we see a vocal resistance movement emerging, under the flag of "Virus Madness". This resistance movement is a mixed and colorful lot, with dissident-scientists and conspiracy thinkers spanning the spectrum of reason and unreason. There are religious overtones here, when members of this group see themselves as "seekers" and "Truthers", who don't buy the conventional wisdom about

this particular virus, or viruses as such, but claim to have deeper knowledge of "what is really going on", often after having done their own "research" on the internet among the like-minded who inhabit this internet conspiracy bubble.

There also seems to be a more general psychological disposition at play here: individualistic versus collectivistic, or reckless versus cautious. Those in favor of governance are more likely to comply with government policies than those of a more libertarian bent, who don't like to be told "what to do". In general, European countries have experienced less resistance to the global lockdown measures compared to the US, because there is less distrust towards the government. But that can change if these stringent measures continue to be imposed for a longer time and the economic recession will set in, or a second wave emerges.

THE SCIENCE VIEW: FIGHTING THE VIRUS

As soon as reports of a new pandemic came in, early 2020, scientists have frantically tried to get a grip on this phenomenon. Every aspect of the virus has been studied, analyzed, reported and commented on in scientific journals, often through preprints that haven't gone past peer review yet. The urgency of the whole situation caused an unprecedented exchange of information and discoveries between scientific professionals.

Yet, though the SARS-CoV-2 virus has been sequenced to the base pair level (it contains about 30.000 nucleotides such as A, C, G and T), a lot is still unknown (see [Part 1](#) and [Part 6](#)). Much debate is happening around questions such as: How does the virus spread? Is it through large drops or also the tiny aerosoles? And if the latter, how much virus material do these tiny drops contain, and how infectious are these particles actually? How effective and/or harmful is the wearing of masks? How effective is a lockdown and social distancing? How long should it be continued? Will there be any vaccine in time, and will that be effective and safe? How long does immunity last if you have had the disease? Or if you have been vaccinated? How many people are infected but asymptomatic? When will herd immunity be realized, if at all? And so on, and so forth. Within a healthy

scientific community these questions can be discussed openly and critically, without any hidden agendas.

This cautious approach can go to the extreme of *germophobia*. Does transmission occur through objects, door posts and handshakes? Should we wear masks when outdoors, indoors, or everywhere? Is it safe to see other people, children, your parents or grandparents? Alarmism is also around the corner: will this pandemic wipe out millions of people, and affect even more millions with debilitating damage to lungs and other organs? Will we be able to contain the spread of this new virus at all, given its versatility and mutability? Will this "war on germs" go down the same unsuccessful route as the "war on drugs" or the "war on terror"? Is fear worse than the virus itself?

The scientific literature on the coronavirus is now so extensive that one can find evidence for almost every opinion. True science weighs all of these opinions, pseudo-science takes one of them and runs with it.

THE OPPOSITE VIEW: BOOST THE IMMUNE SYSTEM

Given the uncertainty of the situation, a lot of fear and concerns have emerged among the population. Some of it justified, some of it irrational. Many in the field of alternative medicine argue that this war on germs is misguided. We should, instead, boost our immune systems, instead of blindly focussing on germs as the cause of disease. The [germ theory](#) should be replaced by the so called [terrain theory](#), which holds that illness is not caused by germs but by toxins, which weaken us so germs (bacteria, fungi, viruses) can invade our bodies. Some even see these little creatures as largely beneficial, in that they remove dead cells. There is also concern about the speed in which vaccines are developed and distributed: will this be safe and effective, where this process normally takes years (if it is successful at all)? Given the case that most victims of SARS-CoV-2 have been elderly people with many underlying illnesses, shouldn't we focus our efforts on staying healthy throughout old age, avoiding diet-related illnesses such as obesity and diabetes?

This view too can go to extremes. Some alternative health medics claim viruses are harmless, because they have been

around forever. A drop of sea water contains 10 million viruses, it is estimated. All health issues are the result of toxic substances in our food and in the environment, and we should remove these from our diets as much as possible to stay healthy. This can even lead to *toxicophobia*: the irrational belief that any additive to our food is harmful. Given this view of health and disease, some have even gone further and claim that the whole pandemic is a farce, set up by the vaccine industry, headed by Bill Gates, to sell us vaccines (and make millions in the process). Some see a sinister plan behind all this ("plandemics"), coming from obscure power elites which run the show of world affairs. There are the familiar "5G spreads the virus" conspiracy theories, which seem to inspire some to burn down 5G masts in various countries (see [Part 1](#)). There's a common atmosphere of pervasive paranoia behind all this. And there are claims that all these widely distributed rumors that coronavirus cases are just "false positives", caused by the unreliability of the tests used, and in service of keeping the pandemic scare high enough for us to comply with all the lockdown measures.

And there's an even more extreme version of this, as we have seen in [Part 7](#) of this series: some deny the very existence of the SARS-CoV-2 virus—even of all viruses *as such*. Andrew Kaufman has argued that what is seen on electron microscope pictures as viruses are in fact cell particles known as exosomes. These serve a useful function in cell communication and waste disposal (see [Part 3](#) and [Part 4](#)). Viruses as such, he claims, have never been isolated and proven to be the cause of diseases. He is inspired by Stefan Lanka, a German biologist turned alternative health medic, who has denied the existence of viruses for decades. The fact that viruses are sequenced these days to the very base pair in a matter of hours doesn't seem to impress these old school amateur virologists (or should we say no-virologists?)

Some populist politicians (in the UK, Brazil and the US) have argued the whole pandemic is really nothing to worry about. Boris Johnson confidently kept shaking hands with his voters (and with patients) until he caught COVID-19 himself. Jair Bolsonaro stubbornly refused to implement lockdown measures and wear a mask, until he recently got a positive corona test himself. And Donald Trump has belittled the pandemic from the

start, in favor of a speedy reopening of the economy, taking irresponsible risks for the health of his fellow Americans. They represent and personify the reckless segments of society, where it is claimed that viral diseases have always been under us and will always be. You have to die of something.

		
BORIS JOHNSON	JAIR BOLSONARO	DONALD TRUMP
'I shake hands.'	'I am an athlete.'	'It will go away.'

Three reckless politicians downplaying the risk of the worldwide pandemic.

COMMON SENSE: THE BEST OF BOTH WORLDS

I think some common sense might work wonders in this general atmosphere of hysteria on the one hand and paranoia on the other. Is the cure worse than the disease, as lockdown-skeptics claim? It all depends on how the risk of the pandemic is estimated. For that we need real science to guide us. And is it misguided to fight off the virus, as alternative health medics tell us? We are not really fighting the virus, but preventing it from multiplying itself through social distancing and other measures. Or should we rather *simultaneously* seek for a cure, *and* strive to increase the general health condition of the population, so people are less susceptible to viral diseases? And, let's not forget, look more closely at what we are doing to the natural habitats of bats and other animals that are known to be

reservoirs to a host of viruses. Easier said than done with the current overpopulation.

Yes, viruses are everywhere around us, in the ground, the air and the sea and in our bodies, but not all of them are harmful to humans. Most viruses in the sea are bacteriophages, that attack bacteria, and play an important role in marine ecology.[1] Some, however, are definitely harmful, and SARS-CoV-2 is one of these. Nature is not one big harmony, as alternative health celebrities want us to believe. And yes, having a good immune system is important, but why would we have an immune system in the first place if not to prevent viruses to make us sick? Furthermore, it is scientifically not at all established that we can "boost" our own immune systems, as we read here:

The idea of boosting your immunity is enticing, but the ability to do so has proved elusive for several reasons. The immune system is precisely that—a system, not a single entity. To function well, it requires balance and harmony. There is still much that researchers don't know about the intricacies and interconnectedness of the immune response. For now, there are no scientifically proven direct links between lifestyle and enhanced immune function.[2]

As to the frequently heard claim (repeated by Andrew Kaufman) that coronavirus tests will almost always be positive, thus artificially increasing the number of "cases" in a country, this is a fable—in fact, false negatives are much more common.

We could find no evidence that labs are deliberately manipulating COVID-19 test results to create false-positives. Similarly unproven claims have been circulating for weeks and echo months-old conspiracy theories. Jeffrey Sebelia, the source of the Facebook post, said it was a "word-of-mouth story" from his mom. He had no further proof to support the claim. While COVID-19 tests may sometimes produce false-positive results, they're rare. Experts are more concerned about false-negatives. Data currently shows more than 90% of coronavirus tests come back negative.[3]

As to viruses being non-existent (see [Part 7](#)) or actually being exosomes (see [Part 2](#)), I was amused to find out that [Judy Mikovits](#), a now discredited virologist turned conspiracist, who featured prominently in the [Plandemic](#) documentary, lectured Andrew Kaufman on the difference between viruses and exosomes. Now, if you get lectured by such a suspect scientist as Mikovits, you are really in deep trouble.[4]



Djokovic: 'Unfortunately this virus is still present.'

Now, by calling the science view "cautious" and the opposite view "reckless", many in the opposing camp will turn the tables. They see vaccines and mask wearing as reckless (or useless) technology and argue for the need to take responsibility for your own health. In their philosophy: if you are healthy you can't get sick. And if you get sick you were already sick... from toxins. Unfortunately, a virus can harm anyone.[5] Ask [Novak Djokovic](#), "a health and fitness freak if there ever was one", who is now called "Djocovid-19" since he contracted the disease, during a tennis tournament in several Balkan cities which he organized without the proper precautions.

Seeing this as one big drama of freedom and oppression is short-sighted, narcissistic and irresponsible, in my opinion. Instead of framing this as the cautious versus the reckless, anti-lockdown thinkers would rather choose the brave versus the fearful, or the rebellious versus the oppressed. Yes, the costs of the lockdown are high, but it's better to be safe than sorry. By far the sanest comment came from virologist James Hildreth—who got so misquoted by Andrew Kaufman as supporting his weird virus-equals-exosome theory, as we have documented in [Part 2](#) and [Part 3](#) of this series:

The virus is real. The pandemic is real and is caused by the virus. Period.[6]

So let's be cautious, listen to science, stay healthy, and don't endanger others by infecting them unknowingly. Wear a mask when in public. Use common sense.

NOTES

[1] Ann C. Gregory et.al., "[Marine DNA Viral Macro- and Microdiversity from Pole to Pole](#)", *Cell*, April 25, 2019.

[2] "[How to boost your immune system](#)", Harvard Health Publishing.

[3] Daniel Funke, Emily Venezky, "[Fact-checking claims about nurses getting nothing but false-positive COVID-19 tests](#)", politfact.com, July 2, 2020.

[4] Andy Kaufman, "[Panel with Judy Mikovitz and Marcy Cravat](#)", www.youtube.com, 16 Jun 2020. Mikovits states at the start of this interview:

I saw on the chats, or on the things at the side of YouTube... that viruses are exosomes, and that's not true. Viruses are by themselves infectious agents.[8:37]

Mikovitz is downplaying the fact that this was Kaufman's central thesis: viruses are actually exosomes. It was not just some random comment in a YouTube chat. It doesn't prevent Mikovitz from agreeing with Kaufman that *this* particular SARS-CoV-2 virus hasn't been "isolated" yet. Really? So some viruses exist, some don't?

[5] Amy McKeever, "[Here's what coronavirus does to the body](#)", National Geographic, Feb. 18, 2020.

[6] [James Hildreth on Twitter](#), 9 May 2020.

Part 9: Andrew Kaufman's Take on the Pandemic That Wasn't

FRANK VISSER

Whoever takes the virus as causal agent out of a pandemic has a really hard time to explain both the nature and the spreading pattern of this new disease called COVID-19.

[Andrew Kaufman](#), the hero/villain of our Corona Conspiracy series, has become somewhat of a celebrity in alt-med circles. Last week he showed up on [The Highwire](#), a weekly show by [Del Bigtree](#), an American television and film producer and one of the most prominent voices in the anti-vaccination movement. He announced Kaufman as "the most requested doctor in Highwire history", so this is somewhat of an indication of the celebrity status of Kaufman. We will take the opportunity to see if Kaufman summarized his take on the coronavirus pandemic, in a dialogue format instead of the usual monologues, even if Bigtree can hardly be characterized as a critical journalist.



Del Bigtree (host The Highwire)

As you may recall, Kaufman doesn't believe in the existence of viruses, though he usually phrases this as "there is no evidence for a virus." Whatever researchers observe under a microscope, he maintains, are not at all viruses but particles produced by our own cells, when they are put under stress or have suffered some trauma. These particles are called "exosomes", and they have about the same size as viruses, he claims—so the confusion

might be understandable. He has even suggested that "the similarities [between viruses and exosomes] have been recognized by scientists, including virologists, and many times scientists have actually said they are the same thing, or they have substantial overlap. Including prominent virologists." (see [Part 3](#))

Here's a brief summary of the Kaufman narrative, compared to the scientific understanding of SARS-CoV-2 and the ensuing pandemic:

Andrew Kaufman's "Virus Equals Exosome" Theory about COVID-19.

KAUFMAN	SCIENCE
Unspecified causes (stress, toxins, injury, psychological trauma, etc.) ↓	SARS-CoV-2 virus A real virus ↓
"COVID-19" A so-called "viral disease" ↓	COVID-19 A real viral disease ↓
EXOSOMES expel waste from cells	Vaccination and social measures

However, we have shown that the one "prominent virologist" Kaufman cites, James Hildreth, believes nothing of the sort. Besides, Kaufman had demonstrably quoted Hildreth out of context (see [Part 3](#)). What is more, world class exosome experts such as Jan Lötvall and Ken Witwer forcefully reject the suggestion of the equivalence of viruses and exosomes (see [Part 4](#)).

On top of that, Kaufman has recently conceded that he never did any virological research (in the video "[Panel with Judy](#)").

[Mikovitz and Marcy Cravat](#)"). To make things even worse, in this same video Kaufman was sternly lectured on viruses by Mikovitz. Herself a discredited virologist who featured prominently in the movie *Plandemic*, she stated bluntly as her opinion, backed by decades of research experience: "viruses are by themselves infectious agents."

Kaufman, remember, is a forensic psychiatrist turned alt-medic, not a virologist. This leaves him in the awkward situation that both regular and alternative prominent scientists are denouncing his views on the SARS-CoV-2 virus and the global pandemic. Yet, he persists in his conviction that viruses simply don't exist, and people are dying from other causes—*everybody else has it wrong*. And yet, whoever takes the virus as causal agent out of a pandemic has a really hard time to explain both the nature and the spreading pattern of this new disease called COVID-19.

As a brief aside, to give you an indication of how alt-med conspiracy thinking has reached the popular market, the virology bestseller list on Amazon (as of July 23, 2020) is headed by "Plague of Corruption" by this alternative scientist [Judy Mikovitz](#) and "Spillover" by [David Quammen](#), a bona fide popular science writer (who is currently in the process of writing a book on the pandemic). It's a close call!

Best Sellers in Virology

#1	#2
 <p>Plague of Corruption: Restoring Faith in the... Judy Mikovitz ★★★★☆ 1,331 Hardcover</p>	 <p>Spillover: Animal Infections and the Next Human... David Quammen ★★★★☆ 913 Paperback</p>

ON LESS SOLID TERRAIN

Kaufman rejects the [germ theory of disease](#), and has embraced the so-called [terrain theory of disease](#), which goes back decades into medical history. This theory holds, among other things, that bacteria, fungi and viruses are not external intruders that threaten our health, or even independent life forms, but particles or entities that are produced by our own cells, and can morph into each other. This is usually called "[pleomorphism](#)".

This of course upsets our scientific and widely accepted understanding of the [Tree of Life](#), which unites all domains of life (archaea, bacteria, and eukaryotes—which include unicellular organisms, fungi, plants and animals) into a tightly fit grand evolutionary pattern (sometimes compared to a tree or a bush or a "tangled tree", to use a book title from Quammen). For the alternative pleomorphic paradigm, no such data are available, except for a few disputed microscope observations.

With this in mind, let's dive into the 40 minutes interview Del Bigtree had with Andrew Kaufman, and note that even if Bigtree is mostly on the side of Kaufman when it comes to questioning the received pandemic narrative, he still managed to ask some mildly critical questions.

**Interview with Andrew Kaufman by Del Bigtree for *The Highwire* talkshow.
(Del Bigtree's YouTube channel has now been removed by YouTube)**

When asked about his credentials by Bigtree Kaufman claims he is uniquely qualified to speak on these viral matters because of his scientific training and his independence from the medical and academic establishment. However, having some academic training doesn't qualify one in the least to speak with authority on such a highly specialized field as virology. Not even closely similar specializations such as epidemiology or statistics provide that capacity.

Kaufman may have initially been trained as a biologist at MIT (as an undergraduate), but he has worked for biotech companies, worked as a physician assistant, worked in cancer medicine (hematology) and went to medical school in psychiatry at Duke, and specialized in forensic psychiatry. As he summarizes his resumé: "so i've done quite a lot of things in healthcare and medicine." And he is selling health care products for a living now (and charging hundreds of dollars for a short online consult).

Here's his take on the current pandemic, and he obviously represents a more extreme view than his already quite far-out talkshow host is willing to entertain:

I just want to separate the SARS-CoV-2 virus which is what they've named what they call as a virus and COVID-19 being the illness. So I actually reject both hypotheses.

What brought Kaufman to this rather extreme view? He looked at the earliest scientific papers that claimed a virus had been isolated, which took him some time because the language used was very technical, and concluded that in none of these cases was that actually true. In his understanding, it was first concluded that the early patients suffered from some SARS-related illness and when taking samples of their lungs, they decided some genetic snippets were evidence for such a virus:

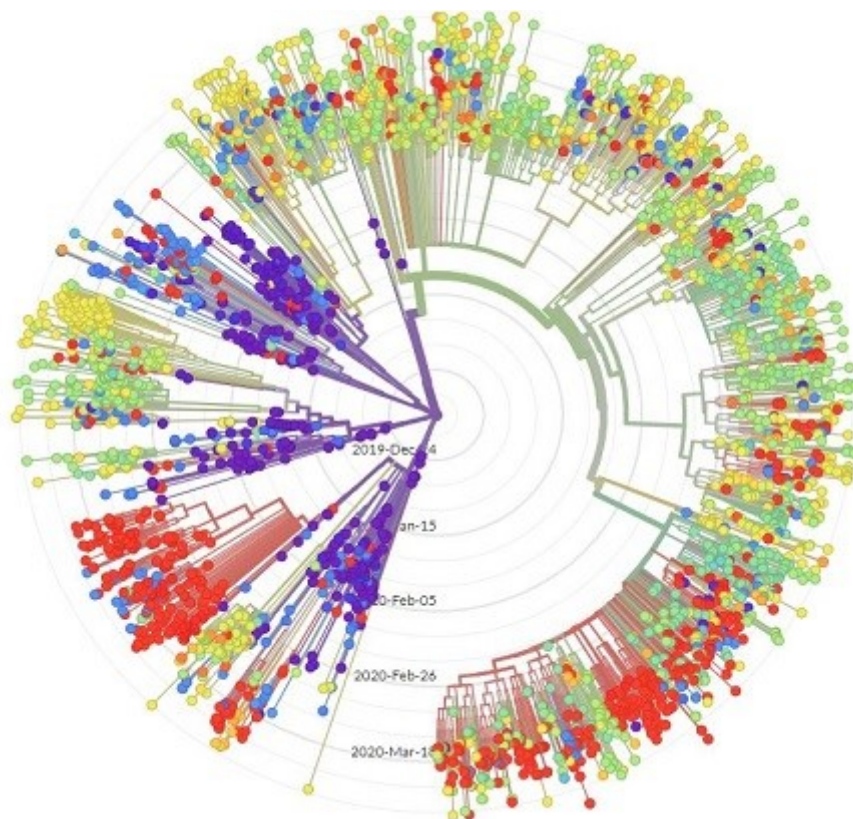
What they did is, they amplified a piece of genetic material that had a part of its sequence that they were specifically looking for, because they had pre-identified these sequences as being from viruses. And they just basically identified a snippet of this genetic material and said that this was a virus. And they did really nothing more. So there was never a particle that was purified from which they would extract genetic material and say: this RNA came from this particle, therefore it belongs to the particle and it makes up a basically genome of a virus.

What Kaufman doesn't mention—or even fails to understand—is the following: the earliest Chinese researchers produced *a full genome* of this new virus, using state of the art sequencing technology that allows you to do that in a matter of days, or even hours. Soon other researchers would do the same, in many countries all over the world, and these genomes matched up perfectly, resulting in the consensus that the genome of SARS-CoV-2 consists of about 30.000 bases. Other viruses are much smaller or bigger (see [Part 6](#)).

Over time, tiny genetic differences showed up, signalling mutations that are to be expected with these RNA viruses. Thus an evolutionary tree could be built *of this particular virus*. This tree, and those of other viruses as well, can be viewed in real time at nextstrain.org, as I have mentioned many times. Please do! Based on this collaborative information, countries could trace how the virus had entered their borders and take measures accordingly.

What is more, this newly assembled SARS-CoV-2 genome was quickly matched against its predecessor SARS-CoV, and to other coronaviruses, both of human and bat origin, again in an elaborate evolutionary tree of this family of viruses, showing exactly how and where this particular SARS-CoV-2 virus was *different*.

And that's an important point: because any test that aims to detect this particular virus only needs to focus on what makes it *unique*—not on the full 30,000 bases genome of the virus itself, nor on the bases that it shares with its corona family members (which include innocent common colds as well). Tests that are devised based on this information could therefore be made highly specific for this virus. It's not that when you are tested for COVID-19 and you have a common cold, you are automatically tested positive.



Genomic epidemiology of novel coronavirus - Global subsampling ([Nextstrain.org](https://nextstrain.org)).

This is exactly the pattern one would expect when there's a mutating virus raging around the world.

WITH A BLIND EYE FOR DATA

And yet, closing his eyes to these data, Kaufman keeps saying "they have never isolated any virus." He correctly understands that these tests specifically look for a short sequence, but maintains that we never know where that piece of RNA came from. Its source could as well have been our own cell material, more specifically the exosomes we produce ourselves, and which sometimes contain RNA, or perhaps from bacteria in our lungs.

But what Kaufman never does is go to these published SARS-CoV-2 genomes, which are publically available, and point out exactly which of these "viral" gene snippets are actually part of *our own* human genome (which contains, not 30.000 but 3.200.000.000 bases—so good luck with that). See [Part 15](#) for an attempt like that—which failed miserably—in which it is claimed that our human chromosome 8 is involved.

In the meantime, Bigtree and Kaufman are back into conspiracy lane, and wonder why no scientists in the past months have actually "isolated the virus", and they see that as a burning question! Perhaps they did, and they didn't like what they found, they surmise? But without this isolated virus, they tell each other, there is no ground for any lockdown measures, social distancing, let alone for vaccination to be implemented on a worldwide scale (to the benefit of vaccine manufacturing companies). What they fail to understand is that part of the sequencing protocol are several elaborate steps of purification. How deep can one be lost in pseudo-science?

Has Kaufman really no clue about how genomics works? *He knows it even better:*

So just to give you a sort of a picture of the scale of this, they say that the full genome—which they haven't mapped in the way that I described but they pieced together using computer modeling, just like Ferguson's computer modeling—but they say that it is, I think, 30 or 40.000 bases long, the whole genome. The little snippets that they're testing for are two to three hundred bases long, so they're just a fragment of what they say this whole genomic sequence is. But once again, they don't have any proof of the origin of this sequence of RNA, so what they're just showing is that this sequence of RNA is present in a variety of samples. And I think the president of Tanzania even tested it on a piece of fruit and showed that it was present. If you just think about the human samples for a moment, like let's say that it's our own RNA that is expressed, under certain environmental circumstances like perhaps when we're ill or if the humidity

is really low or things like that. Well, we're basically just showing the presence of our own RNA from those circumstances. So there's no way to correlate it with a virus.

To start with the last claim, the president of Tanzania is an anti-vaxxer and hardly a source to be trusted. As I explained, the tests are so specific that they detect only viral material. But seriously, no researcher has ever claimed the genome of SARS-CoV-2 to be 40,000 bases, not even close. That tests look only for small snippets is *precisely the purpose* with these tests, not something to lament. And their origin can be traced to the full viral genomes that have been separately assembled. Besides, the "little snippets that they're testing for" are about two dozen bases long, like: CTCCTTTGTTGTGTTGT, not "two to three hundred".

Now, comparing this to the computer modelling done by Neil Ferguson, a mathematical epidemiologist at Imperial College London who led an influential, but controversial, simulation of the coronavirus pandemic, is a blunder of the first magnitude. Genome sequencing is a totally different scientific problem, which uses its own highly sophisticated software (see [Part 6](#)).

So Bigtree tries again, "but we are told this virus is very similar to the previous SARS virus", but Kaufman is adamant:

Well I want to first say that the original SARS virus wasn't isolated either and they used the same exact procedures in that, so you have to really question the basis of comparison to something that wasn't clearly proven in origin in the first place.

These days every single living thing is sequenced, from plants and animals to bacteria and viruses. If Kaufman would be consistent, he would question all these efforts equally, not only in the case of viruses, but for some reason he doesn't. And whether the most burning scientific question really is if viruses are actually exosomes or not, as the gentlemen conclude, what holds Kaufman back from consulting the exosome experts and see what they think? We already know and they are not impressed, as we have seen. He will probably browse through that literature until he finds something that confirms his preconceived notions, as he did with James Hildreth.

Left without a virus as causal agent, Kaufman needs to come up with alternative explanations for the spikes in deaths that have

been observed in many countries (though some even want to deny that). He suggests: people have been scared to death(!) when the WHO declared the worldwide pandemic, they died because of wrong medical treatments, or because of air pollution, *anything* goes in these alt-medical circles as long as it is not a virus.

Our knowledge of viruses is *vast*, which even a cursory glance at the virology literature would make clear—unless, perhaps, for Andrew Kaufman. There are data, research, journals, conferences, and yes, controversies. But Kaufman wants you to believe this is all a mirage. And he doesn't feel the burden of proof is on him, for "a virus has never been isolated." With smug superiority Kaufman claims that "the science should be properly done first", and he bluffs his way into virology.

Unfortunately many will be vulnerable to his message of self-healing and virus denial.

So here we go again, this is how Kaufman blunders on the topic of modern virology:

KAUFMAN'S CLAIMS	FACT CHECK
Genome modelling similar to Ferguson's epidemiological modelling.	Genome sequencing works completely different from Ferguson's model.
The SARS-CoV-2 genome is 30 to 40.000 bases long, I think.	All of the SARS-CoV-2 genomes are around 30.000 bases.
The little snippets	The gene snippets used

they test for are two hundred to three hundred bases long.	in test are about two dozen bases long, like CTCCTTTGTTGTGTTGT.
The tests detect our own RNA, which is natural and exists inside all of us.	The tests detect viral RNA, which is different from the human genome.
Both SARS-CoV-1 and SARS-Cov-2 are artefacts that don't exist.	SARS-CoV-1 and SARS-CoV-2 are highly similar viruses.

Wouldn't you expect even a forensic psychiatrist like Kaufman to have more faith in the science of DNA and RNA genomics?

OTHER VIDEO REVIEWS

I found two videos that respond to this Highwire interview with Andrew Kaufman, which I want to share with you—a very long and a rather short one. The first is by Kevin McCairn, a brain scientist living in Japan who has debunked many of Kaufman's video on his own [Youtube channel](#):

A running commentary with many references to the scientific literature (2:57:52)

The other video review is by Benjamin Neuman, a Texas based virologist, who runs a Facebook science group "[Ask Dr. Ben](#)" specifically related to COVID-19:

A light-hearted, informed response by a professional coronavirus specialist (8:47)

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To end on a more positive note, London Real, the online platform that hosted the interview with David Icke which originally prompted me to write this series (see [Part 1](#)), has now featured [Dennis Carroll](#), who serves as the Chair of the Global Virome Project Leadership Board. Very sensible talk for a change! See: Dennis Carroll - "[How Every New Virus We're Going To See In The Coming Decades Already Exists](#)", Digital Freedom Platform, freedomplatform.tv, July 22, 2020. See also: Kevin Berger, "[The Man Who Saw the Pandemic Coming](#)", *Nautilus*, March 12, 2020.

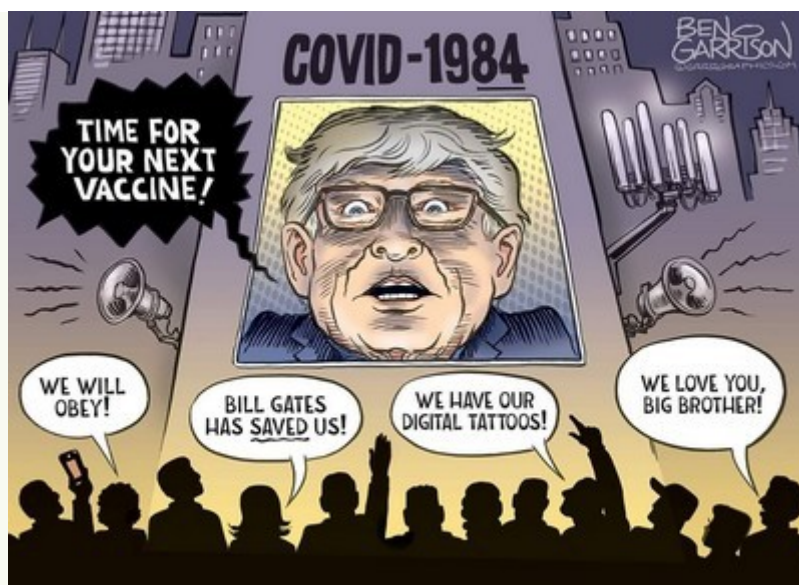
Part 10: Between Alarmism and Denialism

FRANK VISSER

GLOBAL WARMING, ANYONE?

There are interesting parallels between the responses to global warming, and to the current coronavirus pandemic.

Before the coronavirus pandemic took off in early 2020, and grabbed the attention of virtually all of our news outlets, climate change was on top of the agenda. Global warming, anyone? Greta Thunberg, remember? There are interesting parallels between the responses to global warming, and to the current coronavirus pandemic. Both topics were heavily politicized, especially in the US, with "skeptics" in both fields contesting the conclusions of science. As we've had "climate skeptics", there are now also "virus skeptics" or "pandemic skeptics", as we have seen in this series of articles. Some, like Stefan Lanka and Andrew Kaufman, even deny the very existence of viruses. Those on the conservative side of the political spectrum see both issues as a non-issue, a ploy set up by a corrupt government (the "deep state"), which aims to destroy our fossil economy or enslave and poison the general population with vaccines.



This has gone to such extremes that wearing masks or social distancing has become a matter of life and death for some—culturally if not physically. In these paranoid circles, Covid-19 is rebranded as Covid-1984. Big Brother Bill Gates is watching you! It is good to realize there are extremist positions on both sides. Where alarmists usually tend to get germophobic (the virus is everywhere!), anti-vaxx virus denialists are usually toxicophobic (poison is everywhere!). This seems to be a Fake Debate full of False Choices. In these alt-med circles we are told we can disregard the virus—if it exists at all—as long as we keep our immune system healthy. Why not do both? Or: it is better to focus on disease prevention than on finding a cure. By all means! But this doesn't help the thousands that are now afflicted by the SARS-CoV-2 virus.

This seems to be a human psychological response towards grave existential risks: either become obsessed by it or deny it—and everything in between. We might say that the Western world has literally become obsessed by the coronavirus pandemic, as most pages of newspapers that appear today are still covering this topic. Be it the coronavirus pandemic or global warming, all positions between alarmism and denialism seem to have been taken up, as I have illustrated in Table 1.

Table 1. Comparing the spectrum of responses to the coronavirus pandemic and to global warming.

CORONA PANDEMIC	GLOBAL WARMING
ALARMISM	
Millions will die because of this new virus	Sea level rising will end modern civilization
We will never be able to destroy this virus	It's too late to avoid a climate catastrophe
All we can do is	All we can do is

adapt to this new coronavirus	adapt to the changing climate
We need to change our behavior to avoid disaster	We need to change our behavior to avoid disaster
Pandemics are the result of our invasion of nature	Climate change is caused by industrial civilization
Viruses are beneficial, not harmful, introducing new genes	Global warming and increased CO ₂ levels are good for nature
Viruses have always been there	Climate changes are natural
Viruses don't even exist	There is no global warming
It is a "plandemic" in service of the vaccine industry	It's a hoax meant to destroy our fossil economy
DENIALISM	

In both areas, these "skeptics" see themselves as seekers for truth and freedom fighters, against a corrupt and malevolent government. Of course, the labels "alarmism" and "denialism" are loaded with biases. Alarmists see themselves as eminently rational: *what else* can we do when faced with such a huge risk of a global warming or a global pandemic than take drastic measures to prevent or at least mitigate its effects? And even if the risks turn out to be overestimated, isn't it more advisable to err on the side of caution here? Denialists, on the other hand, see themselves as defending a much neglected aspect of the discussion: either the value of modern civilization (and its cultural achievements) or a view of health that stresses

prevention and a natural life style over cure by conventional medicine.

SKEPTICISM OF CONVENTIONAL SCIENCE

What both "skeptic" views have in common is a deep skepticism of conventional science. But wait, isn't science *supposed* to be skeptical in the first place? Real skeptics *start* with the scientific consensus in a given field, and familiarize themselves with it to the best of their ability, before the idea of discounting a whole field of science can even arise in their brains. Fake skeptics pick and choose whatever they understand of a given field, and fabricate their own alternative theory. They just don't do their homework.

What typically happens here is that self-proclaimed "experts" such as Andrew Kaufman do a selective reading of the scientific literature which confirms their pre-conceived notions. These "experts" usually don't publish in respected scientific journals, but directly address the general public through YouTube videos, often receiving hundreds of thousands of views. Andrew Kaufman is a prime example of this approach, as we have seen, where he selectively reads the virology literature to support his thesis that viruses are actually exosomes (see [Part 3](#) and [Part 4](#)). To reach that mistaken conclusion he has to overlook vast amounts of data, from electronmicroscopic photos to genomic evidence amassed by science about viruses, their nature and behavior. He even doesn't even shy away from claiming support from respected scientists such as James Hildreth, where as a matter of fact these scientists in no way agree with his misinterpretations.

Shamelessly claiming deeper insight, Kaufman rejects the scientific consensus about the current pandemic *in toto*, while at the same time lacking any credentials himself. As he conceded himself, he has never done any virological research, ever. As coronavirus specialist Benjamin Neuman humorously commented, and I am paraphrasing: "I don't claim expertise in psychiatry (Kaufman's field), so a psychiatrist shouldn't mess with virology" (see [Part 9](#)). The true test of science happens when a new theory, however speculative or unconventional, is evaluated in the scientific arena through journals and

conferences, and not by counting likes or shares of YouTube videos. The very moment these videos are banned by Facebook or YouTube, because they violate generally accepted medical views, these "experts" get an undeserved status of misunderstood geniuses or even cultural martyrs.

Science denialism has many forms, evolution denial being the most ancient one. Climate change denialism has a decades long history as well, but virus denialism is of more recent origin, though it has had its forerunners as well.

Science is not a democracy, but if 97% of all climate scientists subscribe to the notion that [global warming has a human origin](#) and has devastating consequences, both for human society and many endangered species, it definitely means something. Likewise, if the large majority of virologists agree SARS-CoV-2 poses a tremendous risk and COVID-19 is much more than even a heavy flu, because it affects multiple organs including our brain and kidneys, even in younger people, we have to pay close attention to their message. If dissenting or minority views are not accepted by science, it usually stands to reason, because they lack the overview a trained and seasoned scientist has of his or her field. If they have any expertise at all.

Studies into scientific agreement on human-caused global warming



["The 97% consensus on global warming"](#), [skepticalscience.com](#)

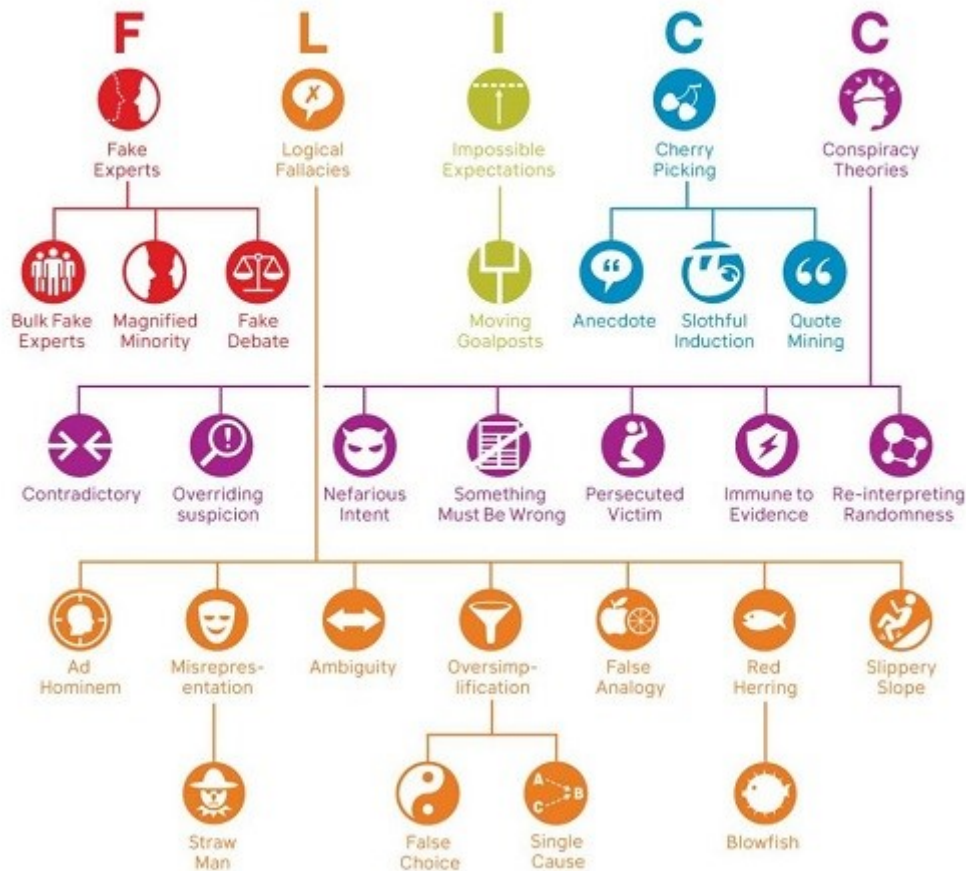
This is not to say the measures taken in the past six months don't come with a heavy price in terms of economic recession and social deprivation. But seeing malice and nefarious intent behind this worldwide and coordinated strategy, on top of the

selective use of scientific insights and accomplishments, is a sure sign of conspiracy thinking. On the contrary, I would say, *finally* the world can tackle a problem of this magnitude with coordinated action. If only we could do the same with global warming! It also doesn't mean that we don't need to carefully and continuously re-evaluate this policy whenever the costs outweigh the benefits.

TECHNIQUES OF SCIENCE DENIAL

Science denialism has many forms, evolution denial being the most ancient one. Climate change denialism has a decades long history as well, but virus denialism is of more recent origin, though it has had its forerunners as well. Since climate change denialism has been with us for a much longer time, it has been analyzed by true skeptics quite profoundly. On the Skeptical Science website, which lists and refutes all the false arguments usually presented by these denialists, I found a nice overview of the many ways conspiracy thinkers try to make their case. It is summarized by the acronym FLICC, which stands for Fake Experts, Logical Fallacies, Impossible Expectations, Cherry Picking and Conspiracy Theories. John Cook, who compiled this taxonomy, co-authored [*The Conspiracy Theory Handbook*](#) (2020), which is freely available as PDF.

Techniques of Science Denial

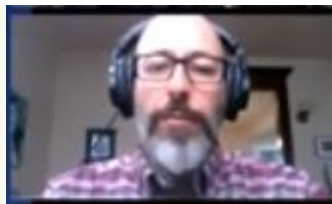


"[A history of FLICC: the 5 techniques of science denial](https://scepticalscience.com/2017/05/20/a-history-of-flicc-the-5-techniques-of-science-denial/)", scepticalscience.com

When it comes to **Fake Experts**, Kaufman is a prime example. He bluffs that "the similarities [between viruses and exosomes] have been recognized by scientists, including virologists, and many times scientists have actually said they are the same thing, or they have substantial overlap. Including prominent virologists." Unfortunately, the most prominent *and only* virologist he specifically mentioned, James Hildreth, rejected this view. The other "virologist" he mentioned, Stefan Lanka, is actually a "no-virologist", because he denies the very existence of viruses. When someone claims that "many times scientists have actually said the same thing as I do" you know he is trying to impress a layman audience, not a group of specialists. Quite often, online petitions are offered as protest against lockdown policies in various countries, signed by dozens of "experts" or concerned citizens, but rarely if ever do they have the relevant expertise. (The same is true about petitions raising doubt as to [the validity of Darwinian theory](#)).



Quote Mining and **Cherry Picking** are also high on Kaufman's list, for he mentions his excitement when he stumbled upon Hildreth's quote (in the context of the HIV virus) that "the virus is fully an exosome in every sense of the word." Adds Kaufman: "Now this was just a great confirmation of what I was already thinking. I was kind of blown away when I read this in a paper. Because this was one of the last papers I looked at. To find that they have come to the same conclusion really helped validate my opinion." As we have discussed, this is just a matter of confirmation bias, simply because *no* virologist (or exosome expert for that matter) of name and fame would say these things. This quote, quoted out of context, just confirmed "what I was already thinking"—the hallmark of amateurism and pseudoscience. And he even concedes "this was one of the last papers I looked at." Does that mean all of the other papers he looked at did *not* confirm his own preconceived opinions?



Andrew Kaufman: 'I think I know what is really going on.'

When it comes to **Conspiracy Theory** Kaufman's scores are high. He is **Immune to Evidence**, because he doesn't recognize the iconic electronmicroscope photo of a coronavirus even when he sees it, mistaking the spikes on the virus for supposed viruses on a human cell. He doesn't even consider the evidence provided by genomic science, which has produced thousands of whole genomes of SARS-CoV-2 by now, adding evidence to the theory that there's a malignant virus going around the world, and possibly mutating to even more harmful variants in the process.

He can play the **Persecuted Victim** since he lost his job some months ago, as soon as his university got wind of the cranky ideas about health and disease he was communicating through online media. And he sees **Nefarious Intent** behind the coordinated action of the various countries all over the world to combat this new virus. In his mind, this can't be anything other than a planned operation to get humanity vaccinated with poisonous vaccines, or even chips that will change our DNA. I am serious.

Conspiracy theories are shot through with these logical fallacies. In many cases they are contradictory. As to viruses, Lanka and Kaufman deny their very existence, but [Zach Bush](#), another alt-med celebrity, argues that the SARS-CoV-2 virus can't possibly be harmful because *viruses are everywhere*. That is of course a non sequitur. Among the thousands of viruses that live happily in other species, a few can change ("spill over") so they can enter and thrive in human cells, and thus become harmful. Some smart-arse denialists argue that people only die *with* the virus, not *because of* the virus, because they have so many underlying illnesses. This overlooks the fact that the virus may pull the trigger, and without it they might still have lived longer. So yes, people with underlying illnesses have a higher chance of dying because of it.



"GROPING THROUGH A FOG OF IGNORANCE"

This is not to say one cannot question the received scientific view of the current pandemic, and the best course of action to

combat the virus. Legitimate questions can be asked as to its case fatality rate, the efficacy of masks, the reliability or even usefulness of vaccines, or the relative importance of droplets over aerosols in the spreading of the virus. SARS-CoV-2 has undoubtedly been the most investigated and commented upon virus of all times, mostly due to the advanced technology of whole genomic science. At the time of its predecessor SARS-CoV-1, it took months to decipher its full genome, not to mention against which astronomical costs.

And yet, scientists are still struggling with many of its aspects. As Matt Ridley wrote (in May) in *The Spectator*:

We know everything about Sars-CoV-2 and nothing about it. We can read every one of the (on average) 29,903 letters in its genome and know exactly how its 15 genes are transcribed into instructions to make which proteins. But we cannot figure out how it is spreading in enough detail to tell which parts of the lockdown of society are necessary and which are futile. Several months into the crisis we are still groping through a fog of ignorance and making mistakes. There is no such thing as 'the science'. [1]

This pervasive ambiguity and ignorance about all things SARS-CoV-2 tempts some people to turn to conspiracy theories about its origin. Postulating a simple and single cause behind this pandemic (China, 5G, Bill Gates, the New World Order, Lucifer) betrays the complexity of this phenomenon, and overlooks the need to use all the science we have to improve the situation. Misinformation and self-proclaimed experts definitely don't help. On the other hand, isn't the virus such a single cause? Kaufman, by taking the virus out of the pandemic, creates a completely new type of complexity: he needs to explain *where all these thousands of people are dying from*. Or how so many infections can arise from a single meeting in a pub. Or how genomes assembled in different countries show tiny variations. A puzzle he will never solve.

How do we find the sane middle ground between both alarmism and denialism, hysteria on the one hand and paranoia on the other? By listening to science and taking its findings seriously. And by understanding we are part of the problem, if we don't change our behavior, in terms of invading and ruining nature and its scarce resources. And that includes leading a healthy and sustainable life style, as well as taking all the necessary

precautions so that we don't get infected, nor infect our fellow human beings, with this new virus.

When you think about it, conspiracy theories are inevitable when you deny a scientific consensus. How *else* do you explain how all the world's scientists agree on something that *you* don't believe? -- John Cook, Denial 101x

NOTES

[1] Matt Ridley, "[We know everything—and nothing—about Covid](#)", www.rationaloptimist.com, 9 May, 2020.



Cook, DENIAL101x - FLICC - The Techniques of Science Denial - Part 1

Part 11: David Icke and the Method in the Madness

FRANK VISSER

By seeing evil intent everywhere Icke is reinforcing the very demon-haunted world he aims to overcome.

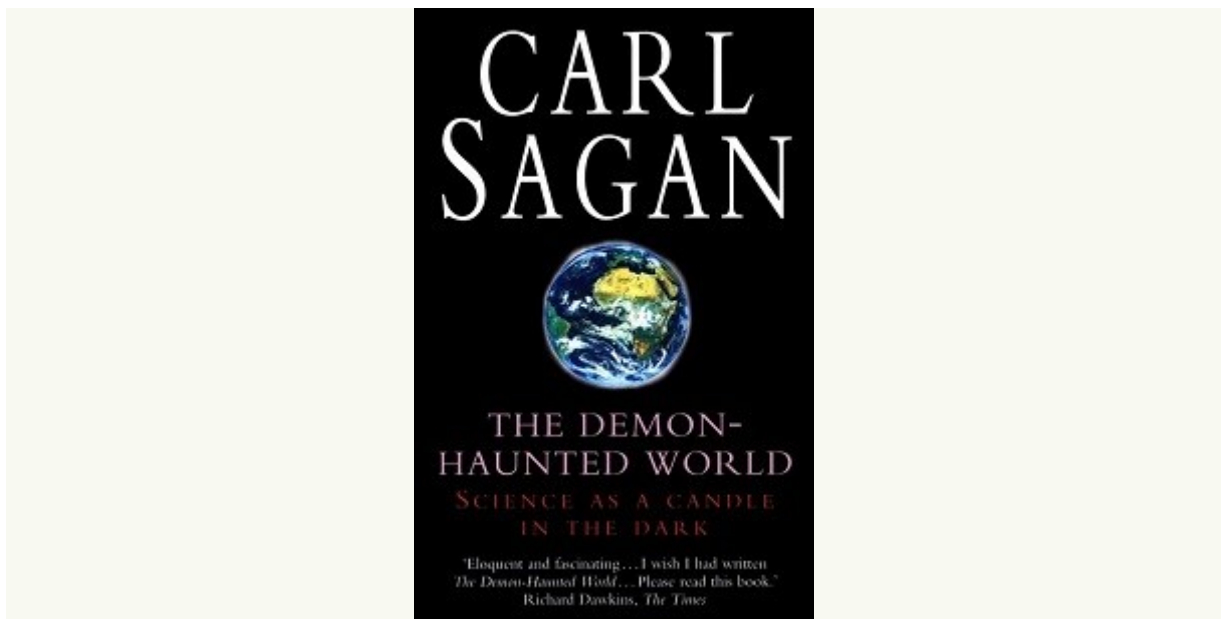
This Corona Conspiracy series started off with David Icke being interviewed for London Real back in early April 2020. We have focussed mostly on Andrew Kaufman's brand of virus denialism, but now it's time to return to Icke himself. He has been interviewed by London Real several times now, and the fifth installment has just gone live.[1] It is modestly called "Icke 5 - The Answer", after the title of Icke's latest book.[2] Icke has also released an animated movie about the global pandemic, called "How They Pulled Off The 'Pandemic'".[3] Mark the quotes around "pandemic", because in Icke's view, there is neither a pandemic nor a virus, but just a planned hysteria around a supposed virus, aimed at enslaving and poisoning humanity through vaccination. All this has been concocted by a hidden dark power elite, whose only goal is to feed on fear and anxiety, and seems to have succeeded in literally scaring everybody to death. But there's hope. We can resist all lockdown measures, mask wearing and social distancing, to free ourselves from this enslavement and take back our individuality.



David Icke - The Answer - full length interview", www.davidicke.com[1]

Now this is quite a gloomy worldview. In [Part 1](#) we learned about Icke's affinity with a semi-Gnostic worldview, in which the world as we know it is ruled by evil powers, headed by Lucifer or Satan or the Demiurge ("different name, same force") at the top, and a host of demons or *archons* at the lower levels of the invisible worlds. When it reaches the earth, this sinister entity is known as the Elite, the Spider, the Cult, the Illuminati, the Cabal, the 1%, and other illustrious names. Far above both are Sophia and the Godhead, divine realities that can be contacted through individual spiritual experience, but are unrelated to worldly affairs. Hence Icke urges us to no longer cooperate with the dictates of the government, which has imposed a lockdown on us to prevent a "virus" from spreading.

And here is where Icke's message gets dangerous and irresponsible. By denying the reality of the virus, all global attempts at eradicating it can only be understood as a nefarious conspiracy against humanity. So all depends on this question: does the SARS-CoV-2 virus—or *any* virus—actually exist?



By seeing evil intent everywhere Icke is reinforcing the very demon-haunted world he aims to overcome. Carl Sagan's famous book by the same title, *The Demon-Haunted World: Science as a Candle in the Dark* (1997), celebrated the skeptical approach of science instead of the comforting views of religion and pseudo-science. Modern man no longer believes in demons and higher or lower worlds, he is content to deal with human

beings as such, who can act as demons or saints at times. Science no longer offers the type of salvation promised by religion, be it of an eternal afterlife, an ideal heaven on earth or an absolute state of being. It aims at gradually improving the human situation with the help of medicine and technology. Sagan quoted Albert Einstein at the start of his first chapter as saying "All our science, measured against reality, is primitive and childlike - and yet it is the most precious thing we have." That indeed should be our stance towards science.

Icke, by contrast, has no such faith in science, and derides its efforts to both understand the nature of this global virus and fight off its devastating effects on humanity at large. His alternative is decidedly religious, for he has a message of consciousness and love, which will free us from all restrictions. He effectively *demonizes* science to a very large extent. He fears a future in which AI and trans-humanism have taken over and reduced us to sub-humans, not trans-humans, devoid of individuality and the capacity to think, or even to choose what to think. In his grim, dystopian worldview, "we are at the cusp of the end of human freedom"[1], envisioned by both Orwell's *1984* and Aldous Huxley's *Brave New World*. According to Icke, these hidden powers see China as the ideal model of society, with its firm grip on its citizens, its face recognition cameras, and through this fake pandemic, measures of track-and-tracing individuals has become possible at a global scale.

He highlights the devastating consequences of the lockdown campaign, in terms of the disappearance of small businesses, the loss of homes, jobs and health by millions of people and claims the scientific evidence for this operation is flimsy. He denies the SARS-CoV-2 virus has ever been isolated and the tests used to detect the virus were never meant to do such (according to its inventor the Nobel Prize winner Kary Mullis), they only detect for general human genetic material, which would explain the high number of false positives (following Andrew Kaufman's narrative). And given that the virus has been made up from the start, the list of symptoms of COVID-19 can be expanded at will by the authorities, to keep the number of "cases" at a level high enough to warrant strict lockdown and monitoring measures. When the WHO urges every government to "TEST, TEST, TEST", this has only one goal: to increase the number of "cases". Trump

would love this analysis, for he too believes that the less we test, the less cases we will find, and the better off we would be.



David Icke: 'the Cult is not powerful.'

The fact that Icke has been banned from social platforms like YouTube and Facebook does not surprise him in the least. "The narrative of the pandemic is so ludicrous, so full of holes, so unsupportable by the evidence, that the only way to defend it is by censoring anything that exposes it." [1] So it becomes almost a matter of honour in these circles to get banned. "Anything that challenges the pandemic is targeted for censorship." [1] But he sees it not as a sign of strength of these Powers, but of weakness: "the Cult is not powerful, that's what they are: 'frightened little boys and girls in short trousers'" [1] And: "I see absolute desperation of the Cult." [1] If only if we would simply refuse to cooperate, their power would vanish, because they lack the means to enforce the lockdown policies. He seems to envision a violentless resistance movement that will end this pandemic drama, and thus, the reign of the evil Powers. The refusal to wear masks is symbolic in this battle. In Icke's opinion, they take away our individuality and our health (by letting us breathe our own CO₂ and depriving us of Oxygen). Again, Icke claims to have science on his side here.

'A CANDLE IN THE DARK'

So let's turn to science now, to see if we can bring "a candle in the dark" in this demon-haunted Ickian world—leaving the decidedly occult and metaphysical aspects of his philosophy for what they are. Most of it has a fictional origin anyways. [4]

1. Does the SARS-CoV-2 virus exist?
2. Do the tests test for this particular virus?
3. Do these tests result in many false positives?
4. Do more tests result in more cases?
5. Are the lockdown measures appropriate?
6. Is the wearing of masks bad for your health?
7. Is the banning of David Icke c.s. justified?

Does the SARS-CoV-2 virus exist?

As we have documented in earlier parts of this series, the SARS-CoV-2 virus most definitely does exist. Its full genome of around 30,000 bases has been published within weeks of discovery, and in the following months thousands of SARS-CoV-2 genomes have been added to the international public virus database by numerous researchers in various countries all over the world (see www.nextstrain.org for a graphic representation). Icke and Kaufman have no clue about this extremely specialized and sophisticated field of biology. They are stuck in old school virology that knows nothing of these spectacular advances. By comparing strains of SARS-CoV-2 real time evolution of the virus has been documented, as it spreads to the various countries of the world. What is more, comparing this genome to that of other coronaviruses, or even viruses from other virus families as they live in bats and other animals, the precise location of the SARS-CoV-2 virus within the evolutionary tree of viruses has been established. Good luck if you want to simply dismiss this wealth of highly specific data.

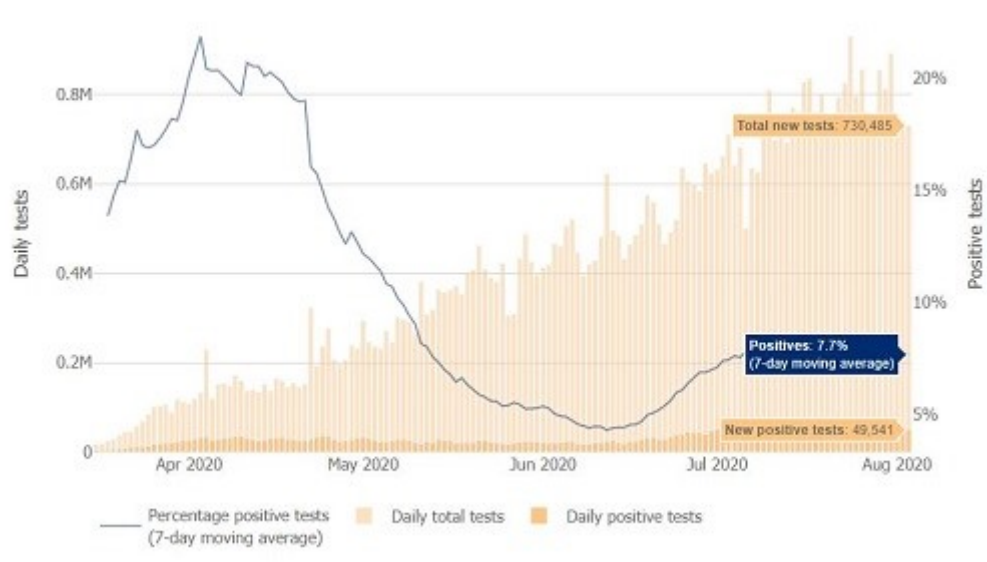
Do the tests test for this particular virus?

This brings me to the next point: do the tests for this virus really test for this particular virus or just for some unspecified genetic material, as Icke and Kaufman suggest? If the latter case were true, these tests would be worthless indeed. And did its inventor Kary Mullis really state they were not supposed to be used to detect viruses? As you can read in [Part 1](#), this is patently untrue. But again, as discussed before, in principle these tests are *highly* specific and can even distinguish between SARS-CoV-2 and its relative SARS-CoV-1, not to mention other coronaviruses or respiratory viruses, precisely because scientists can tell them

apart by looking at their genomes (of course many different tests are out there which may vary in sensitivity and specificity). So instead of endlessly repeating their "no isolation, no test" mantra, they would do well to familiarize themselves with what science is able to do in 2020. This relates to the larger story we dealt with about the similarity and differences between viruses and exosomes, and more in particular if what is detected as a virus might in reality actually be an exosome, which can contain viral material. But even in that case, that viral material comes from a *virus*, which has entered the cell, so this in no way provides evidence for the non-existence of viruses—on the contrary. Icke and Kaufman complain that at no point have control tests been done, with healthy cell material, but this leads me to the next point.

Do these tests result in many false positives?

Do these tests really mostly produce false positives? A "false positive" in medical jargon means you are called sick when you are healthy. (A "false negative" is the opposite: you are called healthy when you are sick). With viruses there's the complication that you might have the virus and not feel sick, or become ill in a matter of days, or have been sick a while ago, or even that the test has detected a fragment of the virus (for which it has been designed). Leaving these complications aside, it is time to put to rest the suggestion so popular in alt-med circles that "everybody will test positive." As the RIVM, the Dutch CDC, reports: "The percentage of positive tests in the Netherlands increased this week from 1.1% in the week of 20 July to 2.3% in the week of 27 July." [5] This relates to people with (mild) symptoms who have asked to be tested. When people with no symptoms are tested this percentage would of course be *even lower*—but not zero due to possible asymptomatic cases. Really healthy people would not test positive. So suggesting most tests are positive, implying many of these are *false positives* (Kaufman mentioned 80% false positives in his presentation, [Part 1](#)) is ludicrous. Comparing these data with other countries is meaningful, the US for example has an average of 7.7% at this moment [6], indicating the virus has spread more widely there. In April only hospitalized patients were tested, hence the high positive rates of 20%.



Percentage of positive tests in the US, April-August, John Hopkins University.

Let me ask a simple question: if the PCR tests would result in false positives most of the time, as virus denialists like Kaufman, Icke and others continuously claim, why are the percentages of positive test outcomes usually less than 10%, where one would expect them to be 80-100%? And even if these 10% were all *false* positives, that figure would completely destroy their claims.

And if virologists have failed to do a proper control experiment when sequencing the virus, as these pseudo-scientists also suggest, then the reality of these very low positive test outcomes also destroys that claim. When healthy people are tested negative, that's the very control that proves the PCR test only detects viral material and nothing else, let alone general genetic material.

Do more tests result in more cases?

Furthermore: does more testing result in more cases, as Icke (and Trump) claim they do? Of course! But tests don't *produce* cases, nor does doing less tests make the virus go away, as many have interpreted Trump's confused tweeted utterances. That's not the point of doing more tests. By doing more tests you get a *more accurate picture* of how the virus has spread in a given country. It is the percentage of tests that are positive that is the more interesting indicator. Said differently: how many tests should be performed before a positive case is

found. This is different per country, hence these relative comparisons between countries are meaningful. And it makes a lot of difference if you randomly test people from all over the country, or only in areas that are more heavily affected, or IC-patients or people who self-select themselves to be tested because they think they have Covid-19. This is a statistical Walhalla I don't want to go into now, nor would I have the skills for that.



Are the lockdown measures appropriate?

Are the global lockdown measures appropriate? This is the most difficult question to answer. It involves estimates of the contagiousness and harmfulness of this virus, otherwise known as the "case fatality rate" (the chance of dying from the virus when you have it), not to be confused with the mortality rate. It involves comparisons with how many people die on average, from the flu or otherwise, and also data about excess deaths in a given period. Icke suggests that hospitals get paid for reporting as many deaths as Covid-19 deaths, thus artificially inflating its death rate, but the really interesting figure is how many more people die in a given period compared to previous years, *regardless of the cause of death*. Almost all countries have shown a peak in number of deaths (regardless if they have been classified as Covid-19 related or not). Then the vast social and economic costs of a lockdown should be taken into account, a most difficult task because it amounts to assessing how many surplus deaths are acceptable. But Icke does have a point that these costs might be very high indeed. That's for politicians to decide, not for scientists, let alone virologists.

Is the wearing of masks bad for your health?

Since Icke makes much of mandatory mask wearing and its health consequences—at the start of the video he rants for a full hour about why he is refusing to comply—let's touch briefly on that one. While it might sound plausible that a mask interferes

with both Oxygen uptake and CO₂ disposal, this can easily be debunked.[7] As the BBC mentions on its Reality Check page related to corona (so I refer to that page):

"Coronavirus: 'Deadly masks' claims debunked" (BBC)	
CLAIM	VERDICT
Masks deprive your body of oxygen	False claim
Masks can cause carbon dioxide poisoning	No evidence to support this claim
Masks harm the immune system	No evidence to support this claim

Icke also floats the peculiar claim that 5G somehow interferes with our Oxygen uptake, as described in [Part 1](#). It turns out that Oxygen resonates with a frequency, 60GHz, that is used by 5G (it uses a whole band of frequencies, but this is one of them), a fact known to the tech industry. I have not found replies from science to this particular claim yet, but I always take heart knowing that the band of visible light in the electromagnetic spectrum is measured, not in MHz or GHz but THz (which stands for "terahertz", one *trillion* or 10¹² hertz or 1.000.000.000 kilohertz), and nobody has yet complained about being daily exposed to that highly "dangerous" radiation. Of course, UV-light, at the "bad" side of that band, is known to be unhealthy in large doses, but we are far, far away from the non-ionizing radiation which includes 5G.

The current pandemic is already bad enough, but to imagine that it is all a farce stretches the imagination of even the most ardent science fiction fan.

Is the banning of David Icke c.s. justified?

THE ANSWER

DAVID ICKE

David Icke Books (August 13, 2020)

And last but not least: are social media platforms such as YouTube and Facebook justified in banning David Icke (and other alt-meds) because he "violated its policies by posting misleading information about the coronavirus pandemic"?[8] It is perfectly understandable that Icke takes this as even more evidence for the correctness of his paranoid suspicions about Big Tech being on the wrong side of history. *It all depends on how you think about the virus and its existence.* If you believe there really is a virus, then all forms of virus denialism are in the end harmful and should be counteracted, because they advise against taking the necessary precautions. For sure, Icke is not calling for violent resistance, but only for non-compliance with the lockdown measures. Incidentally, if the mere fact of wearing a mask is capable of destroying our individuality, as Icke laments, instead of being a gesture of solidarity and protection, that is not much of an individuality in the first place. But if there is no virus, as Icke maintains, then these measures can only be seen as yet another way to suppress his subversive ideas, and it will only strengthen his conviction he is right (and hundreds of thousands of fans will agree with him on that). Now who are we to believe regarding this fundamental question? Self-appointed experts and visionaries, or people who have spent their professional lives studying these matters?

Icke sees a pattern in this pandemic, "a method to this madness", to quote Shakespeare's *Hamlet*, but it is a delusional pattern, far removed from the realities of science. Quoting

Einstein again, science is: "the most precious thing we have." The method to *Icke's* madness is the result of ignoring basic facts of science, to fabricate a story of hidden evil powers that are out to get us. The current pandemic is already bad enough, but to imagine that it is all a *farce* stretches the imagination of even the most ardent science fiction fan.

With David Icke, who mixes eloquence with lunacy, I am always left with the following question: if it is really true that for the past three decades he has exposed the hidden plans and workings of the Elite (which he seems to know in detail like a creationist claims to know the will of God), why do they leave him alone? Why is he still alive? Are these powers really just 'frightened little boys and girls in short trousers'? Certainly one of the most curious descriptions for the Adversary and his minions I have ever seen.

NOTES

[1] "[David Icke - The Answer - full length interview](#)", www.davidicke.com, August 3, 2020.

[2] David Icke, [The Answer](#), David Icke Books, August 14, 2020.

[3] "[How They Pulled Off The 'Pandemic' - An Animated Film Explanation By David Icke](#)", www.davidicke.com, August 4, 2020.

[4] "[The Illuminatus! Trilogy](#)", Wikipedia. "*The Illuminatus! Trilogy* is a series of three novels by American writers Robert Shea and Robert Anton Wilson, first published in 1975... In particular, the regular use of the Illuminati in popular culture as shadowy central puppet masters in this type of fiction can be traced back to their exposure via The Illuminatus! Trilogy."

[5] "[Current information about COVID-19 \(novel coronavirus\) - Weekly COVID-19 update: 29 July - 4 Aug 2020](#)", www.rivm.nl

[6] "[Daily Stage-by-Stage Testing Trends](#)", John Hopkins University, August 4, 2020.

[7] "[Coronavirus: 'Deadly masks' claims debunked](#)", www.bbc.com, 24 July 2020.

[8] "[Coronavirus: David Icke's channel deleted by YouTube](#)", www.bbc.com, 2 May 2020.



How They Pulled Off The "Pandemic" - An Animated Film Explanation By David Icke

FURTHER READING

Check out: Ian M Mackay, PhD (EIC), "[Yes, PCR tests can detect "the COVID virus"](#)", virologydownunder.com, August 4, 2020, which discusses the following frequently heard myths:

- The claim that PCR tests can be contaminated
- The claim that PCR tests only detect a small part of the virus
- The claim that PCR tests don't detect "the COVID virus"
- The claim that PCR tests don't detect the whole genome
- A positive result doesn't mean virus is present—but we can be pretty sure it was

Part 12: How the Coronavirus Conquered the World

FRANK VISSER

ANDREW KAUFMAN REVISITED

This is a huge triumph of science, conclusively refuting the breathless inanity of the virus denialists.

Always on the look out for responses from science to virus denialism, I recently stumbled on two YouTube videos created by [Richard M. Fleming](#), a nuclear cardiologist specialized in inflammation and heart disease. He had approached Andrew Kaufman with the aim to debate with him on the existence of viruses, but Kaufman seems to have declined the invitation. Apparently he prefers to do monologues with people who don't question his views in any way. Fleming offers sane and sensible talk about Kaufman's virus denialism and the [Terrain Theory](#) Kaufman represents (as an alternative to the germ theory of the medical establishment).[1]

Let's hear what he has to say—this is his introduction to the first video:

Dr. Andy Kaufman has repeatedly asked to debate anyone interested in debating Germ Theory versus his belief in the Terrain model - a belief that claims viruses don't actually exist. Dr. Kaufman has decided he does not want to debate me as I am unwilling to change my point of view. Apparently he is only willing to debate those who will let him win the debate. The video explains just a few of the flights of ideas associated with Terrain theory and Dr. Kaufman's beliefs. Decide for yourself what makes more sense.

Kaufman's Terrain Theory & Flight of Ideas.

This video could not be embedded so click on "Watch this video on YouTube"

Here's a brief summary of the points Fleming lays on the table:

KAUFMAN

FLEMING

<p>Terrain theory states that bacteria get generated by blood cells in the human body.</p>	<p>Red blood cells are the only cells in the human body that have no genetic material.</p>
<p>When we look at "viruses" we are actually looking at exosomes in our own bodies.</p>	<p>SARS-CoV-2 is not in any way similar to the genome of a human being.</p>
<p>Koch's postulates haven't been fulfilled for SARS-Cov-2 to prove it exists.</p>	<p>Koch's postulates have been fulfilled for SARS-CoV, MERS and SARS-Cov-2.</p>
<p>Terrain theory states the body has to be made more alkaline.</p>	<p>We already have an alkaline body so we can deal with acids.</p>
<p>Viruses don't exist.</p>	<p>Anybody who thinks viruses don't exist is missing out on important scientific data.</p>
<p>Exosomes are of the same size of viruses.</p>	<p>Exosomes have a broader range of sizes than viruses do.</p>

Viruses resemble exosomes.	Exosomes are smooth or horseshoe shaped and don't have spikes like coronaviruses.
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Richard Fleming correctly exposes the mistaken ideas Kaufman has spread around viruses and exosomes. However, this doesn't mean Fleming represents the medical establishment, far from it. Perhaps that makes his critique of Kaufman even more valuable and relevant—so he can't be easily dismissed by the alt-med community as indoctrinated by conventional medicine.

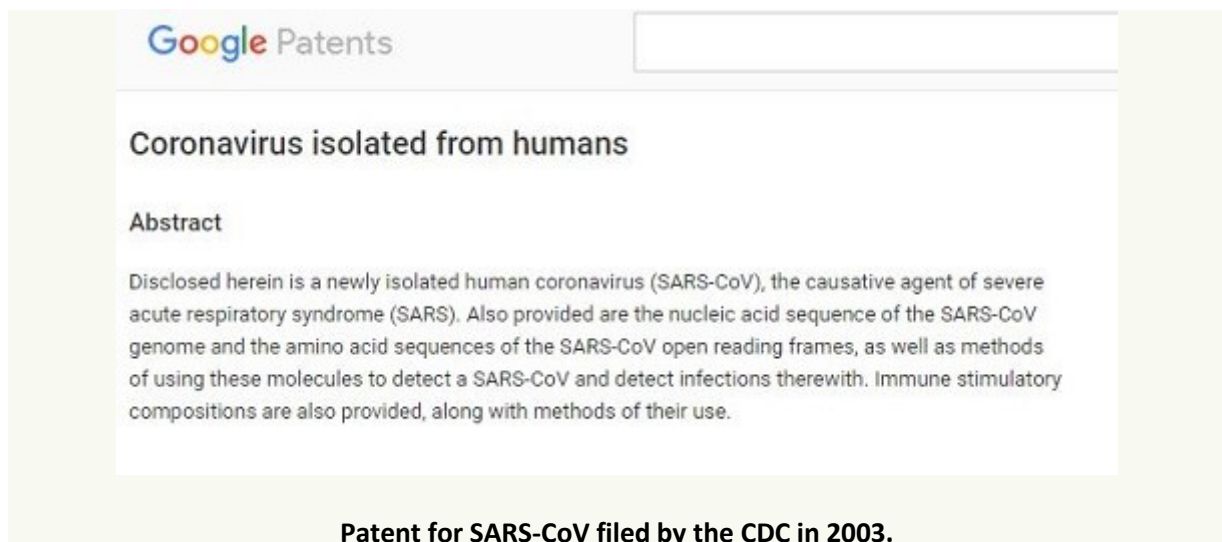


Richard M. Fleming

In his other [YouTube videos](#) you might learn Fleming is against developing a vaccin for SARS-CoV-2 (it won't really be effective), is against the current testing craze (it should only be done in a clinical context), advises to use Hydroxychloroxine (at least in the early stages of COVID-19), is against wearing masks in public (just stay at home if you have symptoms) and so on. Furthermore, he has had his encounters with the law concerning his unorthodox approach to heart disease medicine, a period of his professional life he deals with in a separate video as well. He has also participated in a Round Table session for the Transparent Media Truth channel called "[Medical Mafia Manipulation](#)", which included Judy Mikovits—the front women of the *Plandemic* narrative—and he seems to feel at home in this anti-establishment company. So this points to disagreements *within* the field of alt-med, where Kaufman and

Lanka represent the more extremist view when it comes to viruses (denying viruses even exist).

He also thinks the SARS-CoV-2 virus has been manufactured, because it contains sequences of HIV and Rabies around its spike protein (without disclosing his source for this claim). What is more, he mentions in passing that there's a patent for the 2003 SARS-CoV virus, which in his opinion clearly shows this was a man-made virus (but still a virus). As you may recall from [Part 2](#), I listed 12 claims of science that can be challenged, and claim #4 was "The virus has a natural origin." I found the following patents at patents.google.com: patents [US7220852B1](#) and the more detailed [US7776521B1](#) related to "Coronavirus isolated from humans":



The image shows a screenshot of a Google Patents page. At the top left is the 'Google Patents' logo. To the right is a search input field. Below the logo, the title 'Coronavirus isolated from humans' is displayed in a bold font. Underneath the title is the word 'Abstract'. The abstract text reads: 'Disclosed herein is a newly isolated human coronavirus (SARS-CoV), the causative agent of severe acute respiratory syndrome (SARS). Also provided are the nucleic acid sequence of the SARS-CoV genome and the amino acid sequences of the SARS-CoV open reading frames, as well as methods of using these molecules to detect a SARS-CoV and detect infections therewith. Immune stimulatory compositions are also provided, along with methods of their use.'

Patent for SARS-CoV filed by the CDC in 2003.

However, the patents seem to be related to the methods of *isolating*, sequencing and detecting SARS-CoV, not to the *creation* of an artificial virus. In those days (2003), sequencing the whole genome of a virus was quite an expensive and time consuming accomplishment, and patenting this sequence makes sense. As we will see below, at the moment almost 50.000 sequences of SARS-CoV-2 have been assembled, with infinitely less investment in time and costs, so patenting this sequence is no longer relevant. The detailed information in these patents about methods, results and the like is usually found nowadays in scientific publications, instead of a patent.

2010-08-17 • Application granted
 2010-08-17 • Publication of US7776521B1
 Status • Expired - Fee Related
 2024-07-17 • Adjusted expiration

Besides, if SARS-CoV was really a man-made virus (the patent was filed by the CDC), this would most certainly have been hotly debated in the past 17 years. Viruses of this size can't just be created from scratch, at most an existing virus can be tweaked through a so called "gain of function", a controversial area of viral research practiced by many countries. But that's a different story.

A funny detail: the status of both of these patents is: "Expired - Fee Related". Somebody hasn't been paying his bills...

Here's a second video by Fleming on Kaufman's erroneous ways:

Viruses are Real - They are NOT Exosomes!

This video could not be embedded so click on "Watch this video on YouTube"

And again, a quick summary of the points raised:

KAUFMAN	FLEMING
Koch's Postulates have not been fulfilled for any virus.	Koch's Postulates have been fulfilled for many viruses.
Koch's Postulates have not been fulfilled for SARS-CoV-2.	We are not going to infect human beings with SARS-CoV-2.
Viruses and exosomes	Viruses and exosomes

are actually the same thing.	are NOT the same thing.
Stress in the body, caused by various insults, can release exosomes.	One of the major reasons for the body to be stressed is viral infection.
Viruses and exosomes look roughly the same under a microscope.	Viruses and exosomes do NOT look the same under a microscope.

Incidentally, Fleming has his own ideas about how to best cure COVID-19. It is not by vaccines but by treating the inflammation and thrombosis it tends to produce, by the proper diet. This consists of "fruits and vegetables, and at a later stage whole grains, low-fat dairy and moderate servings of protein" (*Publisher's Weekly*). He is the author of *How to Bypass your Bypass* (1997) and *Stop Inflammation Now!* (2005).

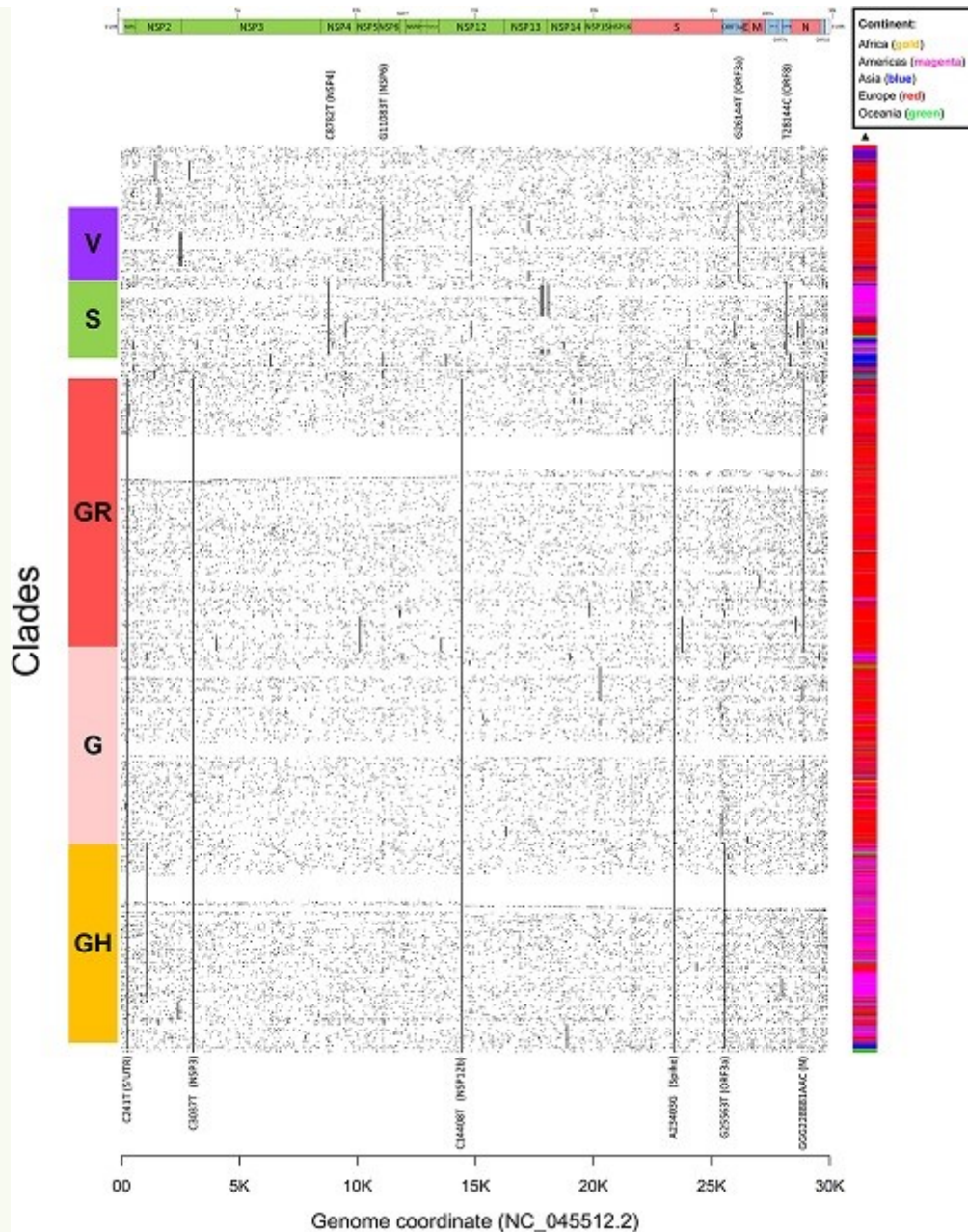
But the point of all this is—and I will repeat it for the very last time—the SARS-CoV-2 virus exists. And it is evolving right under our own eyes.

TRACK & TRACING THE SARS-COV-2 VIRUS

In this series I have many times referred to nextstrain.org as a website where you can trace the spread of the SARS-CoV-2 virus over the world in real-time. At the time I was writing [Part 1](#), April 2020, there were some 4.500 whole genomes available. By July this number has exploded to almost 50.000!^[2] This huge data set enables us to find patterns by which the virus spreads to continents and countries, but also to analyze which strain of the virus is dominant at a given location. Two Italian researchers have collected all these genomes and created a matrix in which the 30.000 bases of SARS-CoV-2 are compared through all of the

48,635 genomes available at the time of writing—resulting in a matrix of close to 1.5 billion cells:

Even if you can't read it, it is a veritable piece of art to behold and a testament to what science can do:



**Matrix comparing 30,000 bases in 48,635 genomes of SARS-CoV-2.
(Source: *Frontiers in Microbiology*)**

This is a huge triumph of science, conclusively refuting the breathless inanity of virus denialists like Lanka and Kaufman, who claim we have no clue what this genetic material actually refers to (so it might as well have been produced by our own

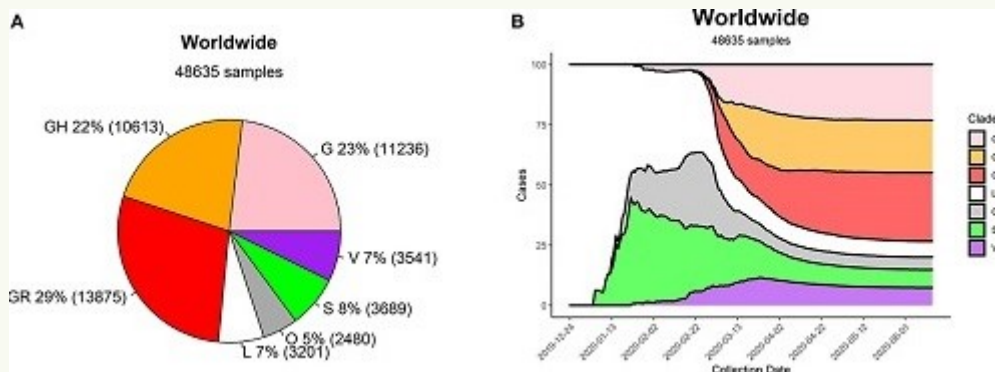
cells). Wrong. We know this genome to the letter, and it is not part of the human genome.

The authors conclude:

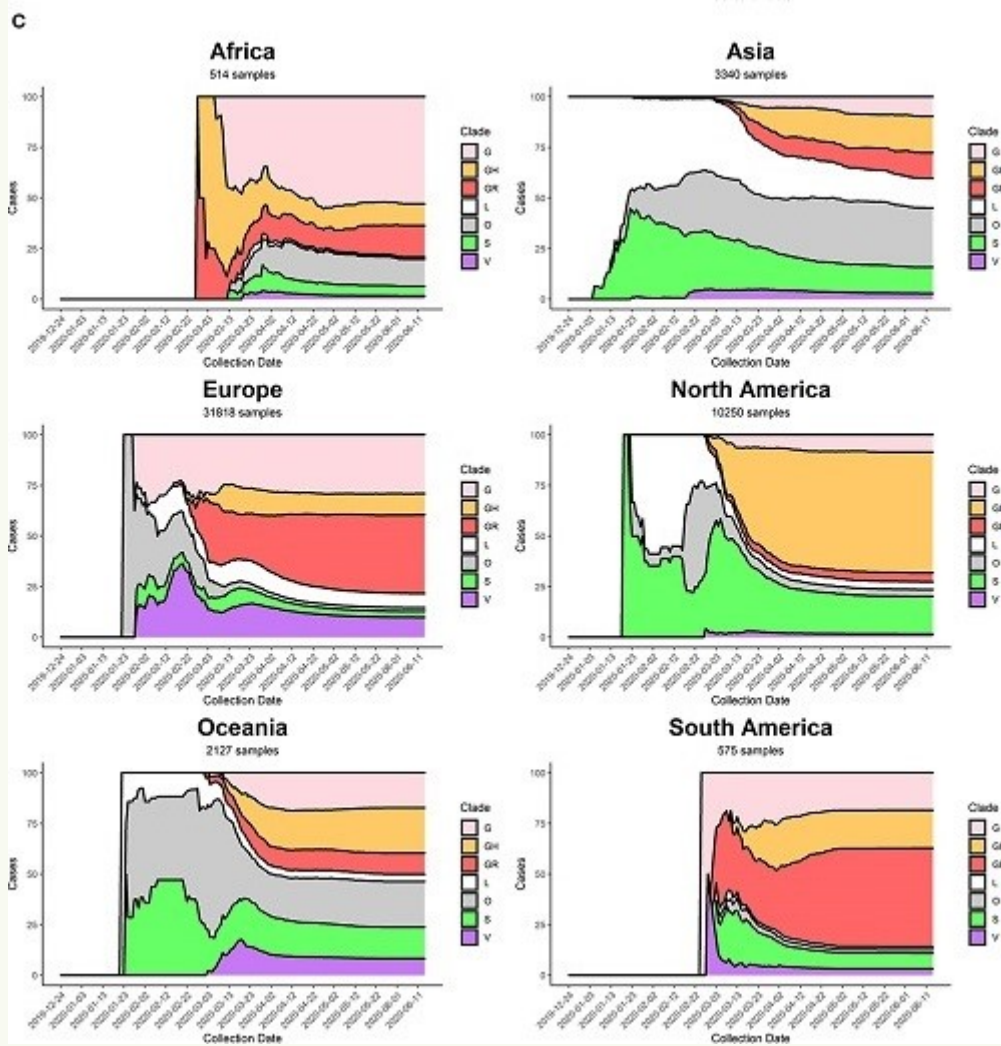
Our analysis shows the prevalence of single nucleotide transitions as the major mutational type across the world. There exist at least three clades characterized by geographic and genomic specificity. In particular, clade G, prevalent in Europe, carries a D614G mutation in the Spike protein, which is responsible for the initial interaction of the virus with the host human cell. Our analysis may facilitate custom-designed antiviral strategies based on the molecular specificities of SARS-CoV-2 in different patients and geographical locations.

The authors have found three *clades* or groups, called V, S and G (with GR and GH as sub-groups within G). The original lineage, which started in Wuhan, China, is called L, and the group O is used for sequences that fit none of the other groups. This process of splitting and diverging is of course typical for all evolutionary processes of speciation. It's an ongoing process so this is just a snapshot.

While few, the existing detected mutations allow to group the samples into five distinct clades, G, GH, GR, S, and V, characterized by a collection of specific mutations. The clades can be further characterized by most recent mutations and will likely be split even further in the future.



**Worldwide SARS-CoV-2 clade frequency (A) and how it evolved over time (B).
(Source: *Frontiers in Microbiology*)**



**Relative SARS-CoV-2 clade frequency over time in six continents (C).
(Source: *Frontiers in Microbiology*)**

Europe and North America present a strikingly different picture. Worldwide, the three clades G, GH and GR represent 75% of all genomes. In Europe, we see a predominance of G (pink) and GR (red). In the United States, the situation is quite different. Clade GH (orange) is clearly predominant, followed by the older clade S (green). In South America, it again GR which predominates. In Asia, we see the older clades, but the G clades are gaining momentum there as well.

Of course the more interesting question is: do these mutations reflect differences in harmfulness or contagiousness of these viral clades? And are all bases equally likely susceptible to mutations, or do these happen in certain areas of the genome. And what effect does the host cell have on the RNA mutations? Even given these minor differences, the SARS-CoV-2 seems to be

able to maintain its integrity under various circumstances. This is promising for the development of antiviral therapies—but nothing is guaranteed. I refer to the article for these tantalizing but technical details.

The authors present the following time table for the G clades. This is how the coronavirus conquered the world:

- December 2019: L clade in Asia (China)
- January 2020: G clade in Europe
- March 2020: G and G-derived clades in North America and Asia
- Current: G-clades are current the fastest growing viral population worldwide

The three clades that originated in Europe (pink, orange and red) are now the most frequent in virtually the whole world (with the exception of Asia and Oceania). And the virus strain in North America (GH) is different from that in Europe (GR). It remains to be seen what implications this has for the treatment of COVID-19.

As a bonus, do check out the most recent [Situation Report from Nextstrain.org](#) (as of August 14th, 2020), which examines "the global genomic epidemiology of COVID-19 broadly and provide[s] specific updates for each world region."



NOTES

[1] See: Jason Pontin, "[The 19th-Century Crank Who Tried to Tell Us About the Microbiome](#)", *Wired*, June 15, 2018, for an appraisal of this forgotten medical tradition, which is now resurfacing as microbiome research.

[2] Daniele Mercatelli and Federico M. Giorgi, "[Geographic and Genomic Distribution of SARS-CoV-2 Mutations](#)", *Front. Microbiol.*, 22 July 2020.

Part 13: To Test or Not to Test, That's the Question

FRANK VISSER

We have a simple message for all countries: test, test, test. Test every suspected case. If they test positive, isolate them and find out who they have been in close contact with up to 2 days before they developed symptoms, and test those people too [if they have symptoms].
— Dr. Tedros Adhanom Ghebreyesus, Director-General WHO, 16 March 2020.

A lot of misinformation is doing the rounds these days about the need for and usefulness of testing for the SARS-CoV-2 virus.

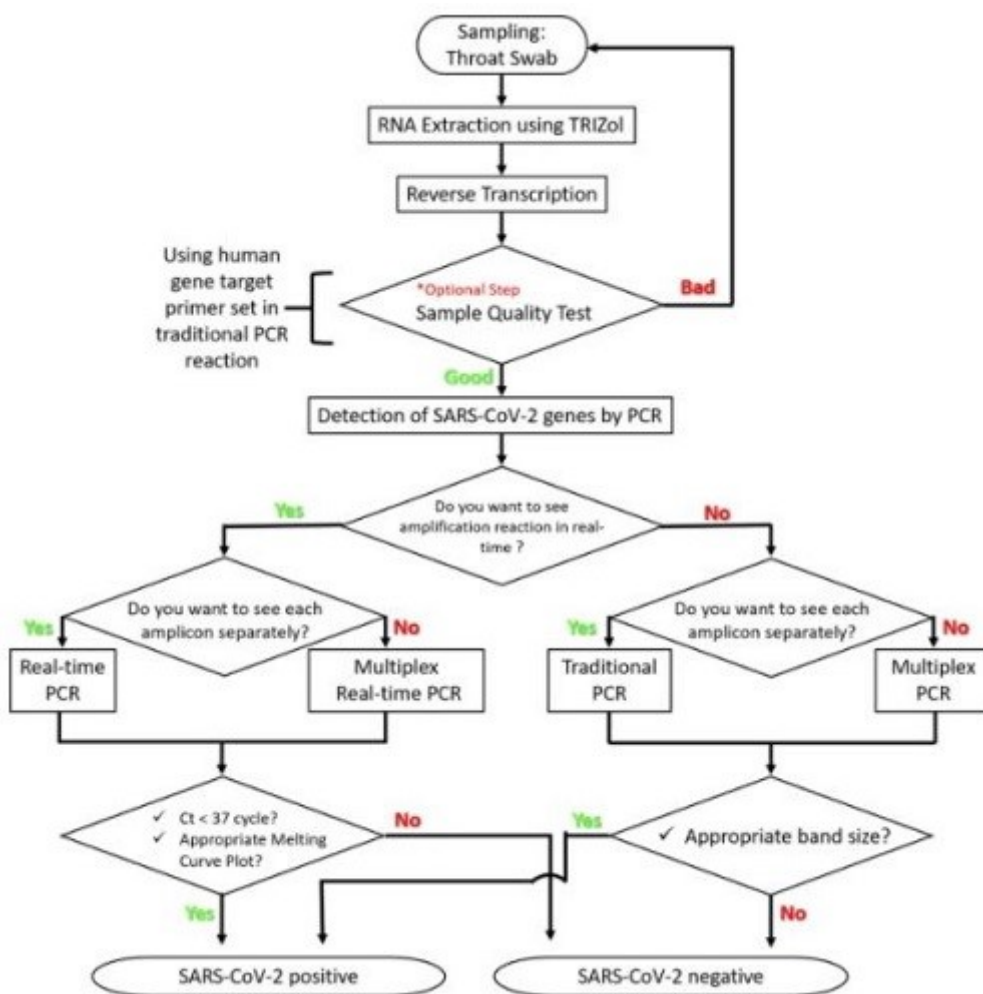
A lot of misinformation is doing the rounds these days about the need for and usefulness of testing for the SARS-CoV-2 virus. Some virus denialists claim that the tests currently in use are "scientifically meaningless".[1] Others claim that the tests produce false positives, up to 80%[2], because they actually test for general genetic material the human body has in its cells. Some claim that by testing at such a frequent level as we do today, we have created a veritable "casedemic": a steep increase in the number of cases of COVID-19, without the expected increase in deaths or even hospitalizations, feeding the suspicion that these case numbers are highly inflated.[3] Many claim that the inventor of the PCR test, Nobel Prize winner Kary Mullis, claimed the test should not be used for the detection of viruses. Some caution against the current testing craze because a full clinical diagnosis requires much more than a simple test result.[4] And Donald Trump famously suggested casually to test *less*, following the logic that "by having more tests, we have more cases, and that makes us look bad." [5]

SOME TECHNICAL CLARIFICATIONS

So what to make of all this? Can we get some clarity about what these tests can, and cannot, do for us? Are they "scientifically meaningless", or are they useful—within limitations? And what do false positives and false negatives (and their opposites true positives and true negatives) actually mean? Let's start with the terminology.[6]

The tests used for detecting SARS-CoV-2 is called "RT PCR test", which confusingly can stand for "[Reverse Transcription Polymerase Chain Reaction](#)" or "[Real Time Polymerase Chain Reaction](#)", otherwise known as "qPCR" or "quantitative PCR" (do check out the Wikipedia pages for the technical details). What is important is that this is not just a qualitative Yes/No test, but a quantitative test: it can measure the viral load a person has, which is of course highly relevant, because you want to single out those persons that have the ability to infect others. What the PCR test basically does is multiply a specific short genetic sequence of a virus (which has been fully sequenced) in a sample so it can be detected (or not). See [Part 1](#) for a fuller explanation of what PCR does).

Here's a nice diagram that shows what the options are in the domain of PCR testing:



Selection flowchart for SARS-CoV-2 detection protocols (*Nature*).[7]

Now as to the positive and negative results of a test. In its most simplified form, we would expect a sick person (i.e. with symptoms) to get a positive test result, and a healthy person (i.e. with no symptoms) to get a negative test result, when he is tested for COVID-19. If a healthy person gets a positive result, this is called a "false positive". And conversely, if a sick person gets a negative result, this is called a "false negative". We want to avoid both errors of course. Especially with viral diseases it can get complicated pretty soon, with its *a*-symptomatic (you have the virus but no symptoms at all), *pre*-symptomatic (you have the virus and will develop symptoms soon) and *post*-symptomatic (you have recovered, but still carry some viral load) cases. In those cases the test would correctly spot the virus, but the positive result would falsely be mistaken for a false positive, given that there are no symptoms.

		Predicted Value	
		Positive	Negative
Actual Value	Positive	True Positive	False Negative
	Negative	False Positive	True Negative

A confusion or error matrix of possible test outcomes (thehill.com)

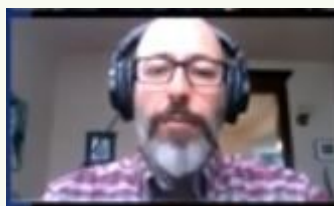
And to make things even more complicated and maddening—but relevant for our series—virus denialists such as Engelbrecht, Lanka, Kaufman and Icke are in a peculiar predicament. If the existence of viruses is flatly denied, no true positive test result would be possible at all, since in their contorted minds *there is nothing to test for!* All or most results would be interpreted as "false" positives. But even that would be meaningless for what would a "true" positive mean for them? Alternatively, if the tests

test for general genetic material, we would expect a very high number of true positives—and that would be a correct result. So "false positive" means different things to those who believe viruses exist and those who deny their very existence. In the first case the number of false positives is usually very low (less than 10%), in the latter it is claimed to be very high (about 80%). Are you still there?

"SO WHY DIDN'T THEY PURIFY THE VIRUS?"

To prove I am not making all this up, I will quote directly from Andrew Kaufman, who is Icke's main source when it comes to virology (or should we say no-virology?), where he describes how the virus was discovered, how the relevant test was produced and how (un)reliable that test actually is (in his understanding, which leaves much to be desired):

They did take some other body fluids, they did take blood they took oral swabs and nasal swabs, but it is in the lung fluid where they really found what they or think they found what they were looking for so when they took this lung fluid out they did not first try to find a virus in there and separate it out and purify it but the first thing they did was find and separate some kind of genetic material. Quite an interesting strategy. And what they found was some RNA. But I'll tell you that in our bodies at any given time there is some free genetic material circulating around our blood and body fluids and in addition to that there are genetic material contained in various types of structures so are there's various types of vesicles, essentially just small little sacs of fluids that sometimes contain genetic material. There's also the normal bacteria that live in our body including in the lungs and they have genetic material, so there are quite a number of different sources of genetic material. So when they found this genetic material from the lung fluid they then determined the sequence of it, which is basically the code of the genetic material, so they determined all of the base pairs and the order of that sequence and then they rushed to rapidly develop a diagnostic test which is a qualitative PCR and I'll discuss that a little bit more in a moment. So in other words, before they really proved anything they already developed a test, okay? So why didn't they purify the virus and how do they know what the source is of that genetic material?... [2, 5:40-7:15]



Andrew Kaufman: 'I think I know what is really going on.'

So one example of a type of error that I think we'd be very concerned about with this test (because we don't want to be mislabeled as being positive for this alleged virus and then risk being quarantined or perhaps even detained), so we want to know the accuracy. Now there was a paper that came out where they had to estimate the false positive rate, because you can't calculate it since there's no gold standard to compare it against, and they actually reported an estimated rate of 80% in people without symptoms. So what that means is if you got tested, let's say you were exposed to somebody who is positive or you traveled or something like that and you want to get tested or your you're asked to get tested there would be four out of five times that there was a positive result. There would actually be no illness so this could be a real, real big problem. It certainly could vastly overestimate the number of cases and also could have a lot of consequences for you based on this quarantine situation. So just to talk generally about what the PCR test, there's actually additional error even beyond what I've described. So what this test does is it's really just an amplification strategy and the reason this is necessary is because we're kind of looking for a needle in the haystack. We might only find a few copies of this genetic material and if there's only a few copies we just can't detect it out of all the other stuff that's in the fluid. So what this does is it's a reaction that actually replicates the strand of RNA and it makes a copy so it makes from one to two, so you would run a cycle of this reaction and you'd go from say one copy to two copies. Then you would stop the reaction and then start another cycle by adding some more materials and then you go from two to four and repeat it again, and so on and so on. And this is an exponential or a binomial expansion... So generally speaking when you're using this test you want to carry out approximately between 25 and 35 cycles in order to get enough amplification so that you can see what you're looking for. If you go too much beyond that what happens is you end up amplifying the noise so it seems to be generally represented that the absolute maximum number of cycles that you could do and still get an accurate result is 45 and that's exactly the number of cycles that is recommended for this COVID-19 PCR test. So so it's right at the upper limit and I'm gonna share this quote with you from another article about PCR, it says what PCR does is to select a genetic sequence and then amplify it enormously. It can accomplish the equivalent of finding a needle in a haystack. It can amplify that needle into a haystack like an electronically amplified antenna. PCR greatly amplifies the signal but greatly amplifies the noise, since the amplification is exponential. The slightest error in measurement, the slightest contamination, can result in errors of many orders of magnitude so this is not a very accurate test, especially when you're pushing the number of cycles to get so much amplification. Just a slight mistake can result in false positives and I think that's that's what we've been seeing.[2, 12:40-16:20]

It is a hell of a job to disentangle the information from the disinformation in this quote, so let's first start with the scientific story.[6]

If a test isn't "sensitive" enough you get false negatives: you have the virus but it is not detected. When a test is not

"specific" enough you get a false positive: it finds a virus similar to SARS-CoV-2, but not the real one. So tests can vary in sensitivity and in specificity, depending on the purpose they are used for. Tests for SARS-CoV-2 are highly specific, because they are looking for a genetic sequence that is typical for this particular virus. Sensitivity can also vary, but what is more relevant: during the test the genetic sequence that is looked for is "amplified" or doubled in successive cycles, so the quantity of the material is high enough to be detected (with the help of fluorescence).

But even running an infinite number of cycles will not produce a positive result if the genetic material wasn't present in the sample in the first place. As you can see, even though the test results are often presented as a simple positive or negative outcome, it is possible to measure the viral load in a sample. If it takes relatively few cycles to amplify the genetic material to perceptible levels, the viral load was high. Alternatively, if it is detected after a very high number of cycles, the viral load was low. This is called the Ct value or threshold value above which the RNA can be detected. A high Ct value corresponds to a low viral load.

Now let's see how Kaufman clashes with the conventional scientific understanding:

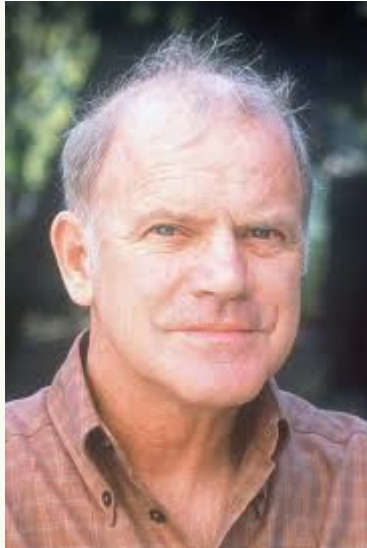
CLAIMS BY KAUFMAN	FACT CHECK
The virus was not first purified and isolated from the start.	The full genome of the virus was sequenced very soon.
The RNA they found could be from any genetic source.	The RNA they found was SARS-related, not human RNA.

<p>They rushed to produce a test before they proved the virus actually existed.</p>	<p>The test could be produced relatively fast because of past SARS experience.</p>
<p>The tests usually have a false positive rate of 80% for people without symptoms.</p>	<p>The tests usually have a positive rate lower than 5%, including some false positives.</p>
<p>The PCR test amplifies both the signal RNA and the noise (other genetic material).</p>	<p>The PCR test amplifies only the signal (the relevant RNA material), not the noise.</p>
<p>If you increase the number of cycles high enough everybody will test positive.</p>	<p>If the relevant RNA is not present, no amount of cycles will make it visible.</p>
<p>The recommended number of cycles for SARS-CoV-2 is the maximum number of 45.</p>	<p>The recommended number of cycles for SARS-CoV-2 is the less than 35 (see below chart).</p>
<p>The slightest contamination can result in errors of enormous magnitude.</p>	<p>Only when the test is contaminated with SARS-CoV-2 is there a problem.</p>

<p>The PCR test is not a very accurate test, especially when many cycles are needed to get result.</p>	<p>The PCR test is a very accurate test, because it looks for a very specific RNA sequence.</p>
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Leaving behind us the amateuristic mess Andrew Kaufman has created for himself when it comes to virology in general and SARS-CoV-2 in particular, other concerns have been raised related to this PCR test that merit some further attention.

OTHER CONCERNS ABOUT THE PCR TEST



Kary Mullis

Is it really true that [Kary Mullis](#), the inventor of the PCR technology, claimed this test is not to be used for diagnostic purposes, but is only meant as a means to manufacture large quantities of a given material? But in that case, why is it called a "test" in the first place? Read carefully what the original patent (there are several of them) of this invention says about this:

System for automated performance of the polymerase chain reaction ([US Patent US5656493A](#))

This method is *especially useful for performing clinical tests* on the DNA or RNA from a fetus or other donor where large amounts of the DNA or RNA are not readily available and more DNA or RNA must be manufactured to have a sufficient amount to perform tests. The *presence of diseases* which have unique DNA or RNA signatures can be detected by amplifying a nucleic acid sample from a patient

and using various probe procedures to assay for the presence of the nucleic acid sequence being detected in the test. (emphasis added) [8]

That conclusively proves that the *whole* point here of amplifying or manufacturing a given genetic material is to be able *to detect it in a test for the presence of a disease*.

The patent continues: "Such test might be prenatal diagnosis of sickle cell anemia,... Another test is the diagnosis of the AIDS virus, which is thought to alter the nucleic acid sequence of its victims." Later in life, Mullis became an [AIDS denialist](#), arguing that it was not caused by HIV, a climate change denialist and a believer in astrology—but that's another story.

If you think all this doesn't apply to viruses, read this in another patent by Mullis:

Various infectious diseases can be diagnosed by the presence in clinical samples of specific DNA sequences characteristic of the causative microorganism. These include bacteria, such as Salmonella, Chlamydia, Neis seria., viruses, such as the hepatitis viruses, and parasites, such as the Plasmodium responsible for malaria. ([Patent number: 4,965,188](#))

Then there are some who claim that the PCR test *in itself* doesn't provide a complete clinical diagnosis, and that's correct. But that was never its intention. It does however provide a simple metric which can support a health department policy in a given country. Is the number of cases going up or down? How does it compare to other countries? Should we test only very sick people who are already hospitalized, or also those who have symptoms and suspect they have COVID-19? Or anybody in a country (if that would even be practically feasible)? As you will understand, there are practical problems to this, and it is always better to test more than less, I would say.

But then, does this not create a "casedemic" with inflated numbers, thus overestimating the severity of the pandemic? Given the high sensitivity of the COVID-19 PCR tests, this would seem to be a reasonable concern. If even the tiniest amount of viral RNA can be detected, should we put such a person in quarantine and label him or her as "infected" and capable of infecting others? Or should we conduct further clinical tests before we use such a label? It is all a matter of gradation, I think, and I would suspect that the viral load of a person is an

important variable here. But I am not sure if the COVID-19 etiology allows for a gradation of severity (so for example you could be a "grade 3 SARS-CoV-2 infected" or a "potentially infective person". But if even a person *without* symptoms can infect others, it is—as always in life—best to err on the side of caution here. It is sometimes suggested that the PCR test might also catch fragments of a dead virus, once a person has recovered from the disease. That might be true, but that can easily be covered by testing recovered persons as a separate group.

And does even Donald Trump have a point that the more you test, the more cases you will find? In a sense, that's a no-brainer, except for countries that have get rid of the virus. This makes a comparison between countries that test widely and one that barely test rather difficult. Any cross-country comparison during this pandemic is full of complications if procedures are not standardized. But the absolute numbers don't count here, it is *relative* numbers that matter. How many tests should be performed to find one positive case? If that number is low, the frequency of infected persons might be very high in a given country. Or alternatively, only very sick persons are tested. And conversely, if it takes a lot of tests to find such a case, the number of infected persons is very low indeed. The WHO advises to keep the percentage of positive tests at 5%, see the world map at the bottom of this essay.[9] Also, changes over time matter: if in a given country the percentage of positive tests rises, this is a strong indication that more and more people get infected and the pandemic spreads.

Other questions arise. How many hospitalized cases die? And how many deaths does a country count per inhabitant? If a country has a low number of hospital deaths, this might be due to good (and expensive!) healthcare—at least for the rich who can afford to go to a hospital at all. If there are many deaths per capita in a country, this might be a bad omen for how it deals with the pandemic. This is subtly Donald Trump is still struggling to understand, as this hilarious video fragment shows:

"Look, we're last, meaning we're first! And we have cases, because we are testing!"

THE RELATIVE VALUE OF TESTING

So what can we conclude about the PCR test in the context of COVID-19? It is a highly specific and useful test, even if it doesn't provide a complete clinical diagnosis. The percentage of positive tests is quite low, as we would expect, but it depends on the group that is tested (healthy, moderately or severely ill). It is most definitely not "scientifically meaningless", unless perhaps when you are a virus denier, and you can't make sense of the test outcomes, given that there is no virus in the first place.

The case-demic skeptics claim that the higher number of cases we experience today, is completely due to the higher number of tests done. But because the number of deaths is everywhere low, they say, this proves we are looking at an artifact. Yet, this has been criticized by others pointing to the fact that in the first months of the pandemic large numbers of old to very old people died and no lockdown measures were in place, whereas at the moment we see that younger people are now infected as well, and lockdown measures are fully in place almost everywhere. Both factors could explain the low amounts of deaths: lockdown measures are effective and younger people are less likely to die of COVID-19 (though there are many exceptions to this, as we all can read in the newspapers).

Also, we have learned the hard way how COVID-19 patients can be treated at an earlier stage, leading to less deaths. But even then younger people and even very young children might still be able to infect the elderly, so we would expect to see a rise in deaths as well if the lockdown measures are relaxed. However, it is good to realize that these case-demic skeptics don't deny the virus, or the pandemic, as it raged in early 2020; they just claim the pandemic is now over and by exclusively concentrating on "cases" we sustain the illusion that the pandemic is still growing.

I don't know what's wisdom here, and have always felt that in the end this is a case of finding the right balance between underestimation and overestimation of the severity of the pandemic, between the reckless and the cautious mind (see [Part 8](#)). Finding such balance is best reached by using all the good science we can get, and least of all by getting side-tracked by virus deniers and paranoid scientists.

[1] Torsten Engelbrecht & Konstantin Demeter, "[COVID19 PCR Tests are Scientifically Meaningless](#)", off-guardian.org, Jun 27, 2020. Please note: "[Overall, we rate OffGuardian a Strong Conspiracy and Moderate Pseudoscience website that also promotes Russian propaganda.](#)" (mediabiasfactcheck.com).

Full blown virus denialism can be found in the earlier book: Torsten Engelbrecht & Claus Koehnlein, *Virus Mania: How the Medical Industry Continually Invents Epidemics, Making Billion-Dollar Profits at Our Expense*, Trafford Publishing, 2007.

For a fact check see: "[COVID19 PCR tests are scientifically meaningless](#)", www.politifact.com, July 7 2020. From which:

- Polymerase chain reaction (PCR) tests are among the most common and reliable ways to test for the coronavirus.
- These tests look for the genetic material of the coronavirus in a sample that's typically taken from a person's nose or throat. Health care providers use them to confirm whether someone has the disease.

See also: Ian M Mackay, PhD (EIC), "[Yes, PCR tests can detect 'the COVID virus'](#)", virologydownunder.com, August 4, 2020.

[2] Andrew Kaufman, "[SPECIAL REPORT: Humanity is NOT a virus!](#)", YouTube, 1 Apr 2020.

[3] Ivor Cummins, "[Crucial Viewing - to truly understand our current Viral Issue #Casedemic](#)", YouTube, 12 Aug 2020.

[4] Richard M. Fleming, "[Moratorium on PCR testing](#)", YouTube, 2 Aug 2020.

[5] Maegan Vazquez, "[Trump now says he wasn't kidding when he told officials to slow down coronavirus testing, contradicting staff](#)", CNN, June 23, 2020

[6] Chia-Yi Hou, "[False positive and false negative coronavirus test results explained](#)", thehill.com, May 07, 2020.

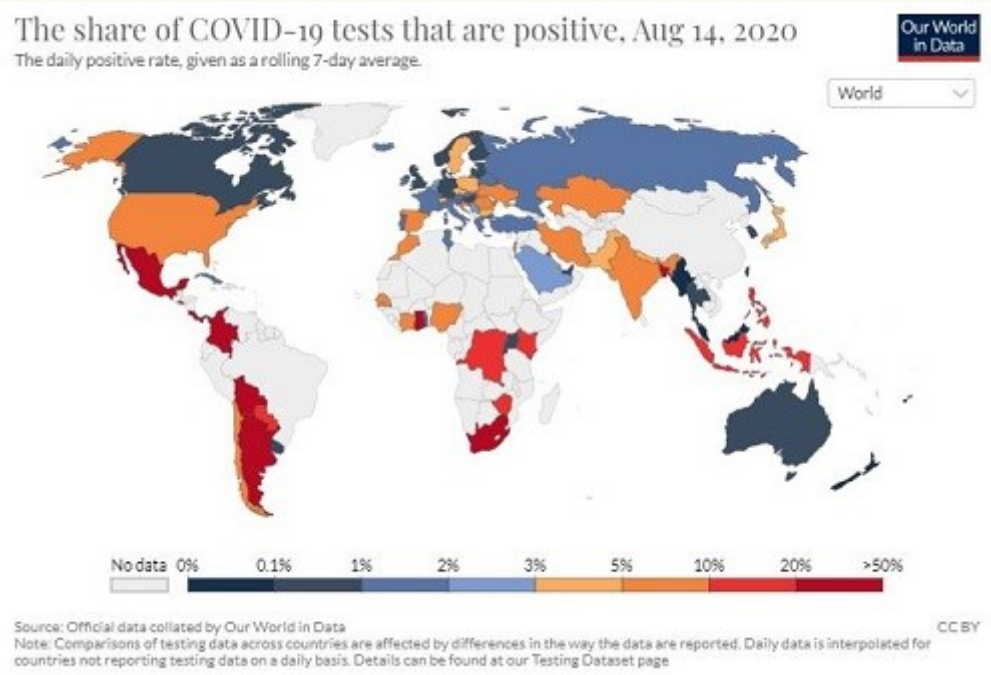
[7] Myungsun Park, Joungha Won, Byung Yoon Choi & C. Justin Lee, "[Optimization of primer sets and detection protocols for](#)

[SARS-CoV-2 of coronavirus disease 2019 \(COVID-19\) using PCR and real-time PCR](#)", *Nature*, 16 June 2020.

[8] Kary B. Mullis et.al., "[System for automated performance of the polymerase chain reaction](#)", US Patent US5656493A.

[9] "[Coronavirus \(COVID-19\) Testing](#)", ourworldindata.org. From which:

According to criteria published by WHO in May, a positive rate of less than 5% is one indicator that the epidemic is under control in a country.



Part 14: Pandemic, Infodemic, Scamdemic, Plandemic?

FRANK VISSER

EPIDEMIC/PANDEMIC

We are drowning in data related to the current coronavirus. Policy makers have to make sense of all this. Who can give us sound judgement?

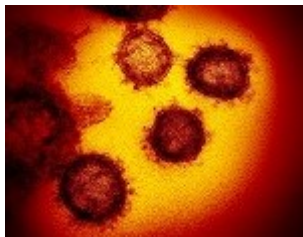
What is a pandemic? "A pandemic (from Greek *πᾶν*, *pan*, "all" and *δῆμος*, *demos*, "people") is an epidemic of an infectious disease that has spread across a large region, for instance multiple continents or worldwide, affecting a substantial number of people. A widespread endemic disease with a stable number of infected people is not a pandemic. Widespread endemic diseases with a stable number of infected people such as recurrences of seasonal influenza are generally excluded as they occur simultaneously in large regions of the globe rather than being spread worldwide.

Throughout human history, there have been a number of pandemics of diseases such as smallpox and tuberculosis. The most fatal pandemic in recorded history was the Black Death (also known as The Plague), which killed an estimated 75-200 million people in the 14th century. The term was not used yet but was for later pandemics including the 1918 influenza pandemic (Spanish flu). Current pandemics include COVID-19 and HIV/AIDS." ([Wikipedia](#))

The COVID-19 disease has spread now to "213 Countries and Territories around the world have reported a total of 23,029,243 confirmed cases of the coronavirus COVID-19 that originated from Wuhan, China, and a death toll of 800,044 deaths." ([worldometer.com](#)). It can therefore truly be called a "pandemic". Simply put, an "epidemic" is a disease that affects a given population, or even a country, but when a disease spreads to other continents, and virtually the whole world, we can call it a pandemic.

The Covid-19 pandemic poses not only a challenge as a disease to combat but also as a wealth of information to make sense of. People respond to this second challenge in various ways. It is almost impossible for normal people like you and me to find answers to all the questions we may have about the coronavirus. Some therefore can't resist the temptation to turn to people who promise them to tell "what's really going on." More and more people doubt the standard scientific narrative, and emotionally draw their own conclusions (or "follow their heart") to decide about the nature of this virus. In [Part 2](#) I gave 12 aspects of the science narrative that can be questioned on either dissident-scientific or paranoid-conspiracy grounds:

The Conventional View of the Origin, Nature and Treatment of the Corona Virus



The coronavirus:

1. Exists
2. Is contagious
3. Is harmful
4. Has a natural origin
5. Is not spread on purpose
6. Is not spread accidentally
7. Is the result of disturbing wildlife
8. Comes to us most probably from bats
9. Through an intermediate animal (pangolin)

Furthermore, as to its treatment:

10. We must live in a temporary lockdown
 11. Until a vaccine has been found, if at all
 12. And the virus will weaken down

Each of these "Twelve Steps of Science" can be denied, on either factual

or imaginary grounds, leading to dissident science or conspiracy views.

INFODEMIC

The pandemic has generated an unprecedented avalanche of medical information. The number of studies on COVID-19 is estimated to be 40.000 by now, with an average of 2200 per week and 320 per day being added. No human being can possibly digest all this information. Yet, Dutch internist-infectiologist Joost Wiersinga working at the Amsterdam Medical Center has attempted to compile such a review. His article was published in the *Journal of the American Medical Association* on July 10, 2020, and has been viewed over half a million times at the time of this writing (August 21, 2020). It is freely available. Recommend reading![1]

New Online

Views **540,596** | Citations **0** | Altmetric **3187** | Comments **3**

We are literally drowning in data related to the current coronavirus. The opinions circus is in full swing. On the one hand we have alarmism and hysteria. On the other hand we see denial and paranoia. Policy makers have to make sense of all this. Who can give us sound judgement? Who finds the right balance between population health, the economy and our general well-being?

The WHO has warned against a true "infodemic" in the context of this pandemic:

In the context of the COVID-19 pandemic, the phenomenon of an 'infodemic' has escalated to a level that requires a coordinated response. An infodemic is an overabundance of information—some accurate and some not—occurring during an epidemic. It makes it hard for people to find trustworthy sources and reliable guidance when they need it. Even when people have access to high-quality information, there are still barriers they must overcome to take the recommended action. Like pathogens in epidemics, misinformation spreads further and faster and adds complexity to health emergency response.[2]

It is good to see that there's a legitimate and an illegitimate information problem. [Wiktionary](#) gives the two meanings, which

are also mentioned by the WHO, very succinctly. Both are relevant for our topic:

infodemic

1. (*informal*) An excessive amount of information concerning a problem such that the solution is made more difficult.
2. (*informal*) A wide and rapid spread of misinformation.

There's an analogy to the climate change literature. Here too, we see graph upon graph upon graph supporting this or that conclusion, often very contradictory conclusions at that. There is clearly a consensus among climate scientists, but this consensus is challenged by a handful of "climate skeptics" or "climate change denials" who can often provide their own data, graphs and conclusions. The poor layman is left in bewilderment in this arena of conflicting arguments. The same is true for the SARS-CoV-2 virus. Even specialized virologists are acutely aware about how little they actually understand of it—not to mention other scientists, let alone ordinary people. At the same time, we seem to have 7 billion virologists by now, for everybody has to make his or her mind up about this worldwide disaster.

Heck, I am writing this series not in the last place to make sense of it all myself!

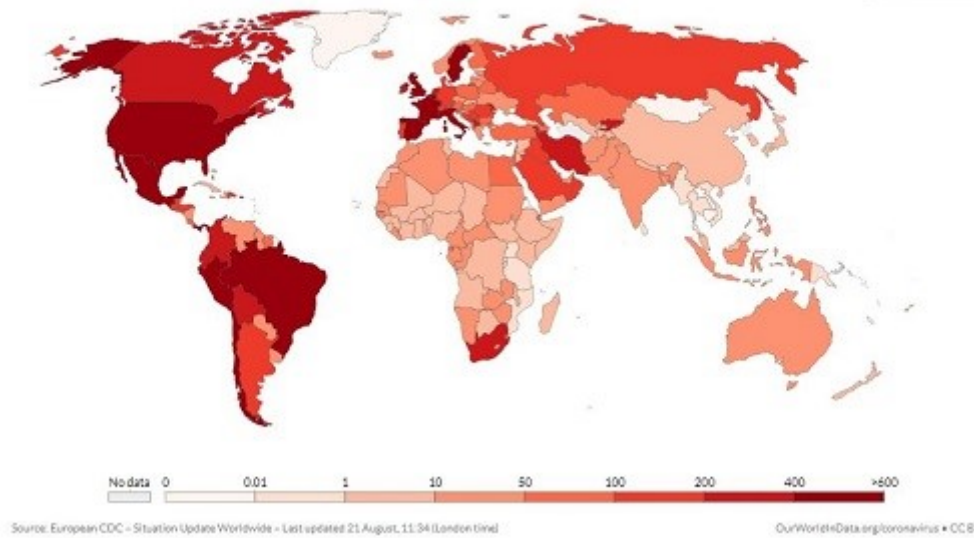
We have seen our fair share of virus denialism in this series on the Corona Conspiracy, and we will return to that aspect later in this essay. But I want to stay close to the scientific data first to point to a real problem. What are the key metrics to get a grip on SARS-CoV2 and the disease Covid-19 it has generated? Number of cases? Number of cases per capita? Number of deaths per case? Number of deaths per capita? Number of positive cases per number of tests done? Number of infectious cases per number of positive cases? Can we compare data from different countries when there are few standardized ways of collecting data to allow for meaningful comparisons?

Total confirmed COVID-19 deaths per million people, Aug 21, 2020

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true total number of deaths from COVID-19.

Our World
in Data

World



Total confirmed Covid-19 deaths per million people, August 21, 2020.

Furthermore, are all valid points of view covered in the scientific literature? Or are some views ignored as of now, leading to an incomplete picture of this pandemic and the best ways to tackle it? When does a stubborn focus on partial truths, caused by a bona fide selection of data, turn into willfully ignoring certain facts? Examples can be listed with ease: the usefulness and effect of wearing masks; the role of drops caused by sneezing or coughing versus tiny aerosoles in the spread of the disease; the role played by the invading virus versus the state of the immune system and the impact of comorbidities; the use or uselessness of widespread testing—it seems many fundamental issues haven't been decided upon in the scientific community.

But there's a catch: critics of the accepted view of the pandemic usually over-emphasize a particular aspect, which has been neglected according to them, and often defend it with almost religious zeal. But the point of good science is that all points of view are taken into account and a balanced evaluation is based on the widest possible data range. It takes a lifetime of professional work to get to such an overview—and even then scientists might legitimately disagree on certain points.

Some critics even claim the current rise in cases is wholly caused by an increase in the number of tests being done. This would result in an artefact or "casedemic". Thing is, the tests used are

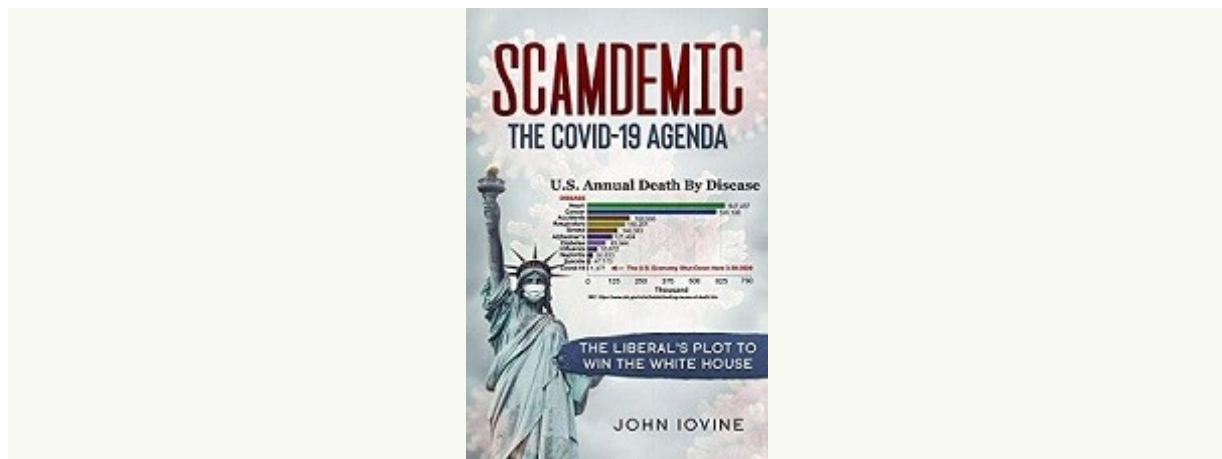
highly sensitive and are able to spot the tiniest genetic fragment of the virus (see [Part 13](#)). It is argued, reasonably I think, that a positive test doesn't automatically mean one is infected and is able to infect others (at the moment of testing). It appears that those who have recovered from Covid-19 still harbor fragments of the virus for weeks, even though these can no longer do harm. This would seriously result in an overestimation of the number of infected people. It is like calling everybody who has taken an IQ test "intelligent", because he has some intelligence; or calling everybody with an income "rich" because he has some amount of money.

Of course, this doesn't mean the tests are "scientifically meaningless" or that the virus doesn't exist and we are actually testing for generic genetic material in the human body, as it is claimed by conspiracy theorists. Far from it. As virologist James Hildreth said it so eloquently: "The virus is real. The pandemic is real and is caused by the virus. Period." Tests can find at least traces of this virus in the human body.

SCAMDEMIC

Turning now from the medical to a more cultural-psychological angle: the extensive news coverage of the pandemic in newspapers, television and social media in the past six months has created a pervasive feeling of fear among the population at large. The obsessively detailed reporting of daily deaths due to Covid-19, which has been customary for months, seems unnecessary, especially now that the numbers seem to be declining wherever some kind of lockdown has been put in place.

It is good to realize we are still here within the realm of normalcy. A pandemic of an unknown virus has taken the world by surprise, and the lockdown measures all over the world seem to follow the principle of "safety first". After all, given the potential risk of such a pandemic of a new virus, it is better to error on the side of caution. Feverish and sensational news coverage can certainly have played a role in blowing up this pandemic to unrealistic proportions, and a sober evaluation about the real harmfulness and contagiousness of this virus is certainly called for.



Some have called this a "scamdemic", a book by that name states: "This book is not stating that the COVID-19 virus isn't a threat, this book exposes the exaggeration and fearmongering of the COVID-19 virus threat to panic the population." Yet, the subtitle "The Liberal's Plot to Win the Whitehouse" betrays a true politicized conspiracy: "After the fake news media panicked the population, state governors capitalized on the weakened psychology to declare a "State of Emergency" that gave them complete authoritarian control to enforce unnecessary socioeconomic lockdowns. These lockdowns are a socialist Democrat's dream. Lockdowns isolated, controlled, and trained people into strict government obedience. Welcome to COVID-1984, the dystopian future we feared has arrived. George Orwell would be proud" ([Amazon](#)). Indeed, Covid-19 is often called "Covid-1984" in these circles.

Now, I would always wonder why Democrats would go to such lengths to regain political influence. Or why half a million deaths worldwide would be the cost any sane and sensible person would consider legitimate to reach his goals—unless he was the Devil (and for David Icke he is). There's an interesting psychological divide between the collectivists and the individualists, those strongly in favor and those fiercely against a large government. But in the US this has become a veritable culture war, where the cautious and rational stand against the emotional and anarchist souls (see [Part 8](#)). The simple wearing of masks in public spaces has become a matter of life and death, even on a par with the Star of David Jews had to wear in WWII. Things have become so delusional in extreme right-wing corners that every Democrat is seen as a potential pedophile (I kid you not). "Save the children" has become their battle cry.



QAnon looms behind nationwide rallies and viral #SavetheChildren hashtags.

PLANDEMIC

But some people take this one step further. In their paranoid worldview, this whole pandemic has been orchestrated or manufactured, to serve certain sinister goals. This series started with David Icke (see [Part 1](#)), who clearly sees evil intent behind the major players in this pandemic, or even the world stage at large. Big Pharma often is here the main culprit, Bill Gates the Devil incarnate. Hasn't Gates explicitly stated as one of his goals that he wants to reduce the population (as if [overpopulation](#) isn't one of the most urgent problems we are facing)? In their heated brains Gates is aiming at vaccinating us all and inserting chips in us that will alter our DNA, where in fact he is looking for ways to keep track of vaccinations in a simple way.

This paranoid view of the pandemic has been called "plandemic", because the whole phenomenon is seen as a premeditated operation. The documentary by that name [Plandemic](#) went viral last May and was watched by millions of people, even though it lasted less than 30 minutes. The video documentary was removed by multiple platforms, including Facebook, YouTube, Vimeo, and Twitter. A sequel called "Plandemic 2: Indoctrination" has just been released last week, on August, 18, 2020, but social media platforms were quick to either ban links to it or mark them as suspect (a link to a Wikipedia page will be added when available). This has the

unfortunate consequence of strengthening the conspirationist' persecution complex.

In the first video discredited scientist [Judy Mikovits](#) featured prominently; in the second video it is [Bill Gates](#) who is presented as the arch-villain. Both videos follow essentially an antivaxx agenda. Both have been thoroughly debunked.[3] The grave voice-overs in these documentary tell the story: if the main stream media are scaring you about the pandemic, these conspiracy peeps scare you even more, about a worldwide conspiracy! Who is capitalizing on the fear among the population here?



Both documentaries are available on [bitchute.com](#) (but I won't link to them).

We are here in different territory altogether, and conspiracy thinkers pick and choose freely from science or pseudo-science to support their views. It is difficult to find a coherent story here: some deny the existence of viruses (so the whole pandemic is a fantasy), some see the virus as real but either man-made or as escaped from a lab, some see it as a really harmful virus, as a kind of bioweapon released upon the world. But all of these share a deep distrust of both regular science and the government.

The most influential ideology in this area is [QAnon](#), a conspiracy cult movement that has taken hold of quite a number of Republicans in the USA, who see the government as the "Deep State" which is a "swamp" that needs to be "drained". It is funny if it wasn't so dangerous, because millions of people and even GOP senators actually believe these things.[4] You won't find a Democrat in these nether spheres!

So we have come a long way from a massively complex pandemic scientists try to make sense of to find a cure, to dissident scientists or laymen that point to neglected facts of

science, to a sensationalist media pandemonium that keeps the general population in a state of fear, to finally a grim view of evil powers behind the world scene, trying to poison and enslave us unless we are strong and courageous enough to rebel and reclaim our freedom. Where do you find yourself in this spectrum?

As if the pandemic isn't already complex enough as it is. Conspiracy narratives, looking for simple answers, make it harder to understand this complexity. Yes, things are complex, but can we not just keep our heads cool and just stick to the facts?

NOTES

[1] W. Joost Wiersinga et. al., "[Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 \(COVID-19\): A Review](#)", *JAMA*, Published online July 10, 2020.

[2] "[1st WHO Infodemiology Conference](#)", who.int, 30 June-16 July 2020. [Free PDF brochure](#).

[3] Debunking of Plandemic 1:

- Stephanie Pappas, "[Debunking the most dangerous claims of 'Plandemic'](#)", www.livescience.com, May 13, 2020
- Gabby Landsverk, Aylin Woodward, "[A point-by-point debunk of the 'Plandemic' movie, which was shared widely before YouTube and Facebook took it down](#)", www.businessinsider.com, 22 May 2020.
- Daniel Funke, "[Fact-checking 'Plandemic': A documentary full of false conspiracy theories about the coronavirus](#)", www.politifact.com, May 7, 2020.
- Rebecca Corey, "[Debunking the coronavirus conspiracies in viral 'Plandemic' video](#)", news.yahoo.com, May 16, 2020.
- Scott Neumann, "[Seen 'Plandemic'? We Take A Close Look At The Viral Conspiracy Video's Claims](#)", www.npr.org, May 8, 2020

[4] Debunking of Plandemic 2:

- Flora Teoh, "['Plandemic: Indoctrination' video rehashes debunked claims and conspiracy theories about the COVID-19 pandemic and vaccines](#) Share", healthfeedback.org, 20 Aug 2020
- Nhx T., "[FACT-CHECK: Plandemic Indoctrination Video and The Truth Behind the Conspiracy Movie Claims](#)", www.techtimes.com, 19 August 2020.
- Shreyashi Roy, "['Plandemic 2: A Less Viral But Equally Misleading Sequel'](#)", www.thequint.com, 20 Aug 2020.
- Saranac Hale Spencer, Jessica McDonald and Angelo Fichera, "[New 'Plandemic' Video Peddles Misinformation, Conspiracies](#)", www.factcheck.org, August 21, 2020.
- Orac, "['Plandemic 2: Electric Boogaloo, or: How Mikki Willis doubled down on COVID-19 conspiracy theories'](#)", respectfulinsolence.com, August 21, 2020.

[4] Brian Stelter, "[GOP congressman Adam Kinzinger urges Republican leaders to denounce QAnon](#)", cnn.com, August 16, 2020.

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Coffeezilla: "The new problems are better than the old problems, that's the point I am getting at."
(see also his debunk of the London Real David Icke video in [Part 4](#)).



Part 15: The "Chromosome 8 Bombshell Evidence" Canard

FRANK VISSER

It turns out that this "bombshell", given their utter lack of knowledge about PCR tests, might as well explode into their own face.

Just as I thought I had completed my Corona Conspiracy series, a new video by David Icke and Andrew Kaufman attracted my attention. I could not resist to include it in this series, because it sums pretty much everything up I had intended to say about these illustrious figures. The video[1] was released 24 Aug 2020 on Kaufman's YouTube channel, and was a response to an obscure blog post[2], dated April, 6, 2020(!), which claimed the PCR tests used widely for testing Covid-19 actually tested for a sequence that can be found in the human chromosome 8.



[Chromosome 8](#)

This would have huge implications. Since neither Icke nor Kaufman believe in the existence of the SARS-CoV-2 virus, nor in the reliability of the tests or the reality of any pandemic caused by this virus, they have enthusiastically jumped upon this claim. It would prove what they have been saying all along: we are misled by the WHO and governments about this virus. We are manipulated into believing there actually is a virus that can be detected accurately, and this whole scam has been set up to poison us with vaccines and enslave us into obedience. And targeting this chromosome with vaccines might even have all kinds of unforeseen (or intended?) health consequences, or so they maintain.

We will do three things: describe the content of this mysterious April blog post, listen to what Icke and Kaufman had to say about it, and add some critical comments about all of these claims. It turns out that this "bombshell", given their utter lack of knowledge about PCR tests, might as well explode into their own face.

Chromosome 8

Chromosome 8 is one of the 23 pairs of chromosomes in humans. People normally have two copies of this chromosome. Chromosome 8 spans about 145 million base pairs (the building material of DNA) and represents between 4.5 and 5.0% of the total DNA in cells. About 8% of its genes are involved in brain development and function, and about 16% are involved in cancer. A unique feature of 8p is a region of about 15 megabases that appears to have a high mutation rate. This region shows a significant divergence between human and chimpanzee, suggesting that its high mutation rates have contributed to the evolution of the human brain. ([Wikipedia](#))

'BOMBHELL EVIDENCE AGAINST PCR TESTS'



The blogpost[2] on Piece of Mindful that is at the center of this discussion, is written by "Fauxlex", an alias for "a young man from the Midwest who once purchased a fake Rolex on the streets of NYC's Chinatown (hence the name). He is college educated, graduating summa cum laude with a BA in Economics", as we learn from the About Us page of this website. The blog is written by a collective of five authors, all of which have a separate navigation button, except for Fauxlex. We learn that he is "an avid fossil hunter, he has built up quite a collection of Silurian era marine specimens. He will gladly debate biology with you, or anything really. He prides himself on an abnormal [sic] ability to reason and view things logically from all sides."

One of its main authors tells us on "A note to regular readers" that the website has been inundated by "100.000 hits" in the past few days, mostly directed at Fauxlex' blogpost, and he is considering to wait and see until this storm passes. In this time of censorship he is not even sure the blog will continue to exist. But: "This too will pass."

So let's check out the content of this blog post, which has generated so much online traffic recently, before it may be too late. I have copied its full content here:

BOMBSHELL: WHO Coronavirus PCR Test Primer Sequence is Found in All Human DNA

Primers and probes

Name	Sequences (5'-3')	Length (bases)	PCR product size	Ref.
RdRp gene / nCoV_IP2				
nCoV_IP2-12669Fw	ATGAGCTTAGTCTGTG	17	108 bp	1
nCoV_IP2-12759Rv	CTCCCTTTGTTGTGTTGT	18		
nCoV_IP2-12696bProbe(+)	AGATGTCTGTGCTGCCGTA [5']Hex [3']BHQ-1	21		
RdRp gene / nCoV_IP4				
nCoV_IP4-14059Fw	GGTAACTGGTATGATTTCG	19	107 bp	1
nCoV_IP4-14146Rv	CTGGTCAAGGTTAATATAGG	20		
nCoV_IP4-14084Probe(+)	TCATACAAACCACGCCAGG [5']Fam [3']BHQ-1	19		
E gene / E_Sarbeco				
E_Sarbeco_F1	ACAGGTACGTTAATAGTTAATAGCGT	18	125 bp	2
E_Sarbeco_R2	ATATTGCAGCAGTACGCACACA	20		
E_Sarbeco_P1	ACACTAGCCATCCTTACTGCGCTTCG [5']Fam [3']BHQ-1	20		

1/ National Reference Center for Respiratory Viruses, Institut Pasteur, Paris.
2/ Corman et al. Eurosurveillance²

This was important enough that I wanted to get it out immediately. My research into the NCBI database for nucleotide sequences has lead to a stunning discovery. One of the WHO primer sequences in the PCR test for SARS-CoV-2 is found in all human DNA! The sequence "CTCCCTTTGTTGTGTTGT" is an 18-character primer sequence found in the [WHO coronavirus PCR testing protocol document](#). The primer sequences are what get amplified by the PCR process in order to be detected and designated a "positive" test result. It just so happens this *exact same* 18-character sequence, verbatim, is also found on Homo sapiens chromosome 8! As far as I can tell, this means that the WHO test kits should find a positive result in all humans. Can anyone explain this otherwise?
I really cannot overstate the significance of this finding. At minimum, it should have a notable impact on test results.

Download GenBank Graphics Sort by: E value

Homo sapiens chromosome 8, GRCh38.p12 Primary Assembly
 Sequence ID: [NC_000008.11](#) Length: **145138636** Number of Matches: 3

Range 1: 63648346 to 63648363 [GenBank](#) [Graphics](#) [Next Match](#) [Previous Match](#)

Score	Expect	Identities	Gaps	Strand
36.2 bits(18)	0.098	18/18(100%)	0/18(0%)	Plus/Plus

Features: [438640 bp at 5' side: YTH domain-containing family protein 3 isoform X2](#)
[932428 bp at 3' side: class E basic helix-loop-helix protein 22](#)

```

Query 1          CTC CCTTTGTTGTTGT 18
                |||
Sbjct 63648346  CTC CCTTTGTTGTTGT 63648363
  
```

Homo sapiens chromosome 8, GRCh38.p12 Primary Assembly
 Sequence ID: NC_000008.11 Length: 145138636
 Range 1: 63648346 to 63648363 is "CTCCCTTTGTTGTTGT"

Update: After some effort, I have finally discovered a way to display proof (beyond my screenshots) that human chromosome 8 has this exact same 18-character sequence. Please try the link below. The sequence is shown at the bottom of the page: www.ncbi.nlm.nih.gov

```

##Genome-Annotation-Data-START##
Annotation Provider      :: NCBI
Annotation Status       :: Updated annotation
Annotation Name         :: Homo sapiens Updated Annotation
                        Release 109.20200815
Annotation Version      :: 109.20200815
Annotation Pipeline     :: NCBI eukaryotic genome annotation
                        pipeline
Annotation Software Version :: 8.5
Annotation Method       :: Best-placed RefSeq; propagated
                        RefSeq model
Features Annotated      :: Gene; mRNA; CDS; ncRNA
##Genome-Annotation-Data-END##
FEATURES
    source              Location/Qualifiers
                        1..18
                        /organism="Homo sapiens"
                        /mol_type="genomic DNA"
                        /db_xref="taxon:9606"
                        /chromosome="8"
ORIGIN
    1 ctccctttgt tgtgtgt
//
  
```

Homo sapiens chromosome 8, GRCh38.p13 Primary Assembly

In the comments section to his blogpost Fauxlex adds more nuance: this may be one of many protocols, and he certainly does not want to claim therefore all tests are faulty. But apparently he is very suspicious of the WHO, and suspects they have devised this particular test with mischievous aims in mind:

This is the WHO protocol. I also came across several private companies (Sigma-Aldrich, Thermo Fisher) whose PCR primer sequences were longer and had no such match. So I am not saying that ALL test kits belong to WHO, but if we were to find shenanigans we would expect to find it with the WHO. This really has me shaken, and I am really starting to believe that the WHO designed a test

where they would be able to find a positive anywhere they wanted to find one. Also, the PCR test process is inherently very error-prone and even the WHO test may occasionally have false negatives.

He also has tried to find several other sequences that match the human genome, not only the one mentioned in his blogpost. But this was the jackpot for him:

And I should be clear that it is NOT easy to find an 18-character match like this. In most of my searches, I was finding 14-15 character long matches in human DNA for 20-25 character long primers. Then suddenly BOOM the short 18-character WHO primer sequence has a perfect 18-character match. That is nuts. I really think that the odds are very high that this is a meaningful finding.

Then there's a sobering comment by a Dr. Bernd Paysan, on April 11, 2020:

People, the virus is an RNA virus, and chromosome 8 is DNA. It's not going to be replicated by the RT-PCR, because this process starts with the Reverse Transcriptase (RT!), and therefore does not copy DNA.

The remaining question is whether this snippet can exist as RNA in human cells, which is still possible, but not necessarily likely. The overall test is positive if all three primers+probes are found, so one false positive primer does not kill the entire test. Furthermore, you also need to have the probe in proximity to the primer. If the PCR doesn't hit the probe, the test will stay negative. Is the probe found in chromosome 8? The Chinese had some problems with their test in the first weeks, and changed things to improve the situation. This is normal in such a situation, where tests are developed in a hurry. The US CDC had severe quality issues in the beginning, even water tested positive.

To which Fauxlex gives the following candid reply:

Thank you for the comment. This is honestly what I was looking for...hoping to be wrong. Although I disagree that the process could not possibly be thrown off by this error. Any instances where chromosome 8 had been unzipped for replication would leave the matching sequence available for the PCR primer to anneal. This might not cause full replication by the PCR process, but if the test is so touchy you would really think this could throw off their results. If as you say plain water originally tested positive. Thanks again for the comment. You would think they would have some technology to pick PCR primers that selects against sequences already found within human DNA. They also should have gone with a primer longer than 18 characters if they want reliable results. These tests are going to have a huge rate of false positives and/or negatives to the point where it's questionable how much we can rely upon it. Let alone the idea that 80% of people who test positive show no outward symptoms. We need to end these draconian lockdowns immediately.

"This is honestly what I was looking for...hoping to be wrong." That's the spirit of science. Yet, he is still suspicious about why this particular sequence has been overlooked during the compilation of these tests.

The tone of this blog post is quite reasonable. An amateur science student has stumbled upon something that potentially casts doubt on the reliability of the PCR tests. What if these tests, or at least some of these, just detect some human genetic material and not a fragment of SARS-CoV-2? I will withhold my comments for now, and first present Icke and Kaufman's reflections on this blog post. You can imagine that they are thrilled by this "discovery", even if it came from someone with a WordPress blog.

'THE SCALE OF THE HOAX WHICH IS UNFOLDING ALL AROUND US'

Note: The Icke/Kaufman video was removed from YouTube in a few days. I had linked to a shared video on another YouTube channel, but that video got removed a day later. I need to link to www.bitchute.com, where all banned videos live, which I prefer not to do, since it is "a video hosting service known for accommodating far-right individuals and conspiracy theorists" ([Wikipedia](#)). So go there at your own risk. ;-)

Chromosome 8 w/ David Icke and Dr. Kaufman (on www.bitchute.com)



David Icke: "Hello, I want to talk about a remarkable development about the test that is deciding who is infected and who isn't. It is called the PCR test."



Icke starts with his claim that the current PCR tests don't test for the virus, because there is no virus to start with. Besides, it has come to his attention (through the blog post mentioned above) that at least some of the tests might actually test for human genetic material, more specifically a part of chromosome 8, which is something he has been claiming for months. "That is the scale of ludicrousness, the scale of the hoax which is unfolding all around us." He repeats the familiar tune that the virus has never been purified and isolated, that according to its inventor Kary Mullis the test should not be used to diagnose infectious diseases, but that he now found a bombshell story about the test. He has invited Andrew Kaufman, "a very courageous man and a very a learned man", to speak about these rather technical issues.

You might recall that Icke and Kaufman argued a while ago that the PCR test might detect exosomes instead of viruses (see [Part 1](#)), or that viruses and exosomes are actually the same thing ([Part 2](#)), but now they give another twist to the continuous story of virus denialism (see also [Part 5](#) for more examples).

Icke is quick to conclude that "if you test positive for something that's naturally in your body, they say you've got the virus. This is the scale of the scam." In Icke's understanding most, if not all, of those who are tested get a positive result, and the admonition of the WHO to "TEST, TEST, TEST" makes sense given their sinister agenda to inflate the number of cases, so they can impose their horrendous lockdown measures (and there is worse to come) on humanity. He introduces Kaufman as "a magnificent exposé from a medical point of view of how this whole Covid-19 scam works." He calls the bombshell blog post an "extraordinary revelation" and "one heck of a story". And he asks Kaufman: "give us your verdict."

Kaufman tells us he knew about this blogpost story and "knew this was a very significant thing" but he "wanted to take my time and verify it and learn a little bit more about it before, you know, speaking about it." He suspected "serious overlap" between "some of the target sequences they are looking for and our human genome because of this confusion about exosomes and what RNA comes from what source in all this." He concluded: "It really confirmed my suspicion and I was glad to

see that basically one of the primer sequences in the PCR test according to the Pasteur Institute protocol is an exact match for a sequence in our own human DNA on chromosome 8." Then Kaufman quickly moves to his favorite subject that the swabs taken from a patient contain "a mixture of human cells, virus particles and other microbes which could mean bacteria or fungi or other microbes, okay. So it's not a clean sample." And: "so this is not a pure sample and it certainly contains human genetic material from the beginning, so if we test for it we could find it."

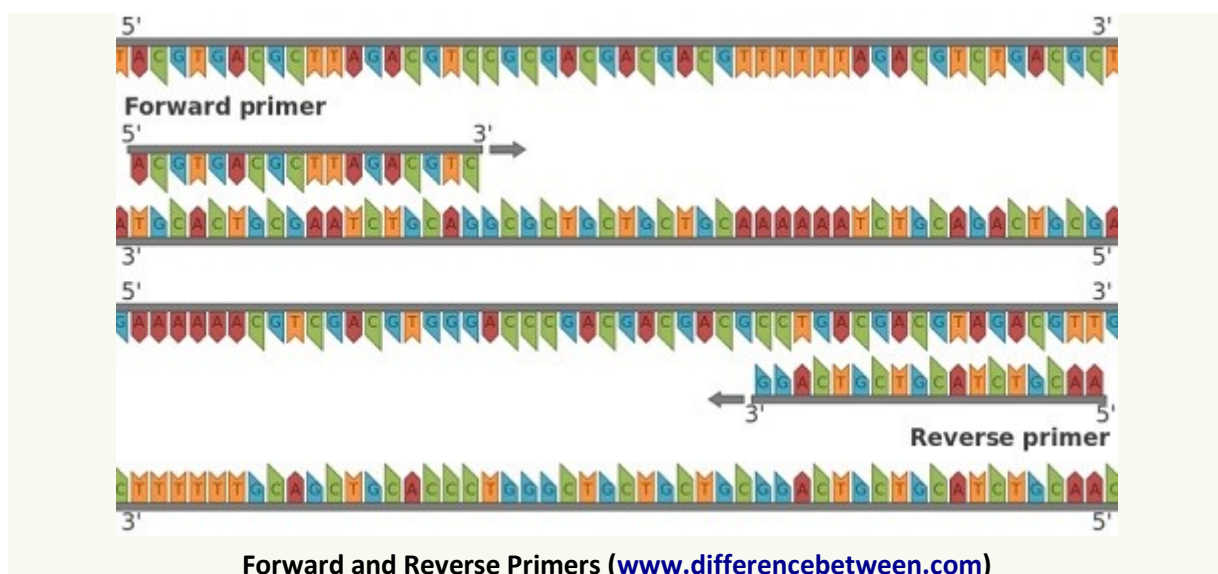
	
<p style="text-align: center;">DAVID ICKE 'Fraudulent test, fraudulent cases, fraudulent reasons for lockdown.'</p>	<p style="text-align: center;">ANDREW KAUFMAN 'The main point: we don't know where these sequences came from.'</p>

Then Kaufman explains that in the PCR test, the tiny amount of RNA in the sample is amplified so that there is enough of it to be detected. He understands that RNA is converted to DNA, and that DNA consists of two complementary strings. The primer sequence, he claims, relates to the sequence that we are looking for in the test. So if the primer is identical to a piece of human DNA, it is possible that detecting this human DNA leads to a positive test result, and basically a false positive (because a virus is not detected). Yet, Kaufman does recognize there are many different primers in use all over the world, and one test also uses more than one primer. Nevertheless, "it adds another level of confusion and obfuscation to how do you interpret the results of a test." The main point remains for him that "we don't know where these sequences came from." And "I would say, you know, there's a hundred percent error rate with this test."

Icke gives his own summary of the situation: "you've got a fraudulent test, you've got fraudulent cases and you've got fraudulent reasons for lockdown." They mock the notion of asymptomatic cases as "if you are tested positive and you have no symptoms there's nothing wrong with you, this scam says. There's nothing wrong with you, but you can pass it on. You can pass on something that you haven't got. But this is why how they're justifying locking down healthy people." In the latter part of the video they chat about how they refuse to comply with the lockdown measures, because "with every acquiescence something else is coming round the corner", and how harmful it is to wear masks, because it is shameful to cover your face.

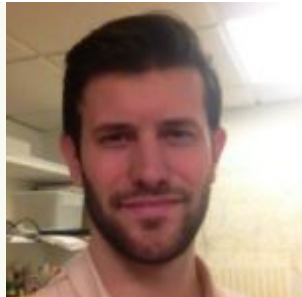
We leave that highly dubious discussion for now, and will focus on the matter how well Icke and Kaufman have understood the PCR test here. Obviously they haven't even bothered to look at the comments section of the bombshell blog to the effect that both probe and primers have to work together to get a test result, and simply pointing to a similarity of one primer and a piece of DNA doesn't make any sense. Least of all, it offers no ground for these far reaching and paranoid conclusions. Please also note that the percentage of positive outcomes of the PCR test rarely exceeds the 10% (the WHO considers 5% to be reasonable).

But there's more.



'A MASSIVE LACK OF BIOCHEMISTRY EDUCATION'

On the website www.peakprosperity.com I happened to find a more recent critical post about this "bombshell" narrative dating back to April. Dr. Jurgen Mayer posted a forum comment on August 23, 2020, in which he is providing eminently sensible information. Mayer is a "scientist of virology and biomolecular chemistry currently focusing on nCoV-2019 genomic structure." [4] He gives an important hint about the nature and function of *reverse* primers. Responding to a question from a forum participant about the validity of the bombshell blog, he writes:



Dr. Jurgen Mayer[5]

Apologies but this is how bad information gets spread 😊 Allow me to explain a few issues with the original link

The issue in question is with CTCCTTTGTTGTGTTGT, which is a 6 codon chain. The absolute failure here is that this chain is being read by everyone as a forward primer, when in fact this is a reverse primer. This is clearly stated in the WHO instructions.* A forward read of CTCCTTTGTTGTGTTGT gives us LPLLCCSLCCVPFVVL A reverse read is ACAACACAACAAAGGGAG, which gives us TTQREQHNKGNNTKGG Search the NT [nucleotides] of hCoV-2019 [human coronavirus] yourself [here](#) for the forward string and you will not find it. Then research the reverse that I posted and you will find it every time. [I have done this for you, FV]

```
TTACTTATGCATCAGCATTGTGGGAAATCCAACAGGTTGTAGATGCAGATAGTAAAATTGTTCAACTTAG
TGAAATTAGTATGGACAATTCACCTAATTTAGCATGGCCTCTTATTGTAACAGCTTTAAGGGCCAATTCT
GCTGTCAAATTACAGAATAATGAGCTTAGTCTGTTGCACTACGACAGATGTCTTGTGCTGCCGGTACTA
CACAACTGCTTGCCTGATGACAATGCGTTAGCTTACTACAACACAACAAAGGGAGGTAGGTTTGTACT
TGCACTGTTATCCGATTTACAGGATTTGAAATGGGCTAGATTCCCTAAGAGTGATGGAAGTGGTACTATC
TATACAGAAGTGGAAACCACTTGTAGGTTTGTACAGACACACCTAAAGGTCCTAAAGTGAAGTATTTAT
ACTTTATTAAGGATTAACAACCTAATAGAGGTATGGTACTTGGTAGTTTAGCTGCCACAGTACGTCT
```

SARS coronavirus 2 isolate Wuhan-Hu-1, complete genome

You might be thinking... why would they post the forward and then specify for reverse?! Why not just post the reverse?! One would always post forward and then specify the direction. This way we have a global standard to avoid confusion... JUST LIKE THIS... LOL There is no conspiracy here, no mistake, no false positives based on this test. Just a massive lack of biochemistry education. This is actually a fantastic PCR test they put together that tests multiple sections of the RdRp along with the E protein. Gold star from my end! As this topic is likely very confusing to most, I am happy to field questions and can reply when I have

time.

Info about directions can be found [here](#).

*Note FV: The "Rv" in "nCoV_IP2-12759Rv" means "Reverse":

Primers and probes

Name	Sequences (5'-3')	Length (bases)	PCR product size	Ref.
<i>RdRp gene / nCoV_IP2</i>				
nCoV_IP2-12669Fw	ATGAGCTTAGTCCTGTTG	17	108 bp	1
nCoV_IP2-12759Rv	CTCCCTTGTGTGTGT	18		
nCoV_IP2-12696bProbe(+)	AGATGCTTGTGCTGCCGGTA [5']Hex [3']BHQ-1	21		

I know, this is very technical jargon, but it just goes to show the level of expertise needed to play this genomics game—which Icke and Kaufman sorely lack.

What is a Forward Primer?

Forward orientation is the synthesis of the coding strand or the sense strand of a gene. Taq polymerase catalyzes the synthesis of a new strand in 5' to 3' direction. The synthesis of coding strand occurs when the primer anneals with the noncoding or the antisense strand and elongates in 5' to 3' direction. The primer that anneals with the antisense strand or the noncoding strand or the template strand is known as forward primer since forward primer acts as a starting point to the synthesis of coding or the positive strand of the gene. Forward primer has a short nucleotide sequence that is complementary to the 3' flanking end of the antisense strand. It hybridizes with the antisense strand and facilitates the Taq polymerase to add nucleotides that are complementary to the template strand.

What is a Reverse Primer?

Reverse primer is the short DNA sequence that anneals with the 3' end of the sense strand or the coding strand. Reverse primer serves as the starting point to synthesize a complementary strand of the coding sequence or the noncoding sequence. Reverse primer is designed complementary to the 3' end of the coding strand. Hence, it anneals with the flanking 3' end of the coding strand and allows Taq polymerase to synthesize the antisense strand or the template strand. Since its orientation is in a reversed manner, this primer is labeled as reverse primer. (www.differencebetween.com)

Looking for other critical reflections on the Fauxlex/Icke/Kaufman narrative, I found this recent YouTube video, posted on 24 Aug 2020 by Paul Cottrell, very helpful as well[6]:

Debunking the Chromosome 8 RT-PCR theory by Dr. Paul Cottrell

Though this video is a bit repetitive, the points Cottrell makes are very clear, and devastating for the Icke/Kaufman narrative. Here's a brief summary:

Paul Cottrell debunks David Icke and Andrew Kaufman

Chromosome 8 has 145 million basepairs, not only these 18 bases.

There are many PCR tests out there with many different protocols.

The sequence CTCCTTTGTTGTGTTGT is not found in the SARS-CoV-2 genome.

The sequence CTCCTTTGTTGTGTTGT is found in the human chromosome 8, but that's *irrelevant*.

The sequence should be mirrored and reversed to ACAACACAACAAAGGGAG to make a match in the SARS-CoV-2 genome.

Trying to find a viral *reverse* primer sequence in the human genome makes no sense at all, "this is where pseudo-science comes in".

CHECKING THE GENOME DATABASES

Let's follow up on these injunctions and do some gene database searches in the gene banks that are storing all these viral and human genomes.

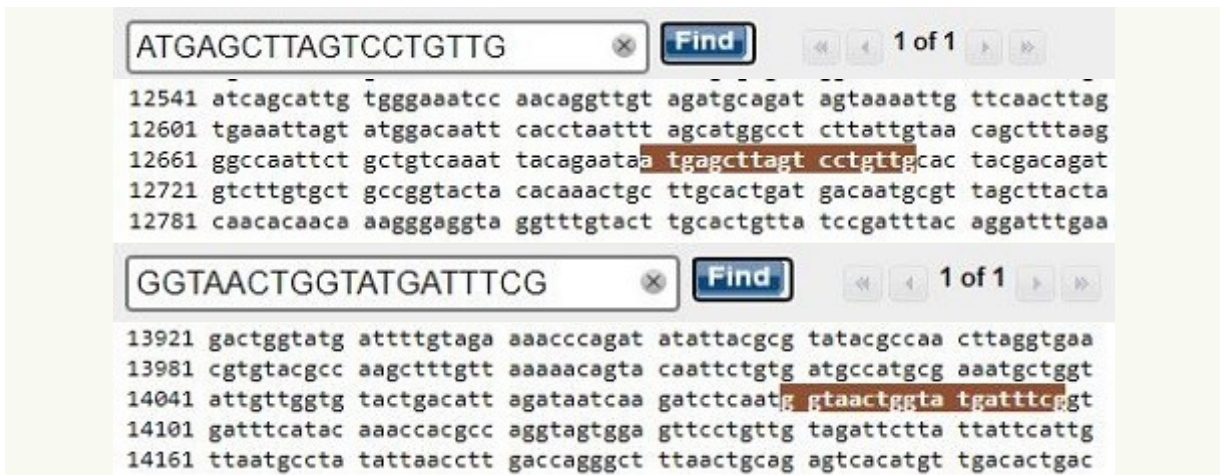
The first thing to test, I think, which Fauxlex apparently has neglected to do, is check if CTCCTTTGTTGTGTTGT shows up in the published [SARS-CoV-2 reference genome](#) available at the **National Center for Biotechnology Information** (NCBI). I can tell you, it does not. So it is one thing to suggest that some sequences found in the SARS-CoV-2 genome might *also* be present somewhere in the huge human genome (of three billion bases or 3Gb), resulting in possible mismatches. It is something else to suggest it *only* exists within the human genome (i.e. chromosome 8).

Searching for CTCCTTTGTTGTGTTGT in the SARS-CoV-2 genome, this is the result:



And the reason this sequence cannot be found in the SARS-CoV-2 genome is that it is a *reverse* primer. *This* is the real bombshell under this fake narrative.

However, the three forward primers, which are listed in the WHO document, as mentioned in the Bombshell blogpost, all match with the SARS-CoV-2 genome (and none of them match with human chromosome 8), as you can see below. The numbers on the left indicate the position within the 30.000 base genome):



```

ACAGGTACGTTAATAGTTAATAG Find 1 of 1
26101 gttgatgagc ctgaagaaca tgtccaaatt cacacaatcg acggttcac cggagttgtt
26161 aatccagtaa tggaaacaat ttatgatgaa ccgacgacga ctactagcgt gcctttgtaa
26221 gcacaagctg atgagtagca acttatgtac tcattcgttt cggaaagagc aggtacgta
26281 atagttaata gcgtaacttct ttttcttgct ttcgtggtat tcttgctagt tacactagcc
26341 atccttactg cgcttcgatt ggtgtagtac tgctgcaata ttgtaacgt gagtcttgta

```

And now comes the magic trick. If we take the reverse primer that started this whole non-discussion, CTCCTTTGTTGTGTTGT, and do the following two operations, mirror and reverse, you will find a match in the SARS-CoV-2 genome as well! Keep in mind that A always pairs with T and C always pairs with G:

reverse primer	CTCCTTTGTTGTGTTGT
mirror complement	GAGGGAAACAACACAACA
reverse complement	ACAACACAACAAAGGGAG

As always, the Devil is in the details. And wasn't reading backwards one of his tricks?

And here's the perfect match of the mirrored and reversed complement of the reverse primer, as it can be located in the SARS-CoV-2 genome:

```

ACAACACAACAAAGGGAG Find 1 of 1
12661 ggccaattct gctgtcaaat tacagaataa tgagcttagt cctggtgcac tacgacagat
12721 gtcttgtgct gccggtacta cacaaactgc ttgcaactgat gacaatgcgt tagcttact
12781 caacacaaca aaggaggta ggtttgtact tgcaactgta tccgatttac aggattttaa
12841 atgggctaga ttcctaaga gtgatggaac tggtagctatc tatacagaac tggaaaccacc
12901 ttgtaggttt gttacagaca cacctaaagg tcctaaagtg aagtatttat actttattaa

```

So the fact that CTCCTTTGTTGTGTTGT somehow matches a tiny part of the human genome *does not matter*, it is not the sequence the test looks for in the first place. The sequence the tests looks for is whatever exists *between* the forward and the reverse primers. These sequences are very close together in the SARS-CoV-2 genome.

ATGAGCTTAGTCCTGTTG	NC_045512.2 : 12690-12707
ACAACACAACAAAGGGAG	NC_045512.2 : 12780-12797

This means that the real sequence this particular test looks for can be found somewhere in this area on the genome, in-between the forward and reverse primers:

12779 -/- 12708 = 72 bases
 CAC TACGAC**AGAT GTCTTGTGCT GCCGGTA**CTA
 CACAAACTGC TTGCACTGAT GACAATGCGT TAGCTTACT

The red part of the sequence is called the "probe". That's what this particular test is actually looking for: a sequence of 21 bases as specified in the WHO document:

Primers and probes

Name	Sequences (5'-3')	Length (bases)	PCR product size	Ref.
<i>RdRp gene / nCoV_IP2</i>				
nCoV_IP2-12669Fw	ATGAGCTTAGTCCTGTTG	17	108 bp	1
nCoV_IP2-12759Rv	CTCCCTTGTGTGTTGT	18		
nCoV_IP2-12696bProbe(+)	AGATGTCTTGTGCTGCCGGTA [5']Hex [3']BHQ-1	21		

And yes, that probe sequence too can be found in the SARS-CoV-2 genome:

```

12541 atcagcattg tgggaaatcc aacaggttgt agatgcagat agtaaaattg ttcaacttag
12601 tgaattagtg atggacaatt cacctaattt agcatggcct cttattgtaa cagctttaag
12661 ggccaattct gctgtcaaat tacagaataa tgagcttagt cctgttgac tacgacagat
12721 gtcttgtgct gccggtacta cacaaactgc ttgactgat gacaatgctg tagcttacta
12781 caacacaaca aaggagggta ggtttgtact tgcactgta tccgatttac aggatttgaa
12841 atgggctaga ttccctaaga gtgatggaac tggtagctatc tatacagaac tgggaaccacc
  
```

Here's an even better [online "In-Silico" PCR tool](#), of the **University of California Santa Cruz** (UCSC) to check for sequences in various genomes (human, viral, mammal, frogs, fish, etc.).

When checking for forward primer = ATGAGCTTAGTCCTGTTG and reverse primer = CTCCCTTGTGTGTTGT, in the SARS-CoV-2 genome, the reversed/mirrored match found for the reverse primer is indeed: ACAACACAAC AAAGGGAG:

UCSC In-Silico PCR

```

>NC_045512v2:12690+12797 108bp ATGAGCTTAGTCCTGTTG CTCCCTTGTGTGTTGT
ATGAGCTTAGTCCTGTTGcactacgacagatgtcttgtgctgccggctact
acacaaactgcttgactgatgacaatgcttagcttactACAACACAAC
AAAGGGAG
  
```

However, when searching for the same primers in the human genome, no match is found:

UCSC In-Silico PCR

No matches to atgagcttagtcctgttg ctcctttgtgtgtgtg in Human Dec. 2013 (GRCh38/hg38)

A FIRECRACKER THAT DID NOT FIRE

Isn't it amazing how accurate all this is? Base-perfect within a 30,000 bases genome! And can't you see how David Icke and Andrew Kaufman lack even the most basic understanding of the PCR test and whole genome sequencing ([Part 6](#)) in general? They are just selectively misreading whatever they think they understand from science to find confirmation of their own paranoid narratives.

In a recent blog post, dated August 28, 2020, Fauxlex reflected on his April blogpost going viral:

It is difficult for me to express the various layers of my feelings on the Icke attention and that piece in general. For one, I had not expected an old post from four months ago to go so viral. It is not the post that I would have hoped would go viral, because although the findings do indeed further undermine the PCR test, a deeper scientific understanding can explain why the result isn't as big as had seemed at the time.

The bombshell turned out to be a firecracker that did not fire.

NOTES

[1] David Icke & Andrew Kaufman, "[Chromosome 8 w/ David Icke and Dr. Kaufman](#)", www.youtube.com, August 24, 2020. This video has been removed for violating YouTube's Terms of Service.

[2] Fauxlex, "[BOMBSHELL: WHO Coronavirus PCR Test Primer Sequence is Found in All Human DNA](#)", pieceofmindful.com, April 6, 2020.

[3] Paul Cottrell, "[Debunking the Chromosome 8 RT-PCR theory by Dr. Paul Cottrell](#)", www.youtube.com, 24 Aug 2020.

[4] tbp, "[BOMBSHELL: WHO Coronavirus PCR Test Primer Sequence is Found in All Human DNA](#)", www.peakprosperity.com, Aug 20, 2020.

[5] Dr. Jurgen Mayer's view of the SARS-CoV-2 virus: "Every aspect of the genome of hCoV-2019 can be explained by zoonosis and potentially explains the existence of a polybasic furin cleavage site in our virus, as it was more than likely adapted by another virus. That being said, the natural creation of this virus is a one in a billion chance. There is nothing to suggest that a magic bat in nature directly infected a human. We have two possible paths here. Either this was created in a lab, and yes we can tinker in such a way to ensure the virus has these modes of attack or we use zoonosis with just the right bat infecting just the right Pangolin, and then infecting a human. The problem is that we have not been able to identify any host animals." (forum post on peakprosperity.com)

[6] Paul Cottrell has his own ideas about Covid-19. For these I refer to his [YouTube channel](#). This is his bio: "Paul Cottrell received his BS and MBA from Wayne State University, Ph.D. from Walden University and pre-medical curriculum from Fordham University. He is a candidate pursuing an ALM in Biology at Harvard University (HES). His research includes using chaos theory to model financial markets and economic emergence. His work on economic emergence contains new theoretical concepts of economic evolution and the creation of self organizational structures. In addition, Dr. Paul Cottrell has published works from his Harvard University (HES) course work in genomics, neurobiology, endocrinology and microbiota."

Part 16: What's Up With These "Koch's Postulates"?

FRANK VISSER

"Koch's postulates have been recognized as largely obsolete by epidemiologists since the 1950s" (Wikipedia).

Two of the most frequent claims made by virus denialists have been: "the PCR test doesn't test for a virus, but for human genetic material" (Icke) and "the classic Koch's Postulates have not been met for this virus" (Kaufman). This makes sense for them, because if there is no virus at all, what else can a test do than match some genetic sequence of our own? And if there's no virus at all, there's no viral disease and no way of proving that a virus causes the disease, in our case Covid-19. We will tackle both claims in this article.

Do we know the SARS-CoV-2 virus exists? Do we know it is the cause of Covid-19? Asking these questions is legitimate. Ignoring progress made in modern virology isn't.

'THE PCR TEST DOESN'T TEST FOR A VIRUS'

Let's assume we have a group of 100 persons, 5 of which have Covid-19. Let's further assume we have an ideal PCR test for Covid-19, which picks up all cases in this group without any error, and no other virus. So we disregard the usual instances of false positives (you are healthy but get a positive test) or false negatives (you are ill but get a negative test). Instead, we have only these four possible outcomes of a PCR test:

		- TEST RESULTS +	
- S Y M P T O M S	A Healthy	B Asymptomatic	
	D Other virus	C Symptomatic	
+			

So, to walk you through this diagram: test results can be positive (you have the virus) or negative (you don't have the virus). You can have symptoms or no symptoms. A healthy person without any symptoms will get a negative test (A). A sick person with Covid-19 symptoms will get a positive test (C).

		- TEST RESULTS +	
- S Y M P T O M S	95		
		5	
+			

Group of 100 persons, 5 of which have SARS-CoV-2
Ideal situation: all 5 symptomatic cases are found

Two cases complicate the situation: in "asymptomatic" cases a person has the virus but no symptoms (B), and when a person has a virus other than SARS-CoV-2, like the flu, he will test negative (D)—and that's correct, for he doesn't have SARS-CoV-2.

	- TEST RESULTS +	
- S Y M P T O M S +	90	3
	5	2

**Group of 100 persons, 5 of which have SARS-CoV-2
(2 symptomatic, 3 asymptomatic), 5 have flu virus**

If, however, the PCR test would not test for any virus but for general human genetic material, such as exosomes, as Kaufman claims (see [Part 2](#)), or parts of a human chromosome, such as chromosome 8, as the latest rumor has it (see [Part 15](#)), the expected test results would be dramatically different.

	- TEST RESULTS +	
- S Y M P T O M S +	15	75
	5	5

**When test matches part of our human genome:
80 false positives, 20 false negatives**

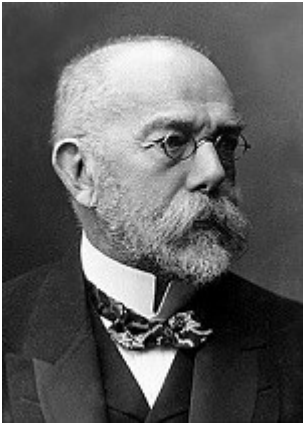


In that case we would expect, say, 80% "false positives" (where human genetic material is matched) and 20% "false negatives" (where this human genetic material is missed, for whatever reason: the test might have failed or that particular genetic sequence did not turn up in the sample taken from a patient). In the current situation, where the number of positive test results

rarely rises above 10%, we can therefore dismiss this hypothesis as nonsensical. We simply don't see that many positive test outcomes.

Another frequently heard interpretation of "the PCR test doesn't test for a virus" runs like this: it test for only a very small *part* of the virus (see [Part 13](#)). That is, of course, a truism, because the whole point of this test is that a small part of the full genome of SARS-CoV-2 is detected as a fingerprint or signature. A fingertip is only a very small part of the human body, but we recognize a person by his or her fingerprint, because they are unique. A more reasonable and relevant interpretation is: we are never 100% sure that this signature sequence represent a fully active virus, or is only a fragment of a dead virus. That's an empirical question to be answered by research. And that's why test results should always be accompanied by clinical observations of a patient, to get to a fuller picture.

Of course, we have left the field of virus denialism here, because to talk of a "fragment of a virus" one has to believe in the existence of viruses in the first place.

'THE VIRUS HAS NEVER BEEN ISOLATED'

		
ROBERT KOCH	THOMAS RIVERS	DAVID FREDERICKS

A more serious claim of virus denialists is that "the virus has never been isolated." Reference is made to the famous [Koch's Postulates](#), and to understand their impact and historical relevance we need to dig into some medical history, so bear with me. The problem is about deciding what exactly causes a disease. When can we confidently conclude that a certain germ causes a certain disease?

For the purpose of this article we will take Wikipedia as our guide, because it offers a high-level and historically interesting view of the subject.

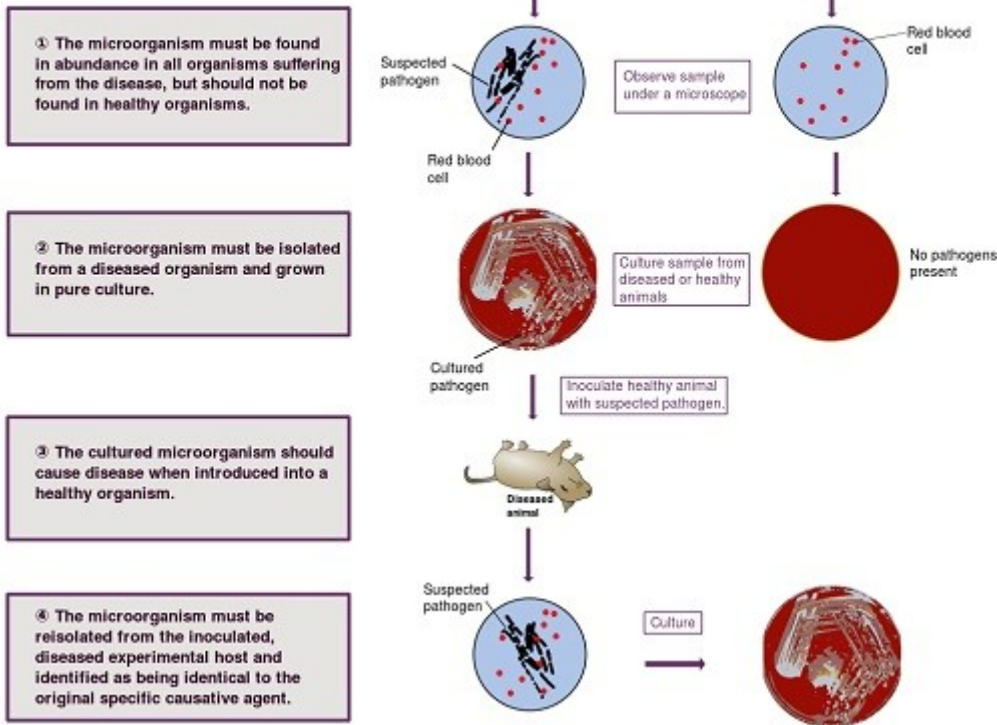
19th Century: Robert Koch

[Robert Koch](#) (1843-1910) was a Jewish born German physician and microbiologist. As one of the main founders of modern bacteriology, he identified the specific causative agents of tuberculosis, cholera, and anthrax and also gave experimental support for the concept of infectious disease, which included experiments on humans and animals. Koch received the Nobel Prize in Physiology or Medicine in 1905.

He formulated a series of four generalized principles linking specific microorganisms to specific diseases:

1. The microorganism must be found in abundance in all organisms suffering from the disease, but should not be found in healthy organisms.
2. The microorganism must be isolated from a diseased organism and grown in pure culture.
3. The cultured microorganism should cause disease when introduced into a healthy organism.
4. The microorganism must be reisolated from the inoculated, diseased experimental host and identified as being identical to the original specific causative agent.

Koch's Postulates:



Koch's postulates of disease.

This applies primarily to bacteria, as viruses were not yet observed in his days. Contrary to bacteria, which can be cultured on a petri dish, viruses only multiply within cells. Even Koch himself realized that these four postulates would not always work well with viruses, for the following reasons.

1. Microorganism don't always cause disease in a given patient. They are called "asymptomatic", a term you must have heard in the context of Covid-19.
2. Viruses also require host cells to grow and reproduce and therefore cannot be grown in pure cultures.
3. Not all organisms exposed to an infectious agent will acquire the infection. Noninfection may be due to such factors as general health and proper immune functioning; acquired immunity from previous exposure or vaccination; or genetic immunity.

It is clear from the above that Koch's Postulates are not set in stone for viruses. [Wikipedia](#) is very clear on their minor relevance for today's world:

Koch's postulates were developed in the 19th century as general guidelines to identify pathogens that could be isolated with the techniques of the day. Even in Koch's time, it was recognized that some infectious agents were clearly responsible for disease even though they did not fulfill all of the postulates. Attempts to apply Koch's postulates rigidly to the diagnosis of viral diseases in the late 19th century, at a time when viruses could not be seen or isolated in culture, may have impeded the early development of the field of virology. Koch's postulates have been recognized as largely obsolete by epidemiologists since the 1950s, so, while retaining historical importance and continuing to inform the approach to microbiologic diagnosis, *they are not routinely used to demonstrate causality.* (emphasis added)

Good to keep this in mind when we deal with virus denialists later on.

Attempts to apply Koch's postulates rigidly to the diagnosis of viral diseases in the late 19th century, at a time when viruses could not be seen or isolated in culture, may have impeded the early development of the field of virology.

20th Century: Thomas Rivers

[Thomas Milton Rivers](#) (1888-1962) was an American bacteriologist and virologist and is called the "father of modern virology." To upgrade Koch's Postulates for the 20th century, especially in the context of viruses, Thomas Rivers formulated a few additional postulates.[1] Here I am following Andrew Kaufman's presentation[2]:

Koch vs Rivers

Koch (1884)

1. The microorganism found in the ill but not the healthy
2. The microorganism must be isolated from a diseased organism and grown in pure culture.
3. Produce same disease in host
4. Re-isolation of microorganism

Rivers (1937)

1. Isolation of virus from diseased host
2. Cultivation of virus in host cells
3. Proof of filterability
4. Produce same disease in host
5. Re-isolation of virus
6. Detection of a specific immune response to virus

Source: Andrew Kaufman, "Evidence that Viruses Cause Disease".

As you can see, the requirement to isolate the microorganism and grow it in pure culture, has been replaced by "cultivation of virus in host cells". This makes sense, because viruses can only grow in cells, not in a neutral medium. Filterability is also typical for viruses. Viruses being very small, they can be separated from cells by certain filters. And immune responses too are specific for viruses.

In one of his slides, Kaufman states, with exclamation marks: "genetic material (DNA, RNA) is not mentioned in any of the criteria!!!" Well, perhaps that's because at the time of Rivers' article (1937), DNA wasn't yet discovered? The structure of DNA was found only in 1953, and the code was cracked in subsequent years. DNA sequencing became a huge industry, and whole genome sequencing is a 21st century effort.

What is missing from Rivers?



- Genetic material (DNA, RNA) is not mentioned in any criteria!!!

Note: this DNA helix turns the wrong way: left-handed instead of right-handed.

This statement is a bit ambiguous. Most probably Kaufman suggests that, because genetic material isn't mentioned in Rivers' postulates, we can safely ignore it. A more interesting interpretation is: perhaps these postulates too are in need of revision.

In his 1936 Presidential Address to the Society of American Bacteriologists, Rivers foresaw that even his amendments to Koch would be superseded by new insights and rules[3]:

At the time when they were formulated Koch's postulates were essential for the progress of knowledge of infectious diseases; but progress having left behind old rules requires new ones which some day without doubt will also be declared obsolete. Thus,

So let's move on to the next century—that's where the real action is.

21th Century: David Fredericks

Again, [Wikipedia](#) puts things for us in historical perspective:

More recently, modern nucleic-acid-based microbial detection methods *have made Koch's original postulates even less relevant*. These methods enable the identification of microbes that are associated with a disease, but which cannot be cultured. Also, these methods are very sensitive, and can often detect very low levels of viruses in healthy people. (emphasis added)

Dr. David N. Fredricks is an infectious disease specialist in Seattle, Washington and is affiliated with multiple hospitals in the area. He has been in practice for more than 20 years. Fredericks and Relman formulated new principles of disease causation, taking into account the genomic revolution.[4] (See [Part 6](#) for some general principles).

1. A nucleic acid sequence belonging to a putative pathogen should be present in most cases of an infectious disease. Microbial nucleic acids should be found preferentially in those organs or gross anatomic sites known to be diseased, and not in those organs that lack pathology.
2. Fewer, or no, copies of pathogen-associated nucleic acid sequences should occur in hosts or tissues without disease.
3. With resolution of disease, the copy number of pathogen-associated nucleic acid sequences should decrease or become undetectable. With clinical relapse, the opposite should occur.
4. When sequence detection predates disease, or sequence copy number correlates with severity of disease or pathology, the sequence-disease association is more likely to be a causal relationship.
5. The nature of the microorganism inferred from the available sequence should be consistent with the known biological characteristics of that group of organisms.
6. Tissue-sequence correlates should be sought at the cellular level: efforts should be made to demonstrate specific in situ hybridization of microbial sequence to areas of tissue pathology and to visible microorganisms or to areas where microorganisms are presumed to be located.
7. These sequence-based forms of evidence for microbial causation should be reproducible.

Even with these updated "thoughts and guidelines" (Fredericks), no categorical statements can ever be made about microorganisms being the cause of a disease. These guidelines are all stated in relative language ("preferentially", "fewer", "decrease", "more likely", "consistent"). From the web of knowledge gathered by various sources, a scientific consensus arises. The step from association to causation is more or less a philosophical one.

This concludes our historical overview of Koch's Postulates and later amendments, caused by the progress of the science of virology. We are not living in the nineteenth century anymore.

DO VIRUSES ACTUALLY CAUSE DISEASE?

Instead of insinuating that these Chinese researchers—who have published the full genome of SARS-CoV-2 in record time—have made this all up, could it be that they just don't care about this "isolation" step anymore *because science no longer works this way?*

Andrew Kaufman, "Evidence that Viruses Cause Disease".

To his credit, Andrew Kaufman has done a close reading of both Koch's and Rivers' postulates, in the context of SARS-CoV-1 and SARS-CoV-2. I have included his presentation above for you to browse through. But when it comes to current virology, his expertise quickly seems to peter out. He seems obsessed with the fact that the SARS-CoV-2 virus has never been isolated according to old fashioned virological standards, implying that this puts the whole of the virological enterprise at stake.

A similar attitude can be found in Torsten Engelbrecht, author of *Virus Mania*, the bible of the virus deniers. He wrote an article provocatively titled "COVID19 PCR Tests are Scientifically Meaningless"[5] (which got published on the conspiracy website off-guardian.org, not any serious scientific magazine). In this article he describes that he approached several of the early Chinese researchers with the question if they had "purified" the new SARS-CoV-2, to which they politely replied with: "No we did not".

We asked several study authors "Do your electron micrographs show the purified virus?", they gave the following responses:

“The image is the virus budding from an infected cell. It is not purified virus.” (Malik Peiris)
“We could not estimate the degree of purification because we do not purify and concentrate the virus cultured in cells.” (Myung-Guk Han)
“We did not obtain an electron micrograph showing the degree of purification.” (Wan Beom Park)
“[We show] an image of sedimented virus particles, not purified ones.” (Wenjie Tan)

Instead of insinuating that these Chinese researchers—who have published the full genome of SARS-CoV-2 in record time—have made this all up, could it be that they just don't care about this "isolation" step anymore *because science no longer works this way?*

These self-appointed no-virologists are two centuries behind the times. They look a lot like this cruise ship passenger, who is disoriented in the new digital world:



Sextant

A passenger on a cruise ship sailing in the middle of the Pacific Ocean is harassing the captain about the current position of the ship.

Captain: "Look at the screen here."

Passenger: "All those so-called GPS systems have not been validated, I insist that you determine our position with the trusted sextant and calibrated clock!"

Captain: "Ah, you are a romantic?! Maybe I have an old-fashioned sextant lying around here somewhere, but it is quite cloudy, so there is really no chance of shooting the sun today."

Passenger: "See, we are hopelessly lost! Send an SOS!"[6]

Likewise, Kaufman seems lost in the genomic sea, when he argues: 'The main point: we don't know where these sequences came from.'[7] When viruses are cultured in so called Vero cells (kidney cells from African monkeys), or viral samples are taken from human patients, researchers don't run the risk of confusing these mammalian cells with viruses, because both can be sequenced to the minutest detail. Microscopes have been replaced by highly sophisticated sequencing equipment.

This is the progress of science. Everything under the sun has been genomically sequenced these days: humans, neanderthals, fossil bones, animals, plants, fungi, bacteria, archaea and even viruses. The truth is, modern virologists do recognize a viral sequence when they see one.

```
12541 atcagcattg tgggaaatcc aacaggttgt agatgcagat agtaaaattg ttcaacttag
12601 tgaatttagt atggacaatt cacctaattt agcatggcct cttattgtaa cagctttaag
12661 ggccaattct gctgtcaaat tacagaataa tgagcttagt cctgttgcac tacgacagat
12721 gcttgtgct gccgtaacta cacaaaactgc ttgcaactgat gacaatgctg tagcttacta
12781 caacacaaca aaggaggagta ggtttgtact tgcaactgta tccgatttac aggatttgaa
12841 atgggctaga ttcctaaga gtgatggaac tggactatc tatacagaac tggaaaccacc
```

nCoV_IP2-12696bProbe+ sequence in SARS-CoV-2 genome.

Do we know the SARS-CoV-2 virus exists? Do we know it is the cause of Covid-19? Asking these questions is legitimate. Ignoring progress made in modern virology isn't.

NOTES

[1] Rivers, T. M. 1937. [Viruses and Koch's postulates](#). *J. Bacteriol.* 33:1-12.

[2] Andrew Kaufman, "Evidence that Viruses Cause Disease or The Rooster in the River of Rats", www.youtube.com. This video has been removed for violating YouTube's Terms of Service. Available from [another Youtube user](#).

[3] Rivers, p. 4.

[4] Fredricks, David; Relman, David (January 1996). "[Sequence-Based Identification of Microbial Pathogens: a Reconsideration of Koch's Postulates](#)" (PDF). *Clinical Microbiology Reviews*. 9 (1): 20-21.

[5] Torsten Engelbrecht & Konstantin Demeter, "[COVID19 PCR Tests are Scientifically Meaningless](#)", off-guardian.org, Jun 27, 2020.

[6] Pepijn van Erp, personal communication, Twitter, Sept. 6, 2020.

[7] David Icke & Andrew Kaufman, "Chromosome 8 w/ David Icke and Dr. Kaufman", www.youtube.com, August 24, 2020.

This video has been removed for violating YouTube's Terms of Service. Available from Bitchute.com

Part 17: Was the SARS-Cov-2 virus created in the Wuhan lab?

FRANK VISSER

Arguing for a purely natural origin of the virus doesn't make one a China puppet, nor does being against China as a political system automatically make one prefer the lab origin theory.

In the past episodes of this Corona Conspiracy series, we have dealt with virus denialists, who deny the very existence of the SARS-Cov-2 virus (or even of all possible viruses). But this relates only to the *first* of twelve items that compose the standard scientific view of this pandemic that can be denied. Apart from its existence, there is legitimate debate about its contagiousness and its harmfulness. This is an area of epidemiology and statistics I don't want to go into here, because this is the domain of regular science. Even within that domain, intense disagreement can occur about the scope of the problems we are facing. True, some claim the impact of the pandemic is overestimated or exaggerated by some groups in society, with ulterior motives.

The next three items on this list (4, 5, 6) have become highly relevant in the past week, due to a whistleblower from Hong Kong, who fled to the US to tell the world about the true source of this virus. Does the virus have a natural origin? Or has it been spread on purpose, as a bio-weapon? Or was it perhaps spread accidentally, by a lab accident? We will go into this explosive material in the current essay.

Scientific and alternative facts about the coronavirus pandemic.

SCIENTIFIC FACTS

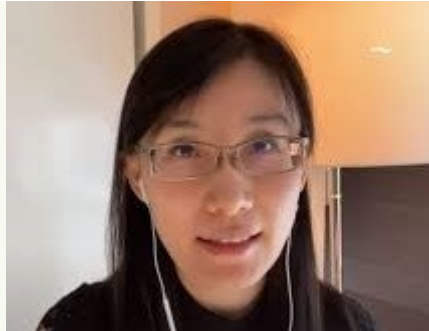
1. The virus exists

ALTERNATIVE FACTS

The virus does not exist

2. It is contagious	Contagion does not exist
3. It is harmful	It is harmless, if it exists at all
4. It has a natural origin	It does not have a natural origin
5. It is not spread on purpose	It is a secret bio-weapon
6. It is not spread accidentally	It has escaped from a viral lab
7. It is the result of disturbing wildlife	It is not the result of disturbing wildlife
8. It comes to us most probably from bats	It does not come to us from bats
9. Through an intermediate animal (pangolin)	It does not come through an intermediate animal
10. We must live in a temporary lockdown	A lockdown is an unnecessary tyranny, meant to enslave and monitor us
11. Until a vaccin has been found, if at all	Vaccins are dangerous and will be used to spy on us
12. And the virus will weaken down	Viruses have always been there, if they exist at all

MEET WHISTLEBLOWER LI-MENG YAN



Li-Meng Yan

[Li-Meng Yan](#), a Chinese virologist working at the Hong Kong School of Public Health, fled to the US in July 2020 and published a 26-page pre-print research paper with the breath-taking title "[Unusual Features of the SARS-Cov-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route](#)".[1] It claimed that the SARS-Cov-2 virus was made in a Chinese government or military laboratory and even provided an example of how this could have been done in a matter of months. She announced the article on a new Twitter account, and collected 60.000 followers in a few days—until Twitter banned her account for violating its "policies". She seems to be back with a new Twitter account (@LiMengYanNew), providing screenshots of the paper, but it has very few followers, so I doubt if it's a real account.

The authors of the paper belong to a Rule of Law Society & Rule of Law Foundation, an organization founded by [Steve Bannon](#), former chairman of Breitbart News and chief strategist to Donald Trump, and Chinese billionaire [Guo Wengui](#), who fled to the US in late 2014. The RLS has as its mission "To permit the people of China to live under a national system based on the rule of law, independent of the political system of the People's Republic of China ("China")." Bannon was recently arrested on the yacht of Guo Wengui for fraudulent dealing with contributions to the Build the Wall campaign. So the geopolitics is clear: an anti-China organization sponsors a semi-scientific article accusing the Chinese government of spreading a harmful virus.

Of course, such a message lands well in right-wing America, so Li-Meng Yan did the rounds on the conservative media circuit.

Among other media, she was interviewed for Fox News by Tucker Carlson. Here you can see that episode for yourself:

Coronavirus whistleblower speaks out about possible COVID origin on 'Tucker'

From this video I gather that the message she wants to tell the world is that SARS-Cov-2 is a very dangerous virus, and that it was created in a Chinese lab. I wonder how this message lands in the Trumpian universe, which has always dismissed the pandemic as not very serious. But for sure Donald Trump would love to hear from her that it is a "Chinese virus" after all!

We will not touch on the highly charged political aspects of this matter, but focus on the scientific side, which is already maddeningly complex for laymen. At the moment it is fair to say that arguing for a purely natural origin of the virus doesn't make one a China puppet, nor does being against China as a political system automatically make one prefer the lab origin theory. The theory should be evaluated according to its own scientific merits.

And no, being in the company of Bannon and Wengui definitely isn't ideal to get a hearing from the scientific community at large. But then again, where else would a whistleblower with such an explosive message find shelter in times of a worldwide crisis?

Is it plausible to claim the SARS-Cov-2 virus has been manufactured in a lab? Was it perhaps only a natural virus studied and stored in a lab and did it escape accidentally? Was it the product of gain-of-function research, which is done all over the world in various labs? Was an existing virus tweaked to make it more harmful? Is it likely it escaped from the Wuhan lab, which exists in the close proximity of the Wuhan wetmarket? If it really is a bio-weapon, why is it not more harmful? These are all at least theoretical, if rather speculative, possibilities.

Reading the virus genome feels like reading tea leaves to me. Is there evidence that the genome of SARS-Cov-2 has traces of manipulation, or is it anybody's guess?

MAKING SENSE OF 'THE YAN REPORT'

September 14, 2020

Journal article Open Access

Unusual Features of the SARS-CoV-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route

Yan, Li-Meng; Kang, Shu; Guan, Jie; Hu, Shanchang

The "Yan Report", as the paper download file is named by the authors, has had (as of today, September 21) 698,879 views and 539,705 downloads in only one week time—and counting—, which is an incredible accomplishment. Talking about "going viral"!

This is the central claim by the authors of this paper:

Despite its tremendous impact, the origin of SARS-CoV-2 has remained mysterious and controversial. The natural origin theory, although widely accepted, lacks substantial support. The alternative theory that the virus may have come from a research laboratory is, however, strictly censored on peer-reviewed scientific journals. Nonetheless, SARS-CoV-2 shows biological characteristics that are inconsistent with a naturally occurring, zoonotic virus. In this report, we describe the genomic, structural, medical, and literature evidence, which, when considered together, strongly contradicts the natural origin theory. (Abstract, p. 1)

To make a long story short, here are the three claims presented in the "Yan Report":

We present three lines of evidence to support our contention that laboratory manipulation is part of the history of SARS-Cov-2:

1. The genomic sequence of SARS-Cov-2 is suspiciously similar to that of a bat coronavirus discovered by military laboratories in the Third Military Medical University (Chongqing, China) and the Research Institute for Medicine of Nanjing Command (Nanjing, China).

2. The receptor-binding motif (RBM) within the Spike protein of SARS-Cov-2, which determines the host specificity of the virus, resembles that of SARS-Cov from the 2003 epidemic in a suspicious manner. Genomic evidence suggests that the RBM has been genetically manipulated.

3. SARS-Cov-2 contains a unique furin-cleavage site in its Spike protein, which is known to greatly enhance viral infectivity and cell tropism. Yet, this cleavage site is completely absent in this particular

class of coronaviruses found in nature. In addition, rare codons associated with this additional sequence suggest the strong possibility that this furin-cleavage site is not the product of natural evolution and could have been inserted into the SARS-Cov-2 genome artificially by techniques other than simple serial passage or multi-strain recombination events inside co-infected tissue cultures or animals. (p. 3)

To make sense of this technical language, it is perhaps best to read an early article, published in mid-March on the Nerds have Power blog, called "[Scientific evidence and logic behind the claim that the Wuhan coronavirus is man-made](#)", together with its companion article "[RaTG13 - the undeniable evidence that the Wuhan coronavirus is man-made](#)".[2] The author is anonymous, for reasons I don't follow, and describes himself as "A nobody scientist." At least the Yan report has identifiable names as authors. Obviously, this is not the way to get a hearing from science.

I also found a few YouTube videos that walk you through the Yan report, almost sentence by sentence, by a self-confessed conspiracy theorist called "J.C. on a Bike", who is sympathetic to the claim made by authors of the Yan Report. He mentions that the anonymous author of this early "Nerds have Power" blog post is actually the second author of the Yan report: Shu Kang.

The Yan Report - close reading by J.C. on a Bike - 14 Sep 2020

Truth be told, Kevin McCairn and Richard Fleming, who supported me in debunking Andrew Kaufman's virus-equals-exosome theory, also subscribe to this conspiracy theory that the virus is (at least in part) likely man-made by gain of function research and possibly escaped from a lab. So I am in for some cognitive dissonance here.

The upshot of the paper is that the authors claim that the SARS-Cov-2 virus genome is "suspiciously similar" to another virus, shows "suspicious resemblance" to the earlier SARS-CoV virus (but weren't they family members?), and has a few extra inserts, presumably added to an existing viral "backbone" genome, that enhance its infectivity. Most probably this was done to be able to use it as a bio-weapon.

THE 'SUSPICIOUS' PRRA INSERT

Zooming in on the third point, the extra inserts of a few amino acids, it is interesting to see how this rumor was already around very early on in the pandemic.[3] Bill Gallaher, Emeritus Professor Department of Microbiology, Immunology & Parasitology, states in his blog post "Tackling Rumors of a Suspicious Origin of nCoV2019" (as early as Feb. 7, 2020!):

I have been privately dealing with rumors and inquiries, focused on the RRAR potential furin cleavage site, that nCoV2019 may have a suspicious origin as an engineered, laboratory-generated virus either accidentally or deliberately released in the area of the Wuhan seafood and animal market. The publication of the highly similar RaTG13 sequence about a week ago has fueled this type of speculation.[3]

The scientific consensus is that SARS-CoV-2 was derived from a common ancestor of a bat corona virus, represented by the strain RaTG13, which was isolated in Yunnan province in 2013. Please note this is not the thesis of the authors of the Yan Report; they consider the genome of RaTG13 even to be "suspicious", "fabricated" and even "likely fraudulent". I am just giving it as an example of how tricky it can be to draw conclusions from virus genome comparisons.



The PRRA insert in the "Wuhan" genome, compared to the RaTG13 virus genome.

"Wuhan" is the SARS-Cov-2 virus, "RaTG13" is a supposedly very similar one (except for the inserts). All amino acids match perfectly, except in four places. Slightly enlarged for better readability:



The letters "PRRA" stand for four amino acids: "Pro, Arg, Arg, Ala", or "Proline, Arginine, Arginine, Alanine". If you remember from your school days, each amino acid is coded by three bases (called "codons"). But there is some flexibility here: one amino acid can be coded by several different codons. For example: Arginine can be coded by CGU, CGC, CGA, CGG, AGA, and AGG. They are all "synonyms" for Arginine. (So synonymous base

changes won't make a difference. It is the non-synonymous base changes these researchers are looking for, because they change the functionality of the genome.) Now this specific amino acid sequence PRRA translates in this genome to the following base sequence: CCT CGG CGG GCA.

		Second Position									
		U		C		A		G			
		code	amino acid	code	amino acid	code	amino acid	code	amino acid		
First Position	U	UUU	phe	UCU	ser	UAU	tyr	UGU	cys	U	
		UUC		UCC		UAC		UGC		C	
		UUA	leu	UCA		UAA	STOP	UGA	STOP	A	
		UUG		UCG		UAG	STOP	UGG	trp	G	
	C	CUU	leu	CCU	pro	CAU	his	CGU	arg	U	
		CUC		CCC		CAC		CGC		C	
		CUA		CCA		CAA	gln	CGA		A	
		CUG		CCG		CAG		CGG		G	
	A	AUU	ile	ACU	thr	AAU	asn	AGU	ser	U	
		AUC		ACC		AAC		AGC		C	
		AUA		ACA		AAA	lys	AGA	arg	A	
		AUG		met START		ACG		AAG		AGG	G
	G	GUU	val	GCU	ala	GAU	asp	GGU	gly	U	
		GUC		GCC		GAC		GGC		C	
		GUA		GCA		GAA	glu	GGA		A	
		GUG		GCG		GAG		GGG		G	

Source: "[Why a Triplet Code?](#)", The Plant and Soil Sciences eLibrary

It needs a professional virologist to unpack that code for us now: CCT CGG CGG GCA. Note that Gallaher mentions both PRRA AND RRAR in his blog post, so I give the full range here:

P	R	R	A	R
CCT	CGG	CGG	GCA	CGT

Gallaher continues and warns about being misled by superficial similarities between amino acid sequences in viral RNA genomes.[3] They can hide multiple differences that happen at the base level, and these are the real indicators of similarity (and a possible evolutionary relationship) between viruses:



Bill Gallaher

One has to consider that the PRRA is an unusual sequence to introduce to generate a furin site — others even among coronaviruses like MHV A59 are so much better. Also that the underlying code CCTCGGCGGGCA introduces an unnecessarily G and C rich region where none otherwise exists. Not likely scenarios for something a gene jockey would do.

Then one looks at the actual RNA alignment. The “insert” is actually not in frame, but CTCCTCGGCGGG, or -2 out of frame. Again, who does that?

But the PROOF lies in looking at the 288 alignable nucleotides on either side of the “insert”. While they cover identical protein sequence, the RNA is not at all identical, but 6.6% different — 19 mutations out of 288. All 19 are mutations in the wobble base of their respective codons. There are so many that the frame can be inferred from the 2/1 pattern even without knowing the beginning or the end, or indeed that the encoded protein sequence is identical — those are self-evident by looking at the RNA itself.

<u>Wuhan</u>	<u>23481</u>	CTAATGTTTTTCAAACACGTGCAGGCTGTTTAAATAGGGGCTGAACATGTCAACAACTCAT	23540
<u>RaTG13</u>	<u>23463</u>	CTAATGTTTTTCAAACACGTGCAGGTTGTTTAAATAGGGGCTGAACATGTCAATAACTCGI	23522
<u>Wuhan</u>	<u>23541</u>	ATGAGTGTGACATAACCCATTGGTGCAGGTATATGCGCTAGTTATCAGACTCAGACTAATT	23600
<u>RaTG13</u>	<u>23523</u>	ATGAGTGTGACATAACCTATTGGTGCAGGAATATGCGCCAGTTATCAGACTCAAACAACTAATT	23582
<u>Wuhan</u>	<u>23601</u>	CTCCTCGGCGGGCACGTAGTGTAGCTAGTCAATCCATCATTGCCTACACTATGTCACCTG	23660
<u>RaTG13</u>	<u>23583</u>	-----CACGTAGTGTGGCCAGTCAATCTATTATTGCCTACACTATGTCACCTG	23630
<u>Wuhan</u>	<u>23661</u>	GTGCAGAAAATTCAGTTGCTTACTCTAATAACTCTATTGCCATACCCACAAATTTACTA	23720
<u>RaTG13</u>	<u>23631</u>	GTGCAGAAAATTCAGTTGCTTACTCTAATAACTCTATTGCCATACCTACAAATTTACTA	23690
<u>Wuhan</u>	<u>23721</u>	TTAGTGTACCACAGAAATTCACAGTGTCTATGACCAAGACATCAGTAGATTGTACAA	23780
<u>RaTG13</u>	<u>23691</u>	TTAGTGTGACCACTGAAATTCACCTGTGTCTATGACCAAGACATCGGTAGACTGTACAA	23750

We know from influenza H1N1, for which we have serial isolates from 1918 to the present, that wobble base mutagenesis occurs at a rate of 0.95% per decade. This permits an estimation of the TMRCA of the two sequences nCoV2019 and RaTG13 of 69.5 years ago — roughly 1950 +/- 10 years or so.

RaTG13, or anything nearly identical to it at the RNA level, simply could not be a proximal source of nCoV2019. It just LOOKS like it might be...at first glance.

Given that furin cleavage signals are present in other coronaviruses at exactly that point in the S1/S2 boundary region, it only LOOKS unusual, especially against the backdrop of SARS. The preponderance

of evidence, coupled with Ockham's razor (that the simplest explanation is preferred) dictates that the PRRA sequence has been conserved in nCoV2019 from a long ago ancestor virus. It is not of suspicious origin. The closest bat virus sequence is really not close at all.

RNA don't lie.

Prof. Gallaher's follow up comments to his original blog post are tantalizing, and point in the direction of a fully natural origin of SARS-CoV-2. "I have found a probable source of the putative insert that adds the RRAR furin site to SARS-CoV-2. Ten of the 12 nucleotides in the RRAR insert are identical to a sequence in the spike protein gene of Bat Coronavirus HKU9 isolated from a Rousettus fruit bat in Guangdong province in 2011." And: "So the definitive source of the pandemic is a mixed infection of viruses similar to SARS-CoV-2 and Bat HKU9 – copy choice error resulting in an insert in SARS-CoV-2. Could occur in bats, intermediate animal or human." (May 2, 2020). He concludes:

This accidental mixed infection in the wild, and infection of a human by some form of bush meat or bat guano, who carries it by high speed train to Wuhan – this is the most likely series of events leading to the pandemic. The only laboratory required is the natural laboratory of the bat cave with multiple species of bats and bat coronaviruses.

I won't torture you with more technical details. The reason I am relating this is that even experienced virologists can differ widely in their interpretation of genome sequences.

At the very end of the Yan Report the authors point to the insert PRRA as well. They too notice it has a very uncommon coding CGG CGG, and they suspect this has been introduced as a marker:

Faul

```
tat cag act cag act aat tct cct cgg cgg gea cgt agt gta gct agt caa tcc atc att  
Y Q T Q T N S P R R A R S V A S Q S I I
```

Figure 7. Two consecutive Arg residues in the -PRRA- insertion at the S1/S2 junction of SARS-CoV-2 Spike are both coded by a rare codon, CGG. A Faul restriction site, 5'-(N)₆GCGGG-3', is embedded in the coding sequence of the "inserted" PRRA segment, which may be used as a marker to monitor the preservation of the introduced furin-cleavage site.

And they conclude: "In fact, this CGGCGG arrangement is the only instance found in the SARS-CoV-2 genome where this rare codon is used in tandem. This observation strongly suggests that this furin-cleavage site should be a result of genetic engineering." (p. 13) (underlining in the article)

Gallagher has summarized his views in a recent paper "[A Palindromic RNA Sequence as Common Breakpoint Contributor to Copy-choice Recombination in SARS-CoV-2](#)", which explains how recombination events in viral genomes can result in "suspicious inserts" for fully natural reasons.[4]

So this same small and strange snippet of code in the SARS-CoV-2 genome PRRA is taken by Gallager as evidence for a natural origin ("not likely a gene jockey would do"), whereas lab origin theorists such as Li-Meng Yan et.al. come to the exact opposite conclusion: it must therefore have been added by gain of function research.

I must confess my lack of expertise to answer these questions, so let us move on.

MAINSTREAM PEER REVIEWS

How did mainstream virologists respond to the Yan Report? Predictably, very dismissive.[5] Here's an anthology:

According to the paper's abstract, "SARS-Cov-2 shows biological characteristics that are inconsistent with a naturally occurring, zoonotic virus" and that it could have been created in a lab in approximately six months. According to *Newsweek*, several experts in evolutionary biology and infectious disease, including Jonathan Eisen and Carl Bergstrom, said the paper did not include new information, contained multiple unsubstantiated claims and had a weak scientific case. Angela Rasmussen, a virologist at Columbia University, said the paper was "basically all circumstantial and some of it is entirely fictional". For example the paper asserts that SARS-Cov-2 has a "unique" furin cleavage site in its protein structure "completely absent in this particular class of coronaviruses found in nature"; however Rasmussen says that many coronaviruses, including the 2012 MERS coronavirus, have these sites and that hence "This proves exactly nothing."

Yan's paper also stated that two strains of bat coronaviruses discovered in China, ZC45 and ZXC21, were "suspiciously" similar to SARS-Cov-2 and these strains could have been used as a template for a deadlier virus. The two strains differed by approximately 3,500 nucleotide base pairs. Several virologists, including Rasmussen, said it would be either inefficient or impossible to engineer a virus where 10% of its genome would have to be replaced.

In addition to citing many other unpublished pre-print papers, Yan's September 2020 pre-print cited online blogs and obscure web sites named "GM Watch" and "Nerd Has Power". Immunologist Kristian G. Andersen, a specialist in communicable diseases and genomics who was one author of a March 2020 journal article in *Nature Medicine* entitled "[The proximal origin of SARS-Cov-2](#)"[6] which definitively stated the virus was not created in a lab, and Yujia Alina Chan, a postdoctoral researcher, both said the paper left out recent data related to coronavirus in pangolins and bats. Andersen

further characterized the paper's prose with the statement: "It's using technical language that is impossible to decode for non-experts—poppycock dressed up as 'science'." ([Wikipedia](#))

Whatever the outcome, let's rely on solid and expert science, that is validated in the scientific community, instead of giving in to the temptation of conspiracy theories, which thrive only in obscure online subcultures.

'A COMPREHENSIVE INVESTIGATION'

So where do we go from here? The question as to the true origin of SARS-Cov-2 remains legitimate and is currently the subject of research (though the Chinese government might not be too cooperative). Last week *The Telegraph* reported[7]:

An international team of scientists will examine the possibility SARS-Cov-2 leaked from a laboratory as part of a comprehensive investigation into the origins of the virus.

The leader of this project is [Peter Daszak](#), a British zoologist and leading authority on zoonotic "spillover" events. This will not land well with the "lab origin" folks, I guess, but Daszak replies to them as follows:



Peter Daszak

Dr Daszak said yesterday he and his team would “systematically examine every theory” about the origin of the virus, carefully marshalling the scientific evidence for each.

He accepted conspiracy theorists would not welcome his appointment but said, as a scientist, he would “not be bound by preconceived ideas” and would investigate all avenues forensically and “with an open mind”.

He warned, however, it was not possible to “prove a negative” and said it was unlikely it would ever be possible to say with “absolute certainty” how the virus emerged.

The choice of Peter Daszak to lead this investigation has generated quite some scepticism and even outrage[8], given his involvement with the Wuhan Institute of Virology ([WIV](#)), even with gain of function research, but also from scientists like Kristian G. Andersen, author of the *Nature* paper defending the natural origin theory[6], who tweeted in response: "Not the right person for the job... That's ridiculous." ([Twitter](#))

Whatever the outcome, let's rely on solid and expert science, that is validated in the scientific community, instead of giving in to the temptation of conspiracy theories, which thrive only in obscure online subcultures. As virologist Ian MacKay remarked to me on Twitter, these are all cases of "a little knowledge [is a dangerous thing]."

NOTES

[1] Yan, Li-Meng; Kang, Shu; Guan, Jie; Hu, Shanchang, "[Unusual Features of the SARS-Cov-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route](#)", zenodo.org, September 14, 2020

[2] Anonymous, "[Scientific evidence and logic behind the claim that the Wuhan coronavirus is man-made](#)", nerdhaspower.weebly.com, 15 mrt. 2020. See also on the same blog: Anonymous, "[RaTG13 - the undeniable evidence that the Wuhan coronavirus is man-made](#)", nerdhaspower.weebly.com, no date, which is cross posted on <https://gnews.org/192144/>, May 2, 2020. Gnews.org is owned by Guo Wenghui.

[3] Bill Gallaher, "[Tackling Rumors of a Suspicious Origin of nCoV2019](#)", virological.org, February 7, 2020. See also his free ebook "[Analysis of Wuhan Coronavirus - Deja Vu](#)", February 2020.

[4] Gallaher, W.R. [A palindromic RNA sequence as a common breakpoint contributor to copy-choice recombination in SARS-COV-2](#). Arch Virol 165, 2341–2348 (2020). <https://doi.org/10.1007/s00705-020-04750-z>.

[5] Monique Brouillette & Rebecca Renner, "[Why misinformation about COVID-19's origins keeps going viral](#)", www.nationalgeographic.com, Sep. 18, 2020.

[6] Kristian G. Andersen, Andrew Rambaut, W. Ian Lipkin, Edward C. Holmes & Robert F. Garry, "[The proximal origin of SARS-Cov-2](#)", www.nature.com, 17 March 2020.

[7] Paul Nuki, "[Scientists to examine possibility Covid leaked from lab as part of investigation into virus origins](#)", www.telegraph.co.uk, 15 September 2020.

[8] Anonymous, "[Scientists outraged by Peter Daszak leading enquiry into possible Covid lab leak](#)", www.gmwatch.org, 23 September 2020.



Li-Meng Yan

stated on September 15, 2020 in an interview on "Tucker Carlson Tonight":

"This virus, COVID-19 SARS-CoV-2 virus, actually is not from nature. It is a man-made virus created in the lab."

"Tucker Carlson guest airs debunked conspiracy theory that COVID-19 was created in a lab"
([Politfact](#))

PRE-PRINT PEER REVIEWS

Warmbrod, K.L., West, R.M., Connell, N.D. & Gronvall, G.K. [In Response: Yan et al Preprint Examinations of the Origin of SARS-CoV-2](#). John Hopkins Center for Health Security, September 21, 2020.

Koyama, T., Lauring, A., Gallo, R. & Reitz, M. [Reviews of "Unusual Features of the SARS-CoV-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route"](#). Rapid Reviews COVID-19, September 25, 2020.

FOLLOW UP PAPER BY LI-MENG YAN ET.AL.

Yan, Li-Meng; Kang, Shu; Guan, Jie; Hu, Shanchang, "[SARS-CoV-2 Is an Unrestricted Bioweapon: A Truth Revealed through Uncovering a Large-Scale, Organized Scientific Fraud](#)", zenodo.org, October 8, 2020

Part 18: QAnon, When Conspiratorality Meets Politics

FRANK VISSER

No part of the [QAnon] theory is based on fact. ([Wikipedia](#))

But for sure, the current corona crisis has turned out to be David Icke's finest moment.

Yesterday, September 26, 2020, another lockdown protest was held at Trafalgar Square, London, for an estimated 15.000 people. Those attending these events have widely different opinions about the coronavirus—ranging from it does not exist to it is a harmless virus—but they are all united in their conviction that the current lockdown measures are disproportionate, unnecessary or evil. David Icke again took center stage, and held the following incendiary speech:

'A CHOICE RIGHT NOW BETWEEN FEAR AND LOVE'



David Icke: "I have dreamt of moments like this so many times and despaired here and there that they would ever come and here it is: Humanity awakens!"

In a previous speech at Trafalgar Icke had summarized his message in three sentences, to a roaring crowd, and qualified the UK politicians in the following, rather unsophisticated way:

"They have no power! [Crowd: Yeahh!!] If we don't give it to them! [Crowd: Yeahh!!!] They are all psychopaths! [Crowd goes insane.]" For someone who has been delusional for three decades in a row, since he proclaimed himself to be the Son of God in a BBC tv program[1], this is quite ironic. But for sure, the current corona crisis has turned out to be David Icke's finest moment.

In this speech, "the psychopaths" (politicians) feature prominently again. They are tyrants, fascists, who rob us of our freedoms, and our health. Again, the PCR test is ditched as "a fake test, producing fake cases, to produce fake excuses, for real fascism." In his opinion, masks don't ensure your health but are "to be a symbol of oppression, of submission, a symbol of being silenced, a symbol of the destruction and deletion of individuality, and an exercise in mass global dehumanization." So he shouts: "People of the world, if you want to express your freedom in the face of fascism, take your bloody mask off!" And make no mistake about the gravity of the crimes: "The deceit is so premeditated, so long planned so calculated, so cold and so callous that we must not rest until those responsible... until those responsible are before a Nuremberg type trial for crimes against humanity!"

Switching tones and taking a wider view, Icke has a positive and spiritual message for his audience: "We are unique expressions of all that is, has been and ever can be, having a brief experience called human, people, human family across the world, awaken to who you really are, remember, remember who you really are, and it's not what they have been telling you!" And: "There's no such thing as death, life is only a dream, and we are the imagination of ourselves, and what the human family has done is allow the psychopaths to hijack our imagination of ourselves, and we need to take it back!" Life is all about "just a choice right now between fear and love [Applause] and that is all it is, all it has ever been!" In the end resistance will prevail: "And what love brings is a backbone of steel, and the power of No. 'No, I will not cooperate with our own enslavement.' And there are billions of us, and a handful of you, when we wake up to that the game is over..."

As I detailed in [Part 1](#), Icke's thoroughly paranoid worldview has religious roots in the tradition of gnosticism. In the gnostic worldview, the world has not been created by God, but a lesser god, alternatively identified with the Jewish god Jehova, Satan, the Demiurg and so on, who are heading a multitude of archons or demons. High above these lesser gods are the realities of Sophia and ultimately the Godhead. Icke sees our world as a "demon haunted world" (Carl Sagan's famous book), and urges his audience not to comply with these lesser authorities, but to seek a way out through love and awakening, by contacting the Godhead or higher Self. Huge irony can be found here as well, when someone who preaches love against fear, sees demons everywhere around us—in evil technology (5G), foreign governments (China) and secret elites (the Illuminati, the Jews). This merging of conspiracy thinking and spirituality has been called "conspirituality", and it has become a factor of influence in the modern world, among both New Agers and right-wing extremists. This time, the government is framed as "Satanic" and the "deep state" is something to overthrow.



Willem Engel

This rather sinister worldview has similar examples in the Netherlands as well. We have a movement called "[Virus Truth](#)" (formerly known as "Virus Madness", but this was blocked by social media), which is headed by [Willem Engel](#), a handsome Brazilian dance teacher with a background in bioscience, who urges his followers to live a life of "love and truth", and to disregard and defy the lockdown measures because they are felt as too restrictive. Engel is full time busy criticizing the mainstream news media or suing the government for imposing lockdown measures on the population. Not surprisingly, those

who have felt the downside of these measures most forcefully are vulnerable to this message. He has found ways to reach a younger audience through a couple of Dutch YouTube "influencers" (who are ignorant about virology), who disseminate these ideas on Instagram and other social media.

Now I want to be clear up front that this whole field is quite diverse, and opinions can be sorted on a spectrum ranging from regular and conventional science to full blown conspiracy theory. There is a commonly accepted scientific view of the pandemic, as described in [Part 2](#), that sees it as a zoonotic disease, a "spillover" from the animal to the human kingdom, as most if not all viral diseases have done in the past. Yet, within science dissident opinions can be heard, which cast doubt on this narrative (as no intermediate animal species has yet been found), and suspect the virus might have accidentally escaped from a lab (see [Part 18](#)). Then there are those who reject the allopathic view of health and replace it with some form of alternative medicine. Most of these practitioners don't see viruses as harmful, and if they do, they advise us to "strengthen our immune system" instead of inventing dangerous vaccines. And then there's the most extreme view of conspiracy theorists, who see a plan behind the whole pandemic (a so called "plandemic", see [Part 14](#)), set up by an elite of evil agents working behind the scene (Bill Gates being the favorite villain in these circles). Those in this category can also suspect the virus has been created as a bio-weapon.

The spectrum of opinions about COVID-19.

1. Orthodox science >	2. Dissident science >	3. Alternative medicine >	4. Conspiracy theory
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Also, this is not to say there are no grains of truth in these unorthodox views of science, health and society. Yes, science has an orthodoxy, that is resistant to unorthodox views, which perhaps have to fight harder to get a hearing (but in many cases this resistance is justified: Einstein was an eccentric but not every eccentric scientist is an Einstein). And yes, having a strong

immune system is as important as avoiding contact with viruses (but that doesn't mean we have to deny their very existence or trust only potions that supposedly "strengthen" it). And yes, the world of politics is full of conspiracies, make no mistake about it (but usually these are exposed by solid investigative journalism, not by social media heroes). And yes, gain-of-function research is done on viruses in many labs around the world, and the chance of some of these viruses escaping from a lab can never be excluded (but we should keep our heads clear and first look for more mundane explanations).

Those in the third and fourth category often play fast and loose with scientific data, as we have seen in this Corona Conspiracy series, to provide "evidence" for their views. They try to prove that vaccines are mostly harmful, that the current PCR test don't work, or that viruses "have never been isolated". This might be seen as harmless amateurism, but the truth is, they reach a huge audience, mostly on online media channels, and this can have real impact when the respect for scientific experts and institutions is undermined. Even worse, when hard working politicians are accused of being pedophiles or Satanists, are assaulted on the streets and receive death threats (this has happened to a Dutch politician), things obviously have crossed a red line.

It is personally baffling to me how lockdown measures such as social distancing and wearing masks—which make perfect sense in the context of a new virus to stop its spread, even if the result can be modest—are experienced by certain parts of the population with such hysterical dread. You only need to go over Icke's rethoric and metaphors to get the impression that it has become a matter of life and death. Ironically, again, it *is* a matter of life and death, but not in the way he intends it to be. A new virus can kill hundreds of thousands, old and young, if we don't take the appropriate measures. Resisting these measures only risks more of these lives.

Can this run out of hand in our society at large? Can culture wars devolve into a real civil war? Shouldn't we stand up against these inflammatory movements which in the name of love and light cause chaos and disorder? To answer this question we need to turn to a conspiracy movement called "QAnon", which

originated a few years ago on an obscure online message board, but has now reach the offline world of politics.

Shouldn't we stand up against these inflammatory movements which in the name of love and light cause chaos and disorder?

QANON: THE JEWEL IN THE CONSPIRACY CROWN

Touching base with [Wikipedia](#) first we find out that:

"QAnon is a far-right conspiracy theory alleging that a cabal of Satan-worshipping pedophiles running a global child sex-trafficking ring is plotting against President Donald Trump, who is battling them, leading to a "day of reckoning" involving the mass arrest of journalists and politicians. No part of the theory is based on fact.

Although preceded by similar viral conspiracies such as Pizzagate, the theory proper began with an October 2017 post on the anonymous imageboard 4chan by "Q", who was presumably an American individual but most likely has become a group of people. Q claimed to have access to classified information involving the Trump administration and its opponents in the United States. NBC News found that three people took the original Q post and expanded it across multiple media platforms to build internet followings for profit. QAnon was preceded by several similar anonymous 4chan posters, such as FBIAnon, HLIAnon (High-Level Insider), CIAAnon, and WH Insider Anon.

Q has accused many liberal Hollywood actors, Democratic politicians, and high-ranking officials of being members of the cabal. Q also claimed that Trump feigned conspiracy with Russians to enlist Robert Mueller to join him in exposing the ring and preventing a coup d'état by Barack Obama, Hillary Clinton, and George Soros. "Q" is a reference to the Q clearance used by the U.S. Department of Energy. QAnon believers commonly tag their social media posts with the hashtag #WWG1WGA, signifying the motto "Where We Go One, We Go All".

From these first three paragraphs alone one already gets the impression of a worldview that is seriously deranged and even pathological. Unfortunately, many think otherwise.

As an example of how this uniquely American body of ideas has been exported to Europe as well, even to the Netherlands, we can use the videos created by Dutch former crop circle specialist and conspiracy theorist [Janet Ossebaard](#). Her English language videos promoting QAnon (perhaps with some local Dutch additions of her own, see below tables) have attracted millions of viewers worldwide.

Ossebaard made headlines when in an interview by rapper Lange Frans they floated the fantasy of killing our prime minister

Mark Rutte. The only reason she would not do that herself was "to keep my karma clean." And then she explicitly gave the message: "We need help." Given the fact that the Netherlands have had the political assassination of Dutch politician (and potential prime minister candidate) [Pim Fortuyn](#) in 2002, this is totally irresponsible, given the suggestibility of their audience. But it is in line with the QAnon dreams of a violent endgame in which a host of "criminal" opponents will be convicted for their "crimes", mostly of child trafficking and abuse.



Janet Ossebaard and Lange Frans: "They will all go down. All of them."

Here's a fragment from the video (1:03:14) that has received half a million views in the Netherlands in two months time (since August 5, as of today, October 8, 2020):

JO: And yet, in the end, we will be the ones that remain. I truly believe that! In the end, it all falls like loose sand, and then we will still be standing.

LF: If we look at our situation in the Netherlands. We discussed about Joris Demmink ...

JO: Mark Rutte, Geert Wilders. The royal family, Oh my God, [to me its sounded like "all of them dead"]

LF: All of them?

JO: All of them.

LF: So, you would suggest these are people that are going to fall? Should we do that ourselves? Will we get help? Or is there some Dutch Militia who are training in the woods to bring down that whole tower with some mysterious action? Where is this going?

JO: Good question... I wish I knew. On the one hand, I think we can't do this alone. The people cannot do this alone. What do we have to do? Shoot that man? I'm not going to do it! I would like to keep

my Karma clean.

LF: That as well! And I can shoot just fine! It's not that I would miss, you see. But do you understand what I imply?

JO: You are not expensive at all.

LF: It's not that I couldn't, it's my head saying, hold on, I love that night's sleep.

JO: Right! Exactly. And you don't want your kids to visit you in prison. I don't want that! We'll keep this clean. But this does mean that we need help. I slightly realize that, which is why I also ask Trump. Don't forget us, please! Of course, he is not alone, he has a team. With Q, Q is a team. The Q phenomenon is a team of people. That is the top of the military, just call it the military top of the world.

Trying to make sense of the apparent nonsense of Ossebaard's ideas and narratives, which are shot through with violent fantasies of death and revolution, I have been greatly helped by the work of Dutch skeptic Pepijn van Erp, who has extensively debunked both her views on the QAnon ideology[2] (in "Fall of the Cabal") and on COVID-19.[3] I have summarized the topics covered by Ossebaard and Van Erps conclusions in the following two tables (but please do read his own articles for juicy details).

Claims by Janet Ossebaard on QAnon, debunked by Dutch skeptic Pepijn van Erp

OSSEBAARD	VAN ERP
1. Fall Cabal Introduction	31 claims debunked
2. The world is rules by the Cabal, the Illuminati	11 claims debunked
3. Migrants from Central America, Soros, child trafficking	11 claims debunked
4. Clinton, Wikileaks, Hollywood, pedophilia	26 claims debunked

5. Pizzagate, Satanic ritual and child abuse	26 claims debunked
6. Google, Facebook and Twitter are enemies of free speech, censorship	7 claims debunked
7. Dutch royalty is related to Q, Bilderberg Conferences	11 claims debunked
8. European elite and Pope Francis are connected to child abuse	3 claims debunked
9. Trump and some generals are behind Q. Masterplan to "drain the swamp"	7 claims debunked
10. John F. Kennedy jr. is not dead but will return to support Trump	4 claims debunked
TOTAL CLAIMS DEBUNKED	137

The video series "Fall of the Cabal" by Janet Ossebaard, Parts 1-10. Even this shadow version posted 5/4/20 has reached 1,434,099 views (as of 9/27/20).

Since our Corona Conspiracy series is about COVID-19, I will provide somewhat more details in the following table related to Janet Ossebaard's video about COVID-19 (but again, check out Van Erps articles for more). The video has 4 parts and 10 storylines.

Claims by Janet Ossebaard on COVID-

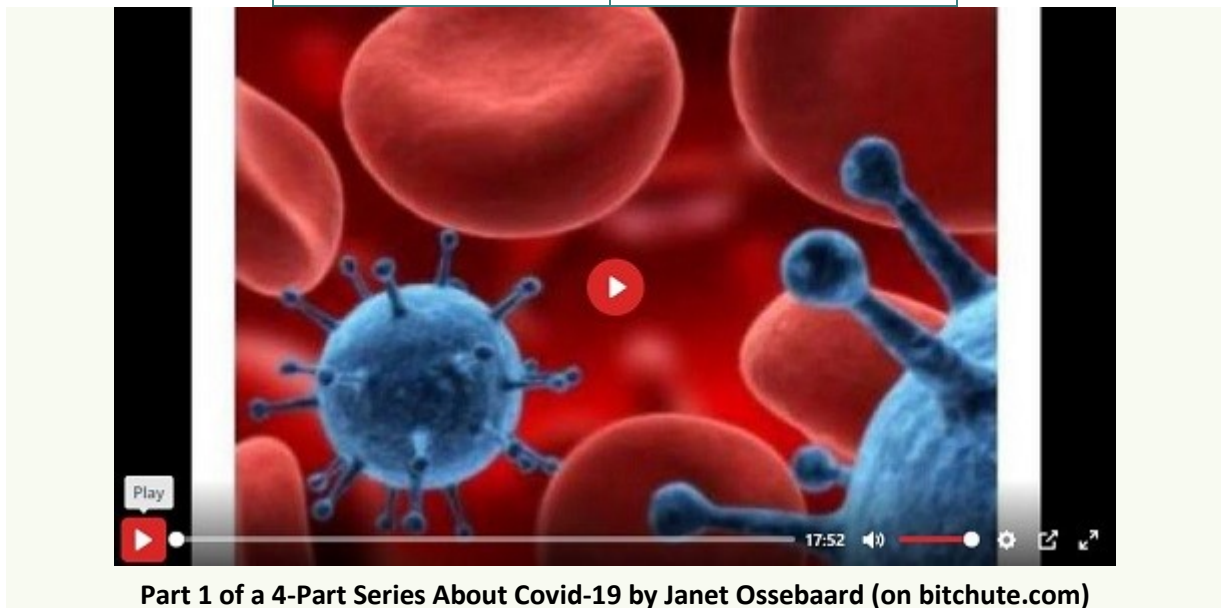
**19,
debunked by Dutch skeptic Pepijn van
Erp**

OSSEBAARD	VAN ERP
I-1. COVID-19 is like the flu and is a flu virus	COVID-19 is worse than the flu and not a flu virus
I-2. SARS-CoV-2 was spread to humans by eating bat soup, or it was created in a laboratory	SARS-CoV-2 most probably jumped to humans through an intermediate species.
I-3. 5G has something to do with mind control, was never properly tested, makes animals drop dead and is used as a diversion to cover up damage done by 5G.	5G could be used for crowd control/management. There are no reasons to expect 5G to be any different than 2G, 3G or 4G, since it is non-ionizing radiation.
I-2. SARS-CoV-2 was created in a laboratory	This is a theory spread by Miles Guo (see Part 17)
II-4. Myth: Bill Gates is behind all this, to make money and reduce the population, the virus was created in a lab, there are patents for this coronavirus.	The lab theory is unproven. The patent mentioned is for a different coronavirus. Vaccine research mostly costs money. Gates' TED talk on population.
II-4a Bill Gates is a Rockefeller	They are very vaguely related.

<p>III-6. SARS-CoV-2 was designed to prevent mass demonstrations (through social distancing)</p>	<p>Totally unrelated. Many countries with the coronavirus did not have mass protests.</p>
<p>III-7 Myth: SARS-CoV-2 was designed by the Cabal to prevent Trump getting reelected</p>	<p>This is a rather indirect and complicated way to reach such a political result.</p>
<p>III-8 Myth: The New World Order might not be reached due to the collapse of the economy.</p>	<p>Rockefeller's quote about a New World Order following a crisis is taken out of context.</p>
<p>III-9. Under the guise of COVID-19 world leaders and celebrities are being arrested because they are child molesters</p>	<p>Some celebrities are in quarantine and some Catholic priest have died of Covid-19. Nothing suspicious here.</p>
<p>III-10. Mass arrests are expected to happen until Good Friday, 10 April 2020.</p>	<p>None of these predictions have come true.</p>
<p>IV-sequel - Several "experts" are quoted: Ioannidis, Bhakdi, Köhlein (co-author of <i>Virus Mania</i>), Wodarg</p>	<p>These experts either deny viruses or have been debunked, some are reasonable. See for example an article on Wodarg in Der Spiegel.</p>
<p>Tests cannot distinguish SARS-</p>	<p>She misreads the test disclaimer: it doesn't</p>

CoV-2 from other coronaviruses.

test for other viruses.



Having spent a whole day immersed in these QAnon aberrations, my first hunch is: there should be medication for this. Or a psychiatric diagnosis. False-oppression syndrome? Paranoid explosion? Do these well-fed people shouting "Tyranny!" and "Fascism!" know what they are talking about? How to bring these people to their senses again? Looking at these protest meetings it doesn't look like this calmness of mind will be coming any time soon.

DARKER POLITICS, NAZISM REBRANDED

There is a darker undercurrent in these systems of belief, that are clearly anti-Semitic. Gregory Stanton argues that these very ideas are echoes of Nazi ideology[4] :

A secret cabal is taking over the world. They kidnap children, slaughter, and eat them to gain power from their blood. They control high positions in government, banks, international finance, the news media, and the church. They want to disarm the police. They promote homosexuality and pedophilia. They plan to mongrelize the white race so it will lose its essential power.

Is this a description of what QAnon believers read online today? No, it is part of the fake document [*The Protocols of the Elders of Zion*](#), "the most influential anti-Jewish pamphlet of all time." Says Stanton:

It was written by Russian anti-Jewish propagandists around 1902. It collected myths about a Jewish plot to take over the world that had existed for hundreds of years. Central to its mythology was the Blood Libel, which claimed that Jews kidnapped and slaughtered Christian children and drained their blood to mix in the dough for matzos consumed on Jewish holidays.

The Nazis published a children's book of the Protocols that they required in the curriculum of every primary school in Germany. The Nazi newspaper, *Der Stürmer* (derived from the German word for "Storm") spread the Blood Libel. Hitler's *Mein Kampf*, his narcissistic autobiography and manifesto for his battle against the Jewish plot to rule the world, copied his conspiracy theories from the Protocols.

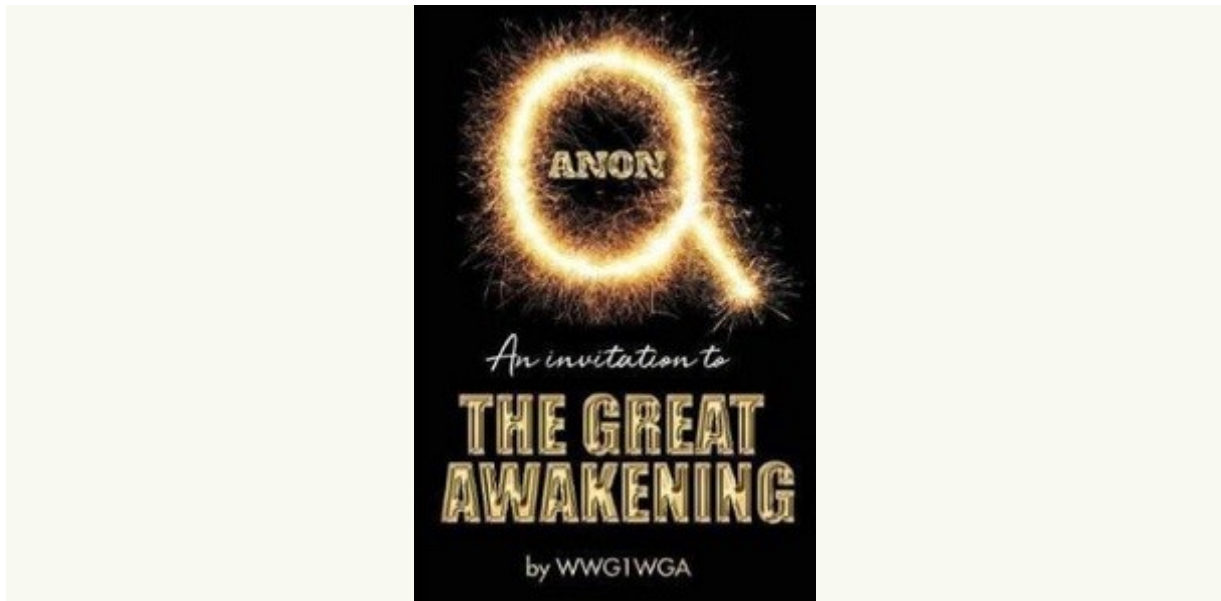
Is it a coincidence that David Icke has frequently been accused of anti-Semitism as well?" Indeed, "His endorsement of the antisemitic forgery "The Protocols of the Elders of Zion" in *The Robots' Rebellion* and *And the Truth Shall Set You Free* led his publisher to refuse to publish his books, which were self-published thereafter." ([Wikipedia](#)) And is it a coincidence that "QAnonists" talk about the coming "Storm" or "The Great Awakening"? Is it a coincidence that neo-Nazis stormed the government buildings during a similar lockdown protest in Berlin, a few weeks ago?



QAnon looms behind nationwide rallies and viral #SavetheChildren hashtags.

QAnon currently seems obsessed with the issue of child abuse. At a recent lockdown protest meeting, a Dutch rapper and conspiracy theorist Lange Frans, a huge supporter of Janet Ossenbaard, was asked about his support for QAnon. Unwilling to answer any questions, he just stated "There are a lot of people here who believe in God and are against child abuse." Of course, opposing child abuse is a good thing, but hijacking this

topic within the context of myriad fabrications is entirely something else.



Clearly, where most of the QAnon literature comes across as catering to autistic nerdy types (just check out *QAnon: An Invitation to the Great Awakening*, 2019, written by a collective of mostly anonymous authors), who take pleasure in decoding "Q drops" from on high, this emphasis on child protection appeals to the female members of the community. This child abuse meme has given a boost to QAnon's diminishing popularity, but interest seems to be on the decline again. Until, that is, some other misinformation topic shows up.[5]

For with QAnon, anything goes.

And of course, these kinds of child abuse related accusations go back a long way, long before Nazism appeared on the scene:

Blood libel or ritual murder libel (also blood accusation) is an antisemitic canard which accuses Jews of murdering Christian children in order to use their blood as part of religious rituals. Historically, these claims—alongside those of well poisoning and host desecration—have been a major theme of the persecution of Jews in Europe. ([Wikipedia](#))

As there is a strong affinity between QAnon and extreme right-wing Nazism, there is also a family resemblance with orthodox Christian beliefs about the End of Times that are at hand. "QAnon's precepts and vocabulary are closely related to the religious concepts of millenarianism and apocalypticism."

([Wikipedia](#)) This might explain why many Republicans support (overtly or covertly) the QAnon ideology. "According to a March 2020 Pew survey, 76% of Americans said they had never heard of QAnon, 20% had heard "a little about it", and 3% said they had heard "a lot". A September 2020 Pew survey of the 47% of respondents who said they had heard of QAnon found that 41% of Republicans and those who lean Republican believed QAnon is good for the country, while 7% of Democrats and those who lean Democratic believed that." ([Wikipedia](#))

If these segments of US voters are influenced—even a little—by QAnon ideology, it is far from impossible that the coming US Elections will get a decisive push in the direction of Trump being re-elected. That's why the only thing Trump said when asked about QAnon was: "I don't know anything about them, except they seem to like me." (Of course he knows, he regularly retweets many QAnon related tweets during his daily Twitter sessions). And in response to a journalist asking him about pedophiles, Satanism and cannibalism, he said, avoiding the issue, "Is [being against] that supposed to be a bad thing, or a good thing? If am am able to save the world from problems, I am willing to do it".[6] A clear signal to the QAnon audience looking out for a World Savior. The video is flooded with QAnon comments.

Journalist: "At the crux of the theory it is this belief that you are secretly saving the world from this satanic cult of pedophiles and cannibals. Does that sound like something you are behind?"

Trump: "Well, I haven't, I haven't heard that, but is that supposed to be a bad thing or a good thing? I mean, you know, if if I can help save the world from problems I'm willing to do it. I'm willing to put myself out there and we are actually, we're saving the world from a radical left philosophy that will destroy this country." (1:35)

Conspiracy thinking has come to the real world. And it has become serious business. Even when it is in the form of the most nutty and deranged version I have come across while doing this series of articles: QAnon.

These QAnonists think "God" is on their side, and whatever they detest or don't like comes from "Satan". It is dangerous medieval mythology.

-0-0-0-0-0-

“If a criminal became a president, imagine what they could achieve! They could use the full weight of their executive power to commit much larger crimes, and ensure they and their friends were enriched to the fullest extent possible. A criminal president could create alliances with other criminal presidents, and then collaborate on more global criminal activities.”

— WWG1WGA, *QAnon: An Invitation to the Great Awakening*, p. 3-4.

Great irony here, considering QAnon's hero Donald Trump's record of tax evasion and his more than friendly dealings with Vladimir Putin and Kim Jong-un.

NOTES

[1] Icke explains this episode here: "[Gay Byrne talks to David Icke days after his controversial interview with Terry Wogan on the BBC.](#)" www.rte.ie, 1991.

[2] Pepijn van Erp, "[Debunking Fall Cabal by Janet Ossebaard](#)" (a series in 10 parts), www.pepijnvanderp.nl, April-May 2020.

[3] Pepijn van Erp, "[Debunking Janet Ossebaard's COVID-19 video series](#)", www.pepijnvanderp.nl, March 19, 2020.

[4] Gregory Stanton, "[QAnon is a Nazi Cult, Rebranded](#)", www.justsecurity.org, September 9, 2020.

[5] Kevin Roose, "[How 'Save the Children' Is Keeping QAnon Alive](#)", www.nytimes.com, September 28, 2020.

[6] "['Is that a bad thing?' Trump says he opposes 'satanic pedophiles' when asked about QAnon](#)", www.rt.com, 19 Aug, 2020.

Part 19: Thomas Cowan and "The Myth of Contagion"

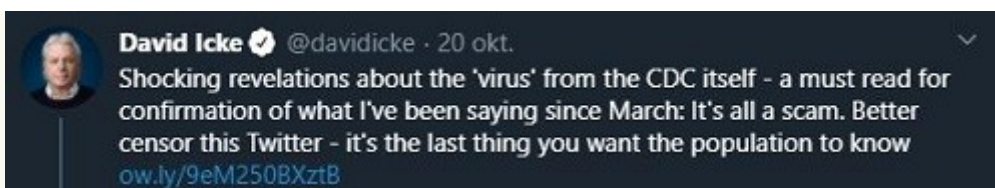
FRANK VISSER

It is all a matter of a perceived presence, or absence, of imminent danger.

Having collected the 18 previous parts of this series on the Corona Conspiracy in a [Kindle edition](#), I felt compelled to write yet another part. This Corona Conspiracy story is just ongoing, since virus denialists seem to raise their head again and again. This time it was our old friend David Icke notifying us on Twitter of an article by dr. Thomas Cowan, which contained "shocking" content.[1]

Now you have to know that Icke almost daily posts "shocking" content on Twitter related to the pandemic, most if not all of which turns out to be fake. Remember how he announced the "Chromosome 8 Bombshell" revelation, which we debunked in [Part 15](#)? The story went that PCR tests actually test for part of the human genome, which would lead to an enormous number of false positives. Our investigation showed that this was all based on an elementary misunderstanding of how PCR tests actually work.

This time he links to the article "Only Poisoned Monkey Kidney Cells 'Grew' the 'Virus'" from dr. Thomas Cowan, a naturopath and Anthroposophist, and one of the mentors of virus denier Andrew Kaufman (see [Part 4](#)). Note the quotes around "virus"—Cowan doesn't really believe in their existence. He claims, in short, that even according to the CDC, the new SARS-CoV-2 virus is not contagious to human beings. And he criticizes the methods used to establish the whole genome of the virus as "scientific fraud." [2] And here we go again!



CLEAR AND PRESENT DANGER?

But first let me elaborate a bit more on an idea I expressed in [Part 18](#), about how there seems to be a spectrum of opinions, ranging from conventional science to dissident science to alternative medicine and finally to conspiracy theory.

A Spectrum of Views on the Severity of SARS-CoV-2			
THE SARS-COV-2 VIRUS IS...			
Conventional Science	Dissident Science	Alternative Medicine	Conspiracy Theory
Extremely dangerous	Mildly dangerous	Harmless/ Beneficial	Completely Non-existent
Lockdown Measures	Ventilation Improvement	Healthy Lifestyle	Resistance Awareness

For some this seems to be also the career path they have followed, starting out as a trained medical doctor but over the years finding the path to alternative medicine and conspiracy theory (Andrew Kaufman and Thomas Cowan being prime examples).

Underlying this spectrum is a difference in how the severity of the present SARS-CoV-2 virus is perceived: as extremely dangerous (conventional science), mildly dangerous (dissident science), harmless or even beneficial (alternative medicine) or as completely non-existent (conspiracy theory). Based on that difference, the current lockdown measures are either considered to be appropriate (or even too mild!), disproportionate and harmful to society and the well-being of its

inhabitants, or even ludicrous and a symptom of evil intentions, which should be resisted at all cost.

It is all a matter of a perceived presence, or absence, of imminent danger. It is a matter of underestimation or overestimation when it comes to the severity of the pandemic. (The same psychological mechanism might apply to climate change).

Now for every opinion on the pandemic multiple data and graphs can be provided that seem to provide scientific support (see [Part 14](#) for the infodemic we are now experiencing). Almost nobody denies a huge peak in excess deaths in the spring of 2020, but opinions diverge about their cause (the virus or the stringent lockdown measures and fear mongering, coupled with 5G or air pollution?) and about our current situation (are we witnessing a second wave, or just a "casedemic")?

It is true that the number of deaths attributed to SARS-CoV-2 are much lower than in early 2020, but conventional scientists point to better treatment methods and age related differences in the population (while at the same time emphasizing the effects of even "mild" Covid-19 can be long lasting and debilitating). Corona skeptics just declare the pandemic to be over and urge governments (through legal means or demonstrations) to undo the lockdown measures and go back to normal life.

So who is right? Does it require an almost superhuman capacity to process all these data or just some common sense? Lacking the former I rely on the latter. Yes, we have a pandemic, and yes, it makes sense to take precautions to prevent spreading this virus to others. But the true and total costs of this operation should always be taken into account. And focussing on a healthy lifestyle and the prevention of comorbidities definitely helps reducing the number of deaths. But I see no reason to let paranoia get the better of us and succumb to fantasies about an upcoming (and evil) New World Order or obscure rings of pedophiles in need of being exposed (see [Part 18](#)).

QUOTING OUT OF CONTEXT

This brings us to [Thomas Cowan](#), the author of *Cancer and the New Biology of Water; Vaccines, Autoimmunity, and the Changing Nature of Childhood Illness*; and *Human Heart, Cosmic Heart*. In 2017, Thomas Cowan's [medical license got revoked](#), because of his controversial cancer treatments (sharing the same fate with Andrew Kaufman). He claims Covid-19 is mainly caused by 5G (see also [Part 1](#)), and every next generation of mobile frequency has caused its own "pandemic".[8] This idea is elaborated upon by Arthur Firstenberg (who was injured by X-ray overdose, which cut short his medical career) in his book *The Invisible Rainbow: A History of Electricity and Life* (2017). Here are some correlations believed to be causations in these circles.

THOMAS COWAN ON THE REAL CAUSE OF PANDEMICS		
2003	3G	SARS outbreak
2009	4G	Swine flu outbreak
2020	5G	SARS2 outbreak

In Cowan's understanding, 5G damages human cells, which releases poisons and viruses are actually exosomes, particles created by cells to get rid of this poison. This recalls Andrew Kaufman's "virus equals exosome" hypothesis which we debunked in Parts 2, 3, 4 and 9. Ironically, though David Icke (Part 1) had also linked Covid-19 to 5G, to his credit Kaufman said in his webinar he had found no evidence for that link. Yet, Cowan is listed as one of Kaufman's sources, so we need to take a closer look at Cowan. Cowan, in turn, frequently refers to Kaufman's work.

Cowan has ridiculed the idea of viruses attacking cells by likening them to ping pong balls being thrown at a brick wall. Apparently, Cowan hasn't studied basic virology and knows nothing about spikes, cell receptors and the strategy of viruses to cancel a cell's immune response. Listen how Cowan argues against the reality of viral contagion, in a webinar in which he refers to Andrew Kaufman's "brilliant webinars":

Cowan's understanding of how viruses attack cells: "I'm an inventor and I invented a new device which is a ping pong ball that can knock down brick walls." (3:02)

In a widely circulated talk by Cowan in which he links Covid-19 to 5G (March 26, 2020, now taken offline by YouTube), Cowan mentioned the work of Rudolf Steiner as one of his sources. Steiner, according to Cowan, had stated in 1918 in the context of the Spanish Flu: "Viruses are simply excretions of a toxic cell." In a critical response "[Is it fair to say that COVID-19 is not infectious?](#)"[4] to this webinar by Cowan, long time Anthroposophy student Richard Katz has made a number of excellent points about the viral nature of Covid-19 in general and Cowan's misquoting of Steiner in particular (he contacted various authorities on Rudolf Steiner). He concludes:

Steiner was not saying that microbes were "excretions of a toxic cell." That seems to be Dr. Cowan's interpretation of modern research (see below) attributed to Steiner. Steiner did not contend that "Viruses [or bacteria] have nothing to do with it." As I understand Steiner, he was saying that there are multiple levels of causation, and we should look beyond the materialistic causes to find deeper causes... Dr. Cowan is unfortunately spreading untruth by inaccurate and misleading citations of Steiner...

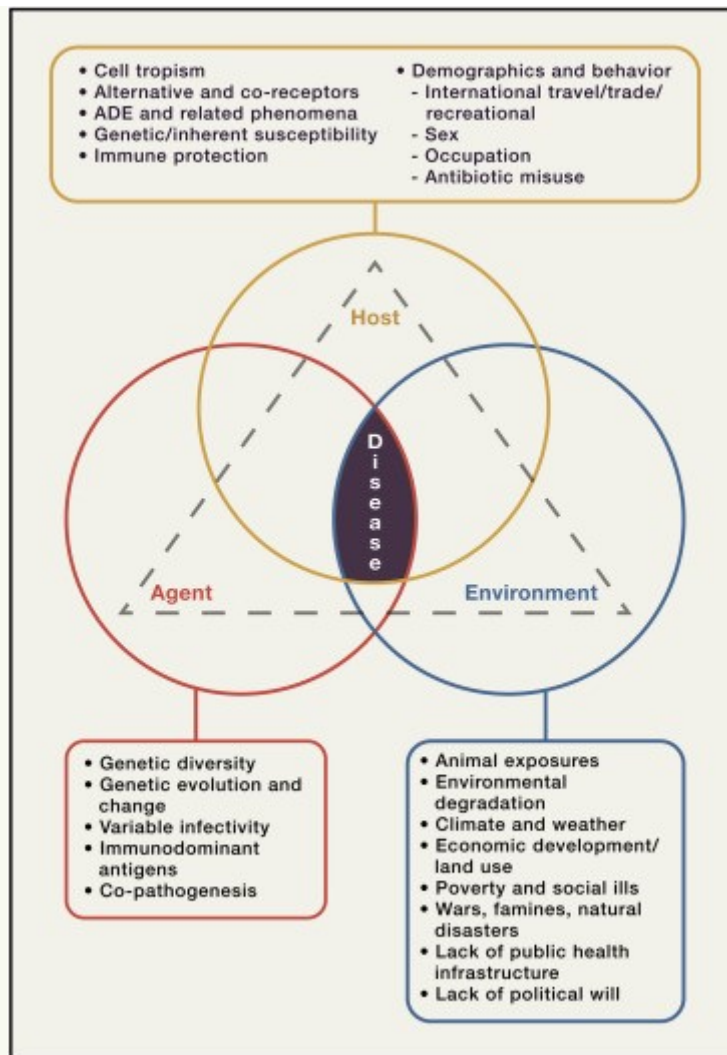
Dr. Cowan then moves to the idea that viruses are internally generated "messengers" from the cells to alert other cells or organisms to some toxic situation. That's an interesting hypothesis, and it might well be part of the disease phenomena. But it doesn't prove that the disease is not infectious. It is simply another explanation of disease transmission... Modern research on the microbiome and human virome overturns the conventional thinking that bacteria and virus are all pathogenic. But here is the logical fallacy: that statement does not mean that *no* bacteria and *no* viruses are pathogenic. Saying that there are other causes of disease besides microorganisms does not mean that microorganisms have "nothing to do with it" or that there is no such thing as transmission of disease. Binary thinking is materialistic thinking, which is part of what makes us unhealthy... Dr. Kaufman also makes the point that there are many false positives by the PCR test because it shows people who don't have disease symptoms test positive for the RNA sequences thought to be associated with the virus. But are those false positives, or examples of asymptomatic infection? I

don't think we know the answer. Maybe both factors are involved... The testing based on genetic sequences might well be far from perfect, although I doubt it is useless, as Cowan and Kaufman suggest. Researchers claim that the genetic sequences for which they are testing are not otherwise present in the human genome. I leave it to others with more expertise to evaluate these claims.... [see [Part 15](#) where this claim is debunked]. In other words, rather than relying only on what one sees through the microscope, or solely on tests based on genetic sequences, or requiring a protocol based on 19th century germ theory (Koch's Postulates), let's consider the actual experience of human beings who are suffering and the patterns of transmission that we can see playing out day by day.[4]

I have made essentially similar points in this Corona Conspiracy series. We can take an integral view of health and disease in which both microbes (the "germs") and the body and its immune system (the "terrain") can be taken into account, without resorting to extreme points of view in either way. We often hear the quote attributed to Louis Pasteur who in his last hours supposedly said "the microbe is nothing, the terrain is everything", but this sounds to me as going to the opposite extreme.

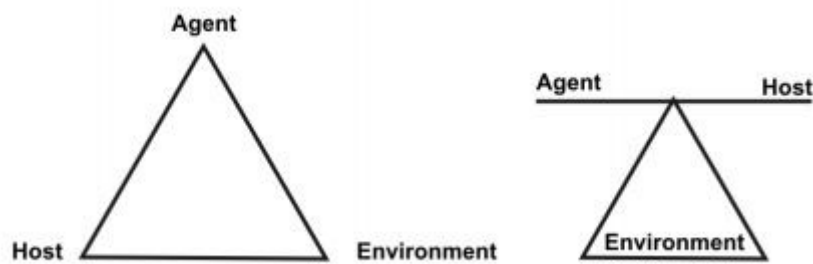
In a widely read and influential paper by Morens and Fauci[5]—yes, *the* Fauci, who most conspiracy theorists consider to be one of the really bad guys—the following factors are taken into account: agent, host and environment, resulting in a balanced and integral approach to the pandemic. There is no need to deny *any* of these three main factors. They conclude:

The triad of causations of emerging and other diseases, as conceptualized for over a century, represents interactions between infectious agents, their hosts, and the environment. This conceptualization acknowledges the reality that, while infectious diseases themselves are necessarily "caused" by microbial agents, emergences that produce epidemics and pandemics are also significantly determined by co-factors related to the host and to host-environmental interactions.[5]



Infectious Agents, Hosts, and the Environment: Determinants of Disease Emergence and Persistence (Morens & Fauci, 2020).

The authors refer for this triadic model to a very elementary handbook of epidemiology, [Principles of Epidemiology in Public Health Practice](#) (CDC, 2010), which is freely available online. Note the use of quotes around "caused", signalling that these conventional authors are very well aware of the multi-dimensional nature of explanations for the pandemics that have occurred. Note also they state this model is known "for over a century". So this is common knowledge, folks. Nothing spectacular or revolutionary. In an alternative diagram in this handbook they show there is a fine balance between agent and host, given a certain environment:



The epidemiological triad.

As a matter of fact, like myself, Katz too felt compelled to contact James Hildreth (who featured prominently in [Parts 2](#) and 3) directly to check about Kaufman's claim that even "real" virologist agree with his view on viruses. Again, Hildreth strongly repudiated Kaufman's misinterpretations and stressed the dangerous nature of SARS-CoV-2 as an infectious virus. Listen to Hildreth himself, in a video linked to by Katz:

Hildreth: "In the case of Covid-19 we are in fact the vectors, because we are transmitting the virus to each other. So the goal is to eliminate the vectors and that means we have to protect ourselves and by doing that everybody else." (2:16)

A CASE OF SCIENTIFIC FRAUD?

His latest book, *The Contagion Myth: Why Viruses (including "Coronavirus") Are Not the Cause of Disease*, was recently dropped by Amazon, because it "objected to its content"[3]—obviously because Cowan denies the existence of any contagious virus. I know Facebook and Twitter censor conspiracy content at the moment, but I hadn't heard yet that Amazon follows this policy too (a policy I am not in favor of).



Thomas S. Cowan

The central premise of 'The Contagion Myth' is that, contrary to what we have been led to believe, no actual scientific evidence exists that any novel coronavirus exists. Science lays out clear, well-accepted, and defined rules for how we determine that a new virus exists. Researchers take a sample from a sick person, macerate, filter, and centrifuge it until a pure virus is obtained. This virus is then examined under the electron microscope. Shockingly, on page 39 of the CDC's July 2020 bulletin, the CDC acknowledges no published 'isolates' of the coronavirus are known. Equally shockingly, the authors of the six most important papers on the isolation and characterization of this new virus all publicly and in writing admit that they neither purified nor isolated this virus. At this point, there is simply no evidence this virus exists, let alone causes any disease.[6]

Like Kaufman and Lanka (see [Part 7](#)), Cowan doesn't believe in the existence of viruses, and yet criticizes science for not properly following its own methodology. And again, they see the isolation issue as decisive, overlooking the advances made in genomic science to fully sequence a viral genome, to the last base pair. These naturopaths simply don't seem to be up to date about the accomplishments of science. At the moment, over 50,000 full genomes of SARS-CoV-2 have been generated, with a perfect match, except for minor mutational variations (see [Part 12](#)).

He declares on this blog, asking for "Rigorous, Open, Scientific Discourse":

We, of course, could be incorrect in our documentation of these statements as well as many other pieces of historical evidence we lay out, in which case in a free, open, and post-Enlightenment society, other researchers would come forth with clear evidence that we are in error. I would welcome such a discourse. I would love to review whatever studies they would present. Yet, instead, we are met with censorship and scorn. This response is an ominous development in the life of humanity, one we must oppose.[4]

Let's see how Cowan fares with reporting on this topic of sequencing. He refers to an academic paper published by the CDC in June 2020, which reports how the full genome of SARS-CoV-2 was established from a US patient.[7] Let's first listen to what Cowan has to say:

First, in the section titled 'Whole Genome Sequencing,' we find that rather than having isolated the virus and sequencing the genome from end to end, they found 37 base pairs from unpurified samples using PCR probes. This means they actually looked at 37 out of the approximately 30,000 of the base pairs that are claimed to be the genome of the intact virus. They then took these 37 segments and put them into a computer program, which filled in the rest of the base pairs.



Unicorn

To me, this computer-generation step constitutes scientific fraud. Here is an equivalency: A group of researchers claim to have found a unicorn because they found a piece of a hoof, a hair from a tail, and a snippet of a horn. They then add that information into a computer and program it to re-create the unicorn, and they then claim this computer re-creation is the real unicorn. Of course, they had never actually seen a unicorn so could not possibly have examined its genetic makeup to compare their samples with the actual unicorn's hair, hooves and horn.

The researchers claim they decided which is the real genome of SARS-CoV-2 by 'consensus,' sort of like a vote. Again, different computer programs will come up with different versions of the imaginary 'unicorn,' so they come together as a group and decide which is the real imaginary unicorn.[2] (emphasis in the original)

"Scientific fraud", no less. Virus denialists usually have a preference for this strong language when it comes to judging the scientific validity of conventional science.

This is what the original academic article said (and these descriptions are highly technical, so bear with me):

We designed 37 pairs of nested PCRs spanning the genome on the basis of the coronavirus reference sequence (GenBank accession no. [NC045512](#)). We extracted nucleic acid from isolates and amplified by using the 37 individual nested PCRs. We used positive PCR amplicons individually for subsequent Sanger sequencing and also pooled them for library preparation by using a ligation sequencing kit (Oxford Nanopore Technologies), subsequently for Oxford Nanopore MinION sequencing. We generated consensus nanopore sequences by using Minimap version 2.17 and Samtools version 1.9. We generated consensus sequences by Sanger sequencing from both directions by using Sequencher version 5.4.6, and further confirmed them by using consensus sequences generated from nanopore sequencing...

A nearly full-length viral contig obtained in each sample had 100% identity to the 2019-nCoV/USA-WA1/2020 strain (GenBank accession no. [MN985325.1](#)). All the remaining contigs mapped to either host cell rRNA or mitochondria. We mapped the trimmed reads to the reference sequence by using

BWA version 0.7.17 and visualized these reads by using the Integrated Genomics Viewer to confirm the identity with the USA-WA1/2020 strain. [5]

So, where to begin? Cowan misunderstands these findings completely. He thinks that 37 base pairs out of a total of 30,000 (amounting to 1/1000 part) were used to guess the nature of the viral genome. In reality the article mentions that "37 pairs of nested PRCs spanning the genome" were used. The pairs refer here to the forward and reverse primers used for each PCR (see [Part 15](#) for explanations of these terms). That means, that the full width of the genome was covered using 37 different tests. One such a test can contain up to hundreds of base pairs. Since there's a maximum to the number of "reads" that can be handled by one test, multiple overlapping reads are needed. That's why combining these tests gives us the picture of the whole genome.

The "consensus" that seems to bother Cowan refers to the technology of finding the sequence that occurs most frequently in a sample, when various alternative sequences are found for a given part of the genome (multiple copies of the virus are tested simultaneously). It is not a matter of voting but of calculation. And their result claims 100% identity to another US viral genome.

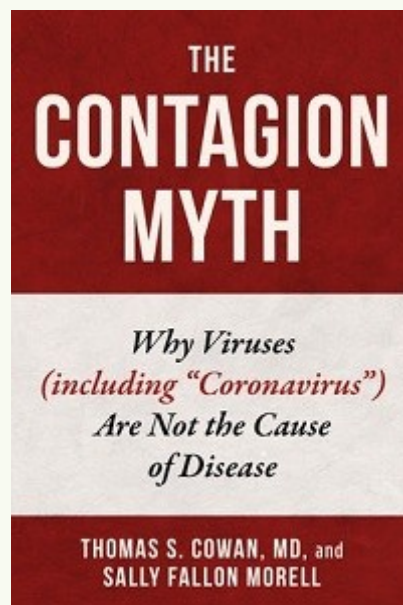
Furthermore, the scientists could separate human from viral RNA, because "all the remaining contigs mapped to either host cell rRNA or mitochondria." As you may remember, Andrew Kaufman, who also hasn't the faintest clue about how whole genome sequencing works, frequently makes the unfounded claim: "The main point: we don't know where these sequences came from" (see [Part 15](#)). Again, this shows a total disregard of how modern day genomic science operates.

A **contig** (from *contiguous*) is a set of overlapping DNA segments that together represent a consensus region of DNA. In bottom-up sequencing projects, a contig refers to overlapping sequence data (reads); in top-down sequencing projects, contig refers to the overlapping clones that form a physical map of the genome that is used to guide sequencing and assembly. Contigs can thus refer both to overlapping DNA sequence and to overlapping physical segments (fragments) contained in clones depending on the context. ([Wikipedia](#))

'THE MOST SHOCKING STATEMENT OF ALL'

The second point Cowan makes in his article is that even the CDC now acknowledges that SARS-CoV-2 is not contagious to humans. Cowan doesn't believe in *any* form of contagion, but let's focus on this particular virus. Of course, he is on the lookout for any shred of evidence that seems to support his outlandish notion. This is what he concludes from the same academic article referred to above:

The real blockbuster finding in this study comes later, a finding so shocking that I had to read it many times before I could believe what I was reading. Let me quote the passage intact:



'Therefore, we examined the capacity of SARS-CoV-2 to infect and replicate in several common primate and human cell lines, including human adenocarcinoma cells (A549), human liver cells (HUH 7.0), and human embryonic kidney cells (HEK-293T). In addition to Vero E6 and Vero CCL81 cells. ... Each cell line was inoculated at high multiplicity of infection and examined 24h post-infection. No CPE was observed in any of the cell lines except in Vero cells, which grew to greater than 10 to the 7th power at 24 h post-infection. In contrast, HUH 7.0 and 293T showed only modest viral replication, and A549 cells were incompatible with SARS CoV-2 infection.'

What does this language actually mean, and why is it the most shocking statement of all from the virology community? When virologists attempt to prove infection, they have three possible 'hosts' or models on which they can test. The first is humans. Exposure to humans is generally not done for ethical reasons and has never been done with SARS-CoV-2 or any coronavirus. The second possible host is animals. Forgetting for a moment that they never actually use purified virus when exposing animals, they do use solutions that they claim contain the virus. Exposure to animals has been done once with SARS-CoV-2, in an experiment that used mice. The researchers found that none of the wild (normal) mice got sick. In a group of genetically modified mice, a statistically insignificant number lost some fur. They experienced nothing like the illness called Covid 19.

The third method virologists use to prove infection and pathogenicity—the method they most rely on—is inoculation of solutions they say contain the virus onto a variety of tissue cultures. As I have pointed out many times, such inoculation has never been shown to kill (lyse) the tissue, unless the tissue is first starved and poisoned.

The shocking thing about the above quote is that using their own methods, the virologists found that solutions containing SARS-CoV-2—even in high amounts—were NOT, I repeat NOT, infective to any of the three human tissue cultures they tested. In plain English, this means they proved, on their terms, that this 'new coronavirus' is not infectious to human beings. It is ONLY infective to monkey kidney cells, and only then when you add two potent drugs (gentamicin and amphotericin), known to be toxic to kidneys, to the mix. (emphasis in the original)[2]

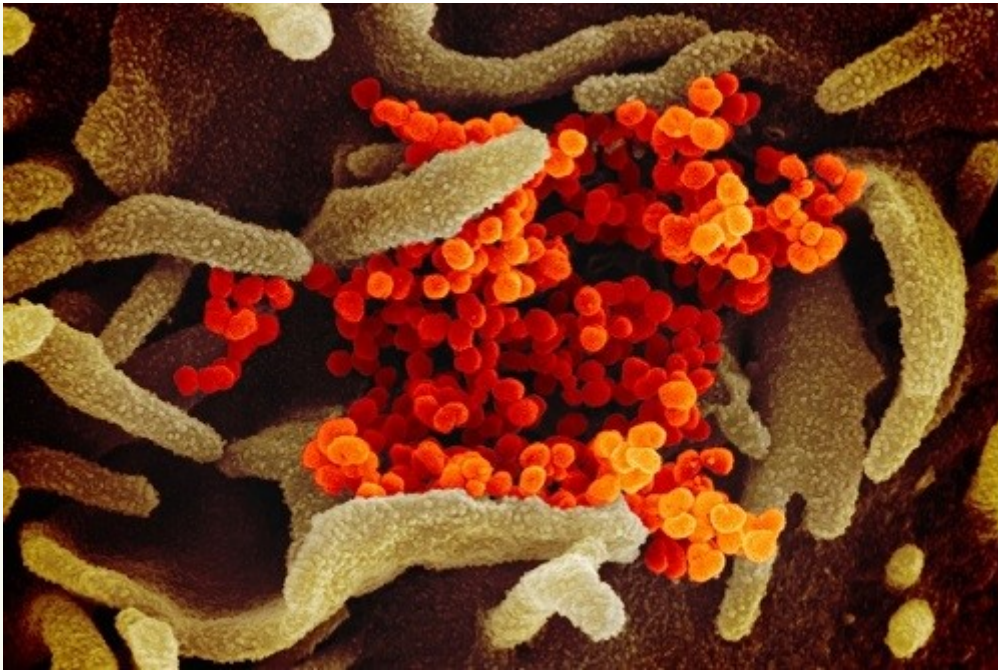
Again, where to begin? One of the aims of this study was to find different cell types other than the usual [Vero cells](#) that could be used to culture the virus. This is useful knowledge for research purposes.

Because research has been initiated to study and respond to SARS-CoV-2, information about cell lines and types susceptible to infection is needed. Therefore, we examined the capacity of SARS-CoV-2 to infect and replicate in several common primate and human cell lines, including human adenocarcinoma cells (A549), human liver cells (HUH7.0), and human embryonic kidney cells (HEK-293T), in addition to Vero E6 and Vero CCL81 cells.[7]

But not each and every human cell type is equally susceptible to being infected by this virus. Hence their seemingly negative result: "No CPE [cytopathic effect] was observed in any of the cell lines except in Vero [african monkey kidney] cells." Apparently, human kidney cells, adenocarcinoma cells, and liver cells did not get infected. However, other researchers found many human cell types that were susceptible to SARS-CoV-2, such as respiratory, corneal and intestinal epithelial cells.[8] Other researchers found cells in the lungs, nasal passage and intestines more susceptible to infection.[9] So this is part of an ongoing type of research to find out which species can get infected by this virus and which cannot. And which cell types in these affected species are affected and which cell types are not.

Cowan stated he had to read the academic paper several times, "before I could believe what I was reading". Apparently that didn't help him understand it properly. He only saw what he wanted to see: there is actually no evidence for contagion. By consistently disregarding and misinterpreting these scientific

data the new SARS-CoV-2 virus will forever remain an elusive unicorn, at least for Thomas Cowan.



This scanning electron microscope image shows SARS-CoV-2 (orange)—also known as 2019-nCoV, the virus that causes COVID-19—isolated from a patient in the U.S., emerging from the surface of cells (green) cultured in the lab. (Credits:Credit: NIAID-RML)

NOTES

[1] David Icke, "[Shocking revelations about the 'virus' from the CDC itself - a must read for confirmation of what I've been saying since March: It's all a scam](#)", davidicke.com, October 20 2020.

[2] Thomas Cowan, "[Only Poisoned Monkey Kidney Cells 'Grew' the 'Virus'](#)", drtomcowan.com, October 15, 2020.

[3] Kelly Wynne, "[YouTube Video Suggests 5G Internet Causes Coronavirus and People Are Falling for It](#)", Newsweek, March 19, 2020;

Petr vagner, "[Is 5G related to coronavirus? This conspiracy theory is more cunning than you expect. How did it originate and why does it attract people?](#)", www.time24story.com, October 22, 2020.

[4] Richard Katz, "[A Query: Is it fair to say that COVID-19 is not infectious?](#)", www.flowersociety.org, Updated April 9, 2020.

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[6] Thomas Cowan, "[Whatever Happened to Rigorous, Open, Scientific Discourse?](#)", drtomcowan.com, October 6, 2020.

[7] Jennifer Harcourt et. al., "[Severe Acute Respiratory Syndrome Coronavirus 2 from Patient with Coronavirus Disease, United States](#)", cdc.com, June 2020.

[8] Waradon Sungnak et.al., "[SARS-CoV-2 entry factors are highly expressed in nasal epithelial cells together with innate immune genes](#)", *Nature*, 23 April 2020;

[9] Anne Trafton, "[Researchers identify cells likely targeted by Covid-19 virus](#)", MIT News Office, April 22, 2020.