

# A Bestiary of COVID Conspiracies

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## Abstract

An infodemic of false information and conspiracy theories has followed closely in the wake of the ongoing COVID-19 pandemic, exacerbating the public health disaster. In order to curb their spread and counter their effects, conspiratorial beliefs must be catalogued and understood. Drawing on examples from social media video and audio sharing platforms, we provide a non-exhaustive list of conspiratorial beliefs related to the COVID-19 pandemic, and categorize them into three groups: A) beliefs concerning the motivation of the conspirators, including bringing down a rival nation-state, bringing about planetary depopulation, and/or imposing global tyranny; B) beliefs concerning the nature of the COVID-19 disease, including that the disease is made-up, that its impact is exaggerated, that it is caused by a bioengineered virus, and/or that it is caused by a non-viral agent; and C) beliefs concerning the public health response, including that masks and vaccines are harmful to health, and/or that vaccination is an insidious way to track and control the population. We conclude by reflecting on the necessity of tracking and understanding the continuously evolving epistemic ecosystem of pandemic-related conspiracist beliefs in order to implement effective strategies to “quarantine” harmful conspiracy theories and “vaccinate” individuals against conspiracism.

## Introduction

In the wake of the accelerating pandemic of COVID-19, such an extraordinary number of conspiracy theories arose that the World Health Organization (WHO) Director-General Tedros Adhanom Ghebreyesus declared that “We’re not just fighting an epidemic; we’re fighting an infodemic”(1). Conspiracy theories can have a real impact on health, interpersonal relationships, and safety even in the absence of a global public health disaster<sup>2</sup>, and the need to catalogue and understand them is all the more pressing during a pandemic. In this paper, we review some of the most widespread conspiratorial beliefs related to the pandemic and categorize them into three groups: A) the motivation of the conspirators; B) the nature of the disease; and C) the nature of the public health response. Through examples from each category, we provide a non-exhaustive but representative snapshot of the epistemic ecosystem generated or influenced by the worldwide spread of COVID-19.

The list of conspiracy theories was compiled by a selective keyword search to identify the original source

publication (where possible; a sufficiently similar surrogate document was considered as an alternative) for each belief considered in this work. This generated a non-exhaustive, yet representative set of documents to analyse further. Among identified posts, publications, tweets, and articles, select statements considered most salient to the individual beliefs comprising that conspiracy theory were tabulated in Appendix Table 1. The inclusion criteria of each statement of each document required one or more of the set A beliefs as well as at least one or more of the set B and/or set C beliefs for inclusion within our analysis (discussed later). The union of all beliefs from all statements of a given document was produced to summarize the belief set represented in that document. The following sections define each of these A,B, and C sets of beliefs.

### **A: Beliefs concerning the motivation of the conspirators**

The first set of beliefs is concerned with providing an explanation of *why the conspirators have effected the*

*pandemic*, regardless of what the nature of the disease is. Three views on the motivation of the perpetrators are particularly illustrative: i) to smear or damage a rival nation-state or ideology; ii) to reduce an excessively inflated world population; iii) to curtail civil and political liberties and bring economic destitution to the population.

#### ***A.i: A weapon against national rival(s)***



The view that COVID-19 is a form of biological warfare is exemplified by theories that it was weaponized by the United States against the People's Republic of China or vice versa (3). In March 2020, as the

epidemic in China was being contained with great and costly effort and the initial wave of cases in the US was rapidly growing, ordinary citizens and state officials in both superpowers had slung accusations in the direction of the other. The belief that COVID-19 was introduced to China by a US military athlete participating in the 2019 Military World games in Wuhan spread among Chinese social media users in March 2020 (4), and was amplified by Lijian Zhao (5), a Chinese foreign ministry spokesperson. Conversely, the view that SARS-CoV-2 may have accidentally escaped from a laboratory in Wuhan was promoted by US Senator Ted Cruz (6). President Donald Trump, who in March 2020 repeatedly referred to SARS-CoV-2 as “the Chinese Virus” (7), later echoed these views, suggesting in April 2020 that the virus may have been mistakenly or intentionally released from a Chinese laboratory.

#### ***A.ii: A means of planetary depopulation***

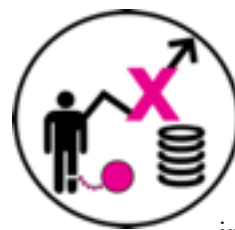


The view that the pandemic has been organized by a shadowy global elite or a secret world government to depopulate the planet is an updated iteration of existing conspiracist beliefs. In the 1990s, far-right organizations in the

United States, including the John Birch Society, interpreted the text of a non-binding United Nations (UN) sustainable development action plan known as Agenda 21 as an outline of a UN-organized political takeover of the planet which would include both the destruction of the American way of life and depopulation through mass murder in order to create a collectivist environmentalist dystopia (8). Such views are mirrored in the 1994 book “The World Government Conspiracy: Rus-

sia and the Golden Billion” by the Russian economist and conspiracist, Anatoly Kuzmich Tsikunov (9). In Tsikunov’s scenario, the depopulation plot of the world government is ultimately prompted by an impending global Malthusian catastrophe. The pandemic itself or the public health response have been incorporated into these or similar narratives as the tools of the conspirators (10,11). Vaccination in particular has sparked fears of this kind, with social media posts decrying Bill Gates’ vaccination advocacy (12) or the lack of vaccine safety data in pregnant women or data regarding effects on fertility (13) as indicators of a depopulation plot.

#### ***A.iii: A way to impose global tyranny***



Closely related to and indeed often paired with the purported depopulation agenda is the view that the pandemic represents a means with which to curtail civil and political liberties and bring economic ruination to society

in order to impose authoritarian rule.

Like the beliefs on depopulation, such views are essentially recycled forms of earlier ideas about the purported “fascist”, “socialist”, or “tyrannical” takeover and the abolition of democracy. One popular Facebook post emblematic of this belief connects the COVID-19 “plandemic” with supposed Agenda 21 goals to abolish personal and economic liberties, including “the end of national sovereignty”, “the end of all privately owned property”, and “government raised children”, among others (14). While beliefs about the other motivating factors discussed above are not likely to be supported by anything in the believers’ lived experience, the belief in an authoritarian takeover is perhaps bolstered by the public health response and the economic fallout of the pandemic. Even liberal democracies adopted strict and illiberal disease control measures, including lockdowns, inter- and intranational travel restrictions, and in some cases mobile phone surveillance, in the name of the public interest of outbreak control (15). The resulting impact on economic security was devastating, with the World Bank estimating that ~100 million people worldwide may be pushed into extreme poverty (16). These developments may thus have lent a degree of believability to otherwise outlandish claims concerning Agenda 21.

## **B: Beliefs concerning the nature of the COVID-19 disease**

Other beliefs that constitute pandemic conspiracy theories concern the nature of the disease itself. Four views are most illuminating, if far from exhaustive: i) the disease is entirely made-up; ii) the disease is caused by a natural virus, but its impact is greatly exaggerated; iii) the disease is caused by bioengineered virus (whether created from scratch or modified from a natural virus); and iv) the disease is caused by another (non-viral) agent.

### ***B.i: The disease does not exist***



The view that there is no COVID-19 disease is exemplified by a video which claims that the pandemic is a media driven hoax perpetrated on a global scale in order to serve as a cover for the inevitable collapse of the current economic system (17). The video alleges that the virus was never isolated and that its existence has never been proven. It also claims that all deaths are being recorded as COVID-related, and that healthy people and even non-biological substances are testing positive because the tests are not specific and are really detecting “RNA viruses” and “genetic material”. In March 2020, the belief that the pandemic is a hoax started being promoted by social media posts using the hashtag #FilmYourHospital. Self-described “citizen-journalists” undertook to record the activity in hospitals in order to demonstrate that the healthcare system is not under strain and that therefore there is no pandemic (18,19). Between March 28 and April 9, more than 40 thousand users on Twitter had posted or retweeted using the hashtag (20), and similar incidents of hospital filming were still being reported in February 2021 (21).

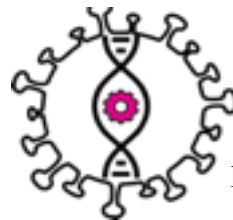
### ***B.ii: The impact of the disease is exaggerated***



A somewhat less radical view than the disease being a complete fabrication is the belief that it is caused by a natural virus, but that its impact has been greatly overhyped. In a video posted on Youtube in March 2020 (22) Wolfgang Wodarg, a German physician and former parliamentarian, spoke out against what he saw as excessive pandemic panic caused by politicians and profit-driven

scientists. He questioned whether the new virus was truly novel, alluding to data from a publication showing that coronaviruses are commonly isolated from patients with respiratory disease (23), but failing to differentiate between SARS-CoV-2 and common cold-associated CoVs to which the data shown was referring (229E, NL63, and HKU1). While accepting the possibility of a new virus, he stressed that its impact was unknown. A narrative then developed questioning the severity of COVID-19, with social media posts claiming that it is no more dangerous than the flu (being deadly only to people with serious health conditions) (24) or even that it is killing 14 times fewer people than the flu (25) or is less deadly than a common cold (26). Dolores Cahill, an Irish immunologist and Euroskeptic politician, has also claimed that COVID-19 has the same death rate as “normal influenza” and that the public health response is causing more harm than good (27).

### ***B.iii: The disease is caused by a bioengineered virus***



The view that bioengineering has played a role in the origin of SARS-CoV-2, making it in effect a bioweapon, is another common element in pandemic-related conspiracy theories. This belief was bolstered by the findings of a study posted on BioRxiv in January 2020, which identified a high degree of similarity between a number of short sequences in the SARS-CoV-2 Spike protein and in the HIV proteins gp120 and Gag (28). A subsequent analysis found no evidence of these sequences being HIV-specific since they are also present in other eukaryotic and even prokaryotic viruses, as well as in CoVs closely related to SARS-CoV-2 (29). However, despite these conclusions and the withdrawal of the original BioRxiv paper, the original findings have been echoed and amplified as direct evidence of a laboratory origin of SARS-CoV-2 by Luc Montagnier, a French virologist who received a Nobel Prize in 2008 for his work on the discovery of HIV (30). While professor Montagnier has made controversial claims in the past (including the existence of “water memory” and “DNA teleportation”) (31), in April 2020 social media posts also attributed the claim of SARS-CoV-2 being “not natural”, “manufactured”, and “completely artificial” to the Japanese Nobelist Tasuku Honjo, which he denied in a statement released by Kyoto University (32).

**B.iv: The disease is caused by a non-viral agent**

Perhaps the most bizarre set of beliefs regarding the nature of COVID-19 is that it is caused not by a virus, but another agent or toxin. These beliefs are often but not exclusively predicated on the claims by the German virologist Stefan Lanka, who denies the existence of pathogenic viruses (33). A video by the US psychiatrist Andrew Kaufman, posted on YouTube in late March 2020, is particularly illustrative on the range of purported non-viral disease agents (34). While acknowledging that some people are getting sick and that therefore there exists “some kind of insult that occurs and causes the damage”, Kaufman claims that a virus has never been isolated, that RT-PCR detects non-specific endogenous nucleic acid molecules, and that electron micrographs of SARS-CoV-2 virions instead represent exosomes (lipid-based extracellular vesicles). In Kaufman’s view, the unknown causative agent induces the production of exosomes (“indistinguishable” from the virus) whose physiological role is to “soak up the toxins like a sponge” and remove them from the body. Among the possible causes of the disease, he lists poisons or toxic substances, stress and fear, “regular” flu or cold (and “whatever causes those”), electromagnetic radiation caused by 5G infrastructure, and possibly a combination of these and other causes. In the first few months of the pandemic, the claim that 5G is responsible for COVID-19 has gained substantial traction on social media, starting off with the supposed temporal connection between the 5G rollout in Wuhan and the first COVID-19 cases, later being supplemented with a mechanism (“5G destroys oxygen”), and eventually leading to physical attacks on 5G towers in the UK and elsewhere (35).

**C: Beliefs concerning the public health response**

Finally, a third set of beliefs that represent a common constituent of COVID-19-related conspiracies are those concerning measures taken to combat the pandemic, particularly mask-wearing and vaccination. Two views are emblematic: i) vaccines and/or masks are actively harmful to health or human dignity; and ii) vaccination represents a nefarious way to mark and track individuals, thus controlling their lives and destinies.

**C.i: Vaccines and masks are harmful**

The belief that vaccination is harmful is a key tenet of the anti-vaccination movement that existed long before the pandemic and has not subsided in its wake (36). One social media post has described a COVID-19 vaccine as “rushed, dodgy, unlicensed” (25) while another has claimed that the vaccine will affect the DNA, react with electromagnetic frequencies, damage the brain, and cause sterility, cancers, and dementia (37). The development of RNA and DNA vaccines for COVID-19 in particular has promoted fears that they represent an insidious way for human genetic editing, with the virus denier Andrew Kaufman stating that “they want to make us into genetically modified organisms” (38). COVID-19 vaccines have also been portrayed as containing ingredients which may be seen as abhorrent or harmful to human dignity. In one video (39), the AstraZeneca vaccine is claimed to contain lung tissue from an aborted fetus, a conclusion based on the mistaken assumption that the human embryonic cell line MRC-5, which was used to test vaccine mRNA expression, is actually a constituent of the vaccine. Such concerns are echoed in the not-strictly-conspiratorial opposition to vaccines developed using cell lines from electively aborted fetuses, which was voiced early in the vaccine development cycle by several faith groups opposed to elective abortion (40). Roman Catholic groups in North America have been particularly vocal, with the Diocese of Bismarck (North Dakota) declaring the Janssen vaccine “morally compromised” (41). The official doctrinal position of the Roman Catholic Church, however, has declared such vaccines morally acceptable in the absence of alternatives (42).

In addition to vaccines, face masks have also been the subject of conspiratorial belief. As public health agencies started recommending the wearing of face masks, claims that masks may be harmful started appearing on social media, including that mask wearing “reduces oxygen up to 60%” and “increases risk of CO2 poisoning” (43), or that “people who wear masks are actually “collecting” the virus in their masks” (44).

### *C.ii: Vaccines are a way to mark, track and control people*



Apart from the view that vaccines are directly harmful to health or dignity, the pandemic has also spurred the belief that vaccination may be used to mark, track, and/or otherwise control individuals and populations. Under one theory, vaccination is a merely ruse, with the real goal being a massive implantation of subdermal radio-frequency identification (RFID) microchips to achieve tracking and control. This belief pre-dates the current pandemic, but has gained substantial traction on social media in the early months of the disease's global spread (45). It has two main variants: in the secular form, RFID chipping is seen as a way for a New World Order or similar nefarious secret society to control people's lives; in the religious form, RFID chipping is equated with the "Mark of the Beast", described in the Apocalypse of John (13:16-17) as a mark on the right hand or forehead without which it would be impossible to conduct economic activity. While some social media posts only present the secular version (e.g., "everything about you will be tracked and stored for later use") (46) others contain both secular and religious elements (e.g., "the COVID-19 vaccine [...] will contain RFID chips [...] The Bible says you will break out into boils.") (47). Some posts go further and ascribe to the chip (or, sometimes, nanomachines/nanocomputers) (48) a control function that goes beyond tracking, such as making birth control possible by allowing remote manipulation of contraceptive hormones in women's bodies (49). Although lacking the aspects of real-time tracking and direct biological control, the concept of granting special privileges to holders of "vaccine passports", or certificates of vaccination, also features in conspiratorial narratives of state control and limitation of rights. Some jurisdictions, such as Israel and New York state, have already implemented special privileges (e.g. access to entertainment venues) for holders of vaccination certificates, while others are debating the feasibility of their implementation (50). The currently limited vaccine supply, the unequal geographic and socio-demographic distribution of vaccines, and the lack of clear data on vaccine efficacy regarding virus transmission have prompted debates on the ethical permissibility of vaccine passports (50). The WHO position statement released in February 2021 advises against an explicit re-










quirement for vaccine passports for international travel on ethical, legal, and scientific grounds (51). Anti-vaccination groups have echoed and amplified these concerns. One salient example is the March 2021 "position paper" from Vaccine Choice Canada, which concludes that vaccine passports represent "a coercive and unconscionable violation of the rights and freedoms of Canadians", while at the same time dismissing approved COVID-19 vaccines as "medical devices" which are not really vaccines since "they function through the injection of synthetic genetic technology" (52).

## Discussion

Conspiracist beliefs like those mentioned above represent building blocks of full-fledged conspiracy theories. Under one definition offered by the Merriam-Webster dictionary, a conspiracy theory is "a theory that explains an event or set of circumstances as the result of a secret plot by usually powerful conspirators". Using this definition, a pandemic-related conspiracy theory would have to include at least one belief concerning the plot (discussed above as the motivation of the conspirators) and one belief about the event (in this case the nature of the disease or the nature of the public health response). Many pandemic-related conspiracy theories shared on social media or video sharing websites contain more beliefs than this basic minimum (Table 1 presents some examples). Conspiracy theories sometimes include contradictory beliefs (e.g., "there is no virus" and "COVID is the flu"), with one study (53) suggesting that this can occur when mutually incompatible beliefs are independently associated with a belief in a "cover-up" by the authorities.

One analysis has suggested that three psychological motivators play important roles in conspiratorial beliefs, including a desire for a stable and accurate worldview (epistemic motivation), a desire for safety and autonomy (existential motivation), and a desire to maintain a positive view of oneself or the in-group in the wider society (social motivation) (54). In periods of crisis, such as the ongoing COVID-19 pandemic, fear and uncertainty increase such motivators leading to a rise in conspiratorial beliefs (55). Demographically, conspiratorial beliefs are more common among people with lower incomes, lower educational attainment, weaker social networks, and ethnic minorities (56) - in short, the most disadvantaged persons in society.

Table 1 - Breakdown of Beliefs Underpinning each Conspiracy Theory Source

Source	A: Motivation of the Conspirators			B: Nature of the COVID-19 Disease				C: Concerning the Public Health Response	
	Damage Rival Nation/Ideology  A.I	Reduce World Population  A.II	Damage Liberties/Economy  A.III	Disease is Made-Up  B.I	Natural virus, but Exaggerated  B.II	Bioengineered Virus  B.III	Caused by Another Agent  B.IV	Vaccines/Masks Harmful  C.I	Vaccines Mark/Track Individuals  C.II
<a href="#">Ref.: (12)</a>		X				X		X	
<a href="#">Ref.: (13)</a>		X						X	
<a href="#">Ref.: (14)</a>	X	X	X			X		X	X
<a href="#">Ref.: (17)</a>	X		X	X			X		X
<a href="#">Ref.: (24)</a>			X		X			X	
<a href="#">Ref.: (25)</a>					X			X	
<a href="#">Ref.: (26)</a>			X	X	X		X		X
<a href="#">Ref.: (27)</a>			X	X	X			X	
<a href="#">Ref.: (37)</a>	X	X		X	X		X	X	X
<a href="#">Ref.: (39)</a>			X			X		X	
<a href="#">Ref.: (40)</a>		X	X					X	
<a href="#">Ref.: (41)</a>		X			X			X	
<a href="#">Ref.: (43)</a>			X						X
<a href="#">Ref.: (44)</a>		X	X						X
<a href="#">Ref.: (45)</a>				X				X	X
<b>Summary</b>	<b>20.0% (3/15)</b>	<b>46.7% (7/15)</b>	<b>60.0% (9/15)</b>	<b>33.3% (5/15)</b>	<b>40.0% (6/15)</b>	<b>20.0% (3/15)</b>	<b>20.0% (3/15)</b>	<b>73.3% (11/15)</b>	<b>46.7% (7/15)</b>

## Concluision and Recommnedations

As first introduced, a considerable challenge of the next months and years may be in combatting the infodemic along with the pandemic itself. Some parallels may be drawn between the approaches used to combat a viral pandemic and those recommended herein to counter the conspiracist infodemic. First, “anti-viral therapies” and “quarantining measures” in the context of an infodemic would mean curbing the spread of conspiracy theories through fact-checking initiatives and vulgarization of legitimate information with links to verified official sources. Three of the largest social networks, Twitter, YouTube, and Facebook have implemented fact-checking initiatives to curtail the spread of misinformation specific to the vaccine, however their efficacy has been repeatedly questioned (64). Secondly, “vaccination” in the context of an infodemic might mean rendering an individual “immune” to conspiracy theories. To that end, the populations most susceptible to conspiracism should be provided with widespread access to free education, social programs, and resources in order to improve their ability to consume and critically evaluate information. As stated in (59): “Facts Are the Most Potent Antidote”. Where the former can be accomplished in the immediate to near future, the latter is necessary in the mid- to long-term future through government policy. Finally, much like a naturally evolving virus, it is of critical importance to follow how conspiracy theories evolve within a population, in order to produce more effective “antidotes” based on the nature of evolving beliefs. Exemplified in this work is both the nebulous nature of conspiracy theories as they have evolved over

the past year and the difficulty of providing a definitive categorization. This “bestiary” illustrates what a beast it is to track original sources of conspiracy theories as many primary sources are deleted from social media, necessitating archival platforms. In summary, it is our hope that this work may orient future research into the conspiracy theories of the COVID-19 pandemic and provide a framework for future studies on conspiracism.

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Rest of references are available upon request