**On Epistemic Black Holes. How Self-Sealing Belief Systems Develop and Evolve**

*Abstract*

Some belief systems postulate intelligent agents that are deliberately evading detection and thus sabotaging any possible investigation into their existence. These belief systems have the remarkable feature that they predict an absence of evidence in their favor, and even the discovery of counterevidence. Such ‘epistemic black holes’, as I call them, crop up in different guises and in different domains: history, psychology, religion. Because of their radical underdetermination by evidence and their extreme resilience to counterevidence, they develop and evolve in certain predictable ways. Shedding light on how epistemic black holes function can protect us against their allure.

Keywords: conspiracy theory; epistemology; cultural evolution; religion; psychoanalysis; evolutionary psychology

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# Introduction

People believe many things that are highly implausible on our current scientific understanding of the world, or that even violate basic laws of physics (Edis, 2021; Norman, 2021; Shermer, 2011). Here’s a sample of some implausible or even outright bizarre beliefs that are endorsed by many apparently sane and rational people: the Moon landing never happened but was staged in a Hollywood studio; extraterrestrial visitors have abducted people in their sleep and conducted sexual experiments on them; every woman is unconsciously driven by the desire to have a penis, which is eventually substituted by a desire for a baby; the 9/11 attacks were an inside job carried out by the Bush administration; all living creatures were created in their present form a couple of thousands years ago; Hillary Clinton and her ilk are running a child sex trafficking ring from the Pizzeria Comet Ping Pong in Washington; the vaccines against COVID-19 contain nano-tech microchips invented by Bill Gates in a plan for mind control and world domination; the world is run by a super-race of extraterrestrial lizards beings that have the power to adopt human shape; and the Earth is a flat disc surrounded by a wall of ice known as ‘Antarctica’.

Why do people (profess to) believe such bizarre things? In many cases, we need a wide range of cognitive, social, evolutionary, ideological and historical factors to explain the cultural success of such apparently irrational beliefs (Brotherton, 2015; Mercier, 2020; Pinker, 2021; Uscinski, 2018). One dimension that remains relatively unexplored is the role of epistemology to explain the appeal of certain complexes of beliefs. In this paper, I outline the existence of ‘epistemic black holes’, namely belief systems that are structured in such a way that they exert an exceptionally strong attraction on unwitting believers, and from which it is very difficult to escape, once adopted. What these epistemic black holes have in common, I shall argue, is that they involve some sort of intentional agency (either a single agent or a consortium of different agents working together) that deliberately attempts to evade detection and sabotage our investigation into its existence. By drawing parallels between such epistemic black holes in a range of different domains, we gain more insight into their appeal, and their cultural evolution.

Here’s an outline of the paper. First, I present the conceptual outline of epistemic black holes, and explain their extreme resilience to adverse evidence and outside attacks (section 2.1). Next, I show that this structure is instantiated by a range of different belief systems, starting with the most obvious application: conspiracy theories about historical events (2.2). I then outline epistemic black holes in other and more surprising domains: Freudian psychoanalysis (2.3), and a range of religious and supernatural beliefs (2.4). In section 3, I make some observations about the cultural dynamics and development of ‘black hole’ belief systems. In particular, owing to their radical underdetermination by evidence, they are liable to schisms and internal disarray (3.1), and often evolve to reflect changing cultural environments (3.2).

# Epistemic black holes

## The core structure

If we want to explain the visible world, we sometimes have to invoke the existence of invisible entities. Many of our best scientific theories involve such “unobservables”, entities and processes that are not (directly) observable by human senses. In some of our theoretical explanations of the world, we also have to invoke the actions of *agents*: intelligent entities capable of harboring intentions, developing plans, or forming desires. In some belief systems, both of these elements are conjoined in a way that gives rise to a special epistemological situation: the belief system postulates some form of hidden intelligent agency that is deliberately trying to escape detection, and thus to thwart our investigation into its existence or its actions. Even though agents with such intentions definitely exist, and we sometimes need to invoke them to make sense of the world, such explanations threaten to create what can be termed an *epistemic black hole*, into which unwary truth-seekers may be drawn, never to escape again (XXX).[[1]](#endnote-1) The metaphor captures the observation that, once people have endorsed such a belief system, for whatever reason, it may be very hard to shake them out of their conviction, since they can now explain away any missing evidence or counterevidence they are confronted with. Depending on the levels of power and intelligence attributed to the alleged intelligent agency, it can become very hard to either definitively substantiate or refute such a belief system. As we will see, some epistemic black holes involve different agents working in consort, while others only postulate a single cohesive agent scheming behind the scenes.

## Conspiracy theories

A conspiracy theory is a theoretical account of history (or recent events) that centers around the actions of a small group of people working in concert, usually with nefarious, unlawful or criminal intentions. Although few people would deny that, thus defined, some conspiracy theories are all too real (e.g. the Watergate scandal, the October Revolution), it is widely acknowledged that many popular conspiracy theories are unwarranted by the evidence, and are most likely false. Conspiracies actually happen, but not as much as so-called “conspiracy theorists” believe (Uscinski, 2018). Although there is no crisp demarcation line dividing reasonable hypotheses about conspiracies from “conspiracy theories” (in the pejorative sense), arguably the most common defect of unfounded conspiracy theories is that they have a tendency to grow larger in scope and attribute ever more power and cunning to the alleged conspirators (Clarke, 2002; Keeley, 1999). To explain why investigations fail to yield unambiguous evidence for the plot, believers often have to widen the circle of conspirators. At some point, it becomes extremely unlikely that such a large group of people could maintain a secret without a single whistleblower defecting from the conspiracy (see Pigden, 2018 on "defectibility").

Belief in unfounded conspiracy theories occurs across a wide range of cultures (Byford, 2011; Uscinski, 2018; Van Prooijen, 2018), and although it is more common among people with lower levels of education and lower analytical thinking (Swami, Voracek, Stieger, Tran, & Furnham, 2014)), the appeal of conspiracy theories is more or less universal (van Prooijen & Van Vugt, 2018). Different conspiracy beliefs also tend to cluster together: the best predictor for belief in any given conspiracy theory is belief in other conspiracy theories. For the inveterate conspiracy theorist, virtually all major historical events are the result of plotting and scheming behind the scenes, and most official accounts of history are just a smokescreen for more sinister goings-on. In *The Open Society and Its Enemies,* Karl Popper (1966) took issue with what he called a “conspiracy theory of society”, a general tendency to see conspiracies as the driving force of world history, rather than as one explanatory resource among many to explain historical events. In this worldview, virtually everything in the world happens because someone intended it to happen, usually out of nefarious or at least selfish motives.[[2]](#endnote-2)

In recent years, psychologists have speculated that a tendency to overdetect conspiracies may actually be adaptive from an evolutionary point of view. Since coalitional aggression, especially in the form of surprise ambush attacks, was pervasive enough among early human societies to exert a significant selection pressure, and was probably a major cause of death (Gómez, Verdú, González-Megías, & Méndez, 2016; Pinker, 2011), the human mind may well have evolved some defenses against real-life conspiracies, erring on the side of caution (Foster & Kokko, 2009; Galperin & Haselton, 2012). According to Van Prooijen and Van Vugt (2018), humans evolved an integrated functional mechanism for identifying and detecting conspiracies, which is geared towards overdetection: “the ancestral environment contained sufficient dangerous coalitions to render overrecognition of hostile conspiracies adaptive”. In a similar vein, Raihani and Bell have hypothesized that the pervasiveness of (non-clinical) paranoid ideation across different cultures may be understood “as a consequence of selection for detecting and evaluating coalitional threat” (Raihani & Bell, 2019, p. 114).

An additional and underexplored reason for the pervasiveness of belief in unfounded conspiracy theories, apart from these psychological and evolutionary factors, is that such theories have the contours of an epistemic black hole. Every conspiracy theory postulates a secret plan, usually designed by a small group of agents, with a view to achieving some nefarious goal.[[3]](#endnote-3) Given the intentions of the conspirators and the nature of their plot, we can reasonably expect them to want to remain hidden and even actively sabotage our investigation. They don’t want their plans to be exposed, after all. They may even fabricate evidence for an alternative account, thus throwing investigators off the scent. Assuming the conspiracy is real, you therefore have some reason to expect an absence of evidence in its favor, and you may even expect to find apparent counterevidence (Clarke, 2002; Keeley, 1999).[[4]](#endnote-4) Depending on the levels of power and intelligence attributed to the conspirators, it can become very hard to either definitively substantiate or refute a conspiracy theory. As a result, when skeptical investigators gather evidence against the hypothesis of a conspiracy, this is often interpreted by believers as part of the plot.

For instance, the most infamous document in the history of conspiracy theories, which was used by the Nazis as a "warrant for genocide” (Cohn, 1967), is known as the *Protocols of the Elders of Zion*. In actual fact, the document is a forgery originating in 19th century Czarist Russia, and had been exposed as such long before the Nazi party and assorted antisemitic movements throughout Europe started touting the document as evidence of a global conspiracy of international Jewry. The interesting thing is that, when strong evidence of the forgery was unearthed, according to the historian Jovan Byford, “many of the book's admirers simply dismissed [it] as a campaign by Jews to undermine the 'leaked' document which exposes so clearly their sinister secret” (2011, p. 55). Although the reasoning appears blatantly question-begging, it makes good sense from the perspective of the conspiracy theory. If the Protocols had been an authentic document and if the Elders of Zion as portrayed there really existed, we would *expect* them to dissimulate the evidence for their secret plans. As the 1905 introduction to the *Protocols* already noted, we should not be fooled by the fact that no witnesses have come forward to attest to the reality of the organization and their evil plans. In fact, such an absence of evidence is exactly what we should expect:

were it possible to prove this world-wide conspiracy by means of letters or by declarations of witnesses, […] the “mysteries of iniquity,” would by this very fact, be violated. To prove itself, it has to remain unmolested till the day of its incarnation in the “son of perdition” […]. (Nilus, 2009, p. iv)

Even today, a full century after having been debunked, the Protocols are still being regularly reprinted, disseminated and discussed as an authentic document, now predominantly in the Islamic world, but also elsewhere.[[5]](#endnote-5)

A similar self-sealing logic can be observed with many other popular conspiracy theories. When the 9/11 Commission of the U.S. government published its final 585-page report in 2002, reviewing half a million documents and detailing the responsibility of Al Qaeda and the failures of U.S. intelligence agencies in excruciating detail, conspiracy theorists were hardly persuaded that this put the matter to rest. After all, if the U.S. government had itself staged the attack as a false flag operation, in order to create a pretext for invading Iraq and Afghanistan, we would *expect* them to fabricate a sham report full of false evidence and distortions. Conspiracy theories, owing to their internal resources for fending off criticism and adverse evidence, exhibit the property of systems that is known as “anti-fragility” (Taleb, 2012): not only are they well protected against external challenges (*non-fragile*), but they actually gain strength from them (*anti-fragile*).

Most conspiracy theories about historical events involve multiple agents, if only because the scale and complexity of the envisaged plot is such that no single human being would be capable of executing it on his own. Even conspiracy theories that are centered around a single powerful person, such as Bill Gates or George Soros, still involve the collaboration of substantial numbers of underlings or minions. For the analysis of epistemic black holes, however, it makes no difference whether or not the plot in question was hatched by a single agent, or by a group of agents working in concert. Even if the secret scheme was hatched and carried out by a single cohesive agent, it would give rise to the same epistemological predicament.

## Freudian psychoanalysis

A surprising example of an epistemic black hole that centers around a single and unified form of agency can be found in Freudian psychoanalysis (Cioffi, 1998; Farrell, 1996). In Freud’s original version of the theory, the psychoanalytic “unconscious” is portrayed as an intelligent entity capable of pursuing intentional goals, chief among them the desire to remain hidden and to actively resist investigation by the therapist. In Freud’s most famous works, such as *The Interpretation of Dreams* and *The Psychopathology of Everyday Life* (Freud, 1953, 1960), we are presented with reams of examples in which the unconscious employs clever disguises to escape detection, such as symbolism, denials, inversions, and word plays. In his perceptive book *The Psychoanalytic Movement¸* ErnestGellner called Freud’s psychoanalytic unconscious “The Trickster”, an intentional agent which “can and does interfere with the behavioral evidence about its own existence and activities” (Gellner, 1985, p. 142). In Freud’s theory, the Trickster is always trying to deceive the conscious subject (and the therapist) in unexpected and cunning ways. And just as with many conspiracy theories about history, the intentions of the conspirator can be seen as sinister and nefarious. In Freud’s view, the unconscious harbors forbidden desires and impulses related to sexual perversion and aggression, which are shocking to the conscious subject and should therefore be kept hidden from it.

In some versions of psychoanalysis, the picture of a single and unified agent is complicated, as there is a dynamic interaction between different mental systems, each of which seems to be capable of intentional agency. In the *Interpretation of Dreams*, Freud describes the existence of an intentional “censor mechanism”, which has to negotiate between the conscious and unconscious, disguising and encrypting mental contents that are too disturbing for the conscious subject to face. In Freud’s later tripartite model of the mind, there is a constant interplay going on between three mental systems (Ego, Id, Superego), all of whom engage in intentional strategies to achieve their goals, sometimes working at cross-purposes, sometimes collaborating or striking compromises.

In any event, because of its unique epistemology, Freudian psychoanalysis has the same self-sealing quality as conspiracy theories about history, in which absence of evidence or apparent counterevidence could always be interpreted in the theory’s own term. When Freud was unable to find traces of a pathological complex or unconscious desire to account for a patient’s behavior, he was undeterred and treated this as a token of unconscious resistance. Since the unconscious was motivated to hide and disguise its dark secrets, it was not surprising to find an apparent lack of evidence. According to the same logic of deception, apparent refutations of the theory could be explained away with equal ease. In his clinical practice, Freud worked on the assumption that his patients harbored a secret and unconscious desire to disprove his own explanations, so as to avoid having to confront their own repressed desires. If a patient dismissed his psychoanalytic interpretations of their symptoms or dreams, he interpreted this as evidence of “resistance” or “denial”, as predicted by the theory (Cioffi, 1998; Frederick. C. Crews, 1986). Unconscious resistance could also disguise itself in the form of manifest symptoms or dreams. For instance, when one of Freud’s patients dreamt about being forced to spend the holidays with her mother-in-law, whom she despised, at face value this seemed to belie Freud’s contention that every dream is a manifestation of an unconscious wish-fulfilment. But as Freud himself explained, the apparent refutation was really a striking confirmation: “The dream showed that I was wrong. *Thus it was her wish that I might be wrong, and her dream showed that wish fulfilled*” (Freud, 1953, p. 151).

Finally, Freud applied the same theoretical apparatus to his critics. Since every one of us is under the spell of the unconscious forces described by psychoanalysis, it was not surprising that critics of psychoanalysis tried to refute his brainchild. As Freud explained:

Psycho-analysis is seeking to bring to conscious recognition the things in mental life which are repressed; and everyone who forms a judgment on it is himself a human being, who possesses similar repressions and may perhaps be maintaining them with difficulty. They [the critics] are therefore bound to call up the same resistance in him as in our patients; and that resistance finds it easy to disguise itself as an intellectual rejection and to bring up arguments like those which we ward off in our patients by means of the fundamental rule of psycho-analysis. (Freud 1957, p. 39)

It is tempting to reject such circular reasoning as a personal quirk on Freud’s part, but the “resistance argument” has been wielded by many later psychoanalysts, against both patients and critics of psychoanalysis. This is not surprising, because it is indeed a prediction entailed by the central assumptions of the theory. In response to Frederick Crews’ series of critical essays on psychoanalysis in *The New York Review of Books* (1995), the philosopher and psychoanalyst Jonathan Lear suggested that his attacks should be seen as a “repetition and re-enactment of Oedipus’s complex” (Lear, 1995). Similarly, one of the most influential French psychoanalysts, Élisabeth Roudinesco, has opined that “the hostility to the Freudian theory stems less from scientific discussion than from the resistance of scientists themselves to their own unconscious” (Roudinesco, 1999, p. 73).[[6]](#endnote-6)

## Religion and supernatural black holes

Religions explain events in the natural world in terms of the intentions and actions of invisible supernatural beings. Things happen because the gods or spirits wanted them to happen and brought them about. In many cases, because the evidence for these supernatural beings is lacking, or at least not manifest to everyone, they are portrayed as acting secretly behind the scenes, deliberately hiding from human beings and covering up their tracks. Naturally, such an arrangement bears a close resemblance to conspiracy theories, especially in the case of polytheist religions in which several supernatural beings may collaborate and conspire together. In his *Conjectures and Refutation* (1963/2002), Karl Popper even speculated that modern conspiracy theories are secularized versions of religion. Just as Homer explained everything that happened on the battlefield of Troy in terms of the various alliances and antagonisms of the gods, so modern conspiracy theorists explain world events as resulting from the actions of a small group of powerful beings plotting behind the scenes (Popper, 1963/2002, pp. 165-166).

In monotheist religions, of course, there is only one supernatural agent with no-one else to conspire with. If events in the natural world are following a secret plan, it is a plan devised by a single and unaided agent. Since a “conspiracy” requires at least two agents working in concert, strictly speaking monotheism cannot qualify as a conspiracy theory. In epistemological terms, however, monotheist religions share a number of features with classical conspiracy theories, except that the efforts at disguise and deception are unified in a single person. In the great monotheist traditions, believers have long been aware that direct evidence for the existence of God seems to be conspicuously lacking. It seems that, after creating the universe and occasionally intervening in human affairs, God has retreated from the world. As the book of Isaiah already complained: “Truly, thou art a God who hidest thyself” (Isaiah 45:15). This theme, which is known as the problem of the *deus absconditus* or the problem of divine hiddenness (Schellenberg, 2006), recurs again and again in the Christian tradition (Philipse, 2012, pp. 302-309). God seems to be not just invisible to the human senses – which is understandable given that he is immaterial and bodiless – but remains elusive even to those who actively seek him.

Although monotheist religions cannot be “conspiracy theories” *sensu stricto*, in epistemological respect they can be seen as the most perfect conspiracy.Since God is regarded as omnipotent, his veil of secrecy and disguise can be much more fool-proof than even in the most successful of human conspiracies. Although critics like Karl Popper (1963/2002) and Richard Hofstadter (2012) have complained that conspiracy theorists tend to attribute almost infallible powers and omniscience to human conspirators, thus showing the kinship between conspiracy theories and theism (but see Dentith, 2014, pp. 23-27; Pigden, 1995), this is not exactly true. Even in the most extreme cases, in which a single person like Bill Gates or George Soros is regarded as the evil mastermind of globe-spanning conspiracies, these culprits still need collaboration from many others to carry out their evil plans. Indeed, the very fact that human plots involve multiple people working in concert shows that they, unlike God, are *not* omnipotent. As Keeley (2007) has argued, God has “no need to conspire with anybody to bring about Providence according to His wishes” (Keeley, 2007, p. 140), because he is by definition all-powerful and all-knowing. Only fallible humans need to collaborate with others to carry out elaborate and complex forms of deception.

The emergence of modern science, by drastically improving our understanding of the cosmos, has undermined many traditional arguments for the existence of God (Coyne, 2015). In order to explain why God has still not appeared on the radar of any scientific investigation, religions have in general become even more conspiratorial. According to Edis (2019), this applies especially to the views of liberal theologians. Whereas religious conservatives tend to believe that the evidence of God’s design is plain for all to see in nature, liberal theologians usually reject the notion that God would offer himself up for scientific investigation. For example, while many religious conservatives reject evolutionary theory and claim that God has creates all living species in their current form, liberal theologians typically believe that God has employed evolutionary processes to fulfill his plans for the world. To explain the appearance of blind and unguided evolution, however, these theologians usually rely on some form of divine deception. For example, some have suggested that during the evolution of life God has been subtly meddling with quantum processes in DNA molecules to trigger the right mutations (see e.g., Haught, 2000; Miller, 2000). In doing so, however, God has made sure not to leave any detectable fingerprints, by keeping his interventions below the threshold of statistical detectability. In other words, God has covered up his tracks. As Edis points out, such a theology is significantly more conspiratorial than the straightforward science denialism of creationists and Intelligent Design theorists, who believe that God has left his fingerprints all over the natural world (Pennock, 1999).

Why does God make himself invisible? Theologians have developed different rationalizations for divine hiddenness, the most dominant of which is that it is a test of faith (Schellenberg, 2006). If God revealed himself for all the world to see, it would be too easy to believe in his existence. By staying out of sight and leaving the evidence for his existence undecisive or ambiguous, God can separate the unbelievers and doubters from those with true faith. In the Quran, for instance, God explains that he will not always allows the true believers to triumph on the battlefield, but also allow some occasional defeats and setbacks, to test the strength of their faith: “We alternate these days of victory and defeat among people so that Allah may reveal the true believers, choose martyrs from among you […] Do you think you will enter Paradise without Allah proving which of you truly struggled for His cause and patiently endured?” (Quran 3:137-140).

A related response to the problem of divine hiddenness is that God wants to give us morally significant free will, and that revealing himself in any manifest way would take away that freedom (Swinburne, 2004). The Bible also suggests that God sometimes deliberately “hardens the hearts” of unbelievers (e.g., Exodus 4:21; Romans 9:18) by making them unreceptive to the evidence for his existence, as a way of punishing them for moral transgression (Murray, 1993). In essence, all these explanations come down to form of deception on God’s part (Nieminen, Boudry, Ryökäs, & Mustonen, 2017): God could reveal himself to us, but he decided to stay out of sight and cover up his tracks.

An interesting borderline case is presented by conspiracy theories about extraterrestrial visitation, in which the aliens themselves are trying to cover up the evidence for their existence. In his book on extraterrestrial visitation, Harvard historian David Jacobs has argued that the evidence for alien abductions is so patchy precisely because the abductors have carefully installed a “wall of secrecy” (Jacobs, 1998, p. 117). Extraterrestrial intelligences “cloud” the experience of their abductees, implant false memories, and “perceptually alter potential witnesses” (1998, p. 112). Although alien visitors are usually not represented as supernatural or godlike, people like Jacobs do believe that their level of intelligence and technology are vastly superior to our own.

Another difference between monotheist religions and classical conspiracy theories is that God’s intentions are supposedly benevolent. Even if God is engaging in some sort of deception (Nieminen et al., 2017), making himself invisible and even “heardening the hearts” of unbelievers, this is supposedly all done for a greater good, such as morally significant freedom. It should be noted, however, that even monotheist religions may cast evil supernatural creatures in the role of secretive plotters. In Christianity, the Devil is portrayed as a powerful supernatural creature who wants to lure humans into unbelief, about the existence of God and of the Devil himself. As Charles Baudelaire once expressed the conspiratorial logic behind this belief: “The greatest trick the Devil ever pulled was convincing the world he didn’t exist”.[[7]](#endnote-7) In early modern Europe, there was a widespread belief among Christian communities that “witches” were living in their midst, fellow human beings who were in league with the Devil and who had the power to destroy harvests, spreading illness or cause other mayhem. Anyone could be a witch, but for obvious reasons the witches themselves wanted to hide their true identity and blend in with the community. In some versions of the belief system, there was a literal ‘conspiracy’ in the form of a witches’ sabbat, nightly gatherings in which witches from all across the region consorted with each other and worshipped the devil, concocting evil plans to wreak havoc in human communities (Hofhuis & Boudry, 2019).

Apart from traditional religions, many other belief systems about the supernatural and paranormal open up epistemic black holes. Most obviously, supernatural ghosts and spirits are believed to engage in intentional attempts to resist detection that are similar to the ones outlined above. Less obviously, such a conspiratorial logic may occur even when the belief system is not overtly dealing with persons or agents. For instance, parapsychologists investigate the existence of phenomena like telepathy, precognition and telekinesis – sometimes called *psi*. Even though these may look like impersonal forces without any intentional agency, many parapsychologists have described them in quasi-intentional terms, in particular highlighting their purposefully evasive behavior. For instance, the influential parapsychologist John Beloff claimed that psi phenomena are “actively evasive” (Beloff, 1994, p. 7), because they don’t want to interfere with the world of ordinary mortals (Hines, 2003). This assumption has led Beloff and other parapsychologists to theorize about the “decline effect” (1994, p. 11), the puzzling tendency of psychic mediums to lose their powers as they are tested more extensively, as if the *psi* powers are fleeing from investigation. In a similar vein, parapsychologists have argued that the primary function of *psi* forces is to “induce a sense of mystery and wonder” about the world, which can only be achieved if they do readily not lend themselves to scientific investigation (Kennedy, 2003, p. 67).

# The dynamics of epistemic black holes

## Underdetermination by evidence

Because of their extreme resilience to counterevidence, epistemic black holes suffer from a radical underdetermination by evidence, which means that their theoretical parameters can easily be substituted for one another. For example, for any given historical event, it is always possible to develop multiple conspiracy theories with different culprits, different objectives and different schemes, which account for the available evidence equally well.[[8]](#endnote-8) As Harris (2018, p. 256) recently put it, “any number of conspiratorial explanations will fit the data, and hence will be equally supported”.

Some historical events will place reasonable constraints on the *cui bono* question, but in many cases the underdetermination will lead to multiple and conflicting conspiracy theories. For instance, in a 2013 Gallup poll about the assassination of John F. Kennedy, respondents were asked if they believed that Lee Harvey Oswald acted alone and, if not, who was really behind the plot (Swift, 2013). The results proffered a wide array of culprits: the Mafia (13%), the federal government (13%), the CIA (7%), Cuba and Fidel Castro (5%), JFK’s own vice-president Lyndon Johnson (3%), the Soviet Union (3%), the Ku Klux Klan (3%), FBI director J. Edgar Hoover (1%), and various other actors.

This epistemological dimension of conspiracy theories is often neglected. In their evolutionary account of paranoia, for example, Raihani and Bell (2019, p. 116) are puzzled by the “seemingly arbitrary selectivity in the identification of the perceived persecutors”. They speculate that this arbitrariness may reflect the “highly fluid and flexible” boundaries of human coalitions, which often have no stable group identifiers, and in which membership can be signaled by “minimal cues or markers of similarity”. But this explanation doesn’t quite fit the *explanandum*. In most other contexts people have no trouble, despite minimal markers and shifting coalitions, to tell apart allies from enemies. For instance, shirt color in a soccer match is a “minimal marker” in the technical sense, because it can be changed at will and – at least during the soccer match – overrules more stable traits like skin color, language, or cultural background. But that does not mean that players get confused about who is on their team. Human coalitions are indeed flexible and shifting, but that doesn’t make them arbitrary. By contrast, the problem with conspiracy theories is not that the boundaries of enemy coalitions are fluid or unstable (the CIA or the WHO are not exactly hard to identify), but that the choice of conspirators seems arbitrary. To explain why conspiracy theorists come up with such a wide range of different culprits for any given plot, we have to consider their peculiar epistemology .

The problem of underdetermination can also be observed in the domain of religion and supernatural belief. If you assume that one or more powerful supernatural beings exist, but they are actively hiding and resisting your investigation, the identification of these supernatural creatures and their attributes becomes to a large extent arbitrary. In philosophy of religion, this is known as the “problem of religious diversity” (Basinger, 2011). Many cultures have devised different belief systems about deities and other supernatural creatures, but these belief systems are often mutually contradictory and there is no rational way to adjudicate between them (Philipse, 2012). If the creator(s) of the world had revealed themselves to us, or had left visible clues about their identity and the nature of their plan, there would be no religious diversity and all cultural traditions would converge on the same answers (XXX). Even the choice between monotheism and polytheism remains underdetermined by the evidence. Is there a single supernatural creature pulling the strings behind the world’s curtain, or are we dealing with a ‘conspiracy’ in the traditional sense, with different deities plotting together? In David Hume’s *Dialogues*, Philo laid bare this arbitrariness to made the case for religious scepticism:

In such subjects, who can determine, where the truth; nay, who can conjecture where the probability lies, amidst a great number of hypotheses which may be proposed, and a still greater which may be imagined? […] And what shadow of an argument, continued Philo, can you produce, from your hypothesis, to prove the unity of the Deity? A great number of men join in building a house or ship, in rearing a city, in framing a commonwealth: why may not several deities combine in contriving and framing a world? (Hume, 1998 [1779], p. 36)

Given that supernatural creatures are alleged to have powers that transcend those of humans beings, or may even be omnipotent, it is impossible for mere mortals to find out.

In an analogous way, Freudian psychoanalysis also suffers from a problem of radical underdetermination. As Boudry and Buekens (2011) have shown, the conceptual core structure of psychoanalysis provides a sort of empty shell into which any number of rival theoretical notions can be inserted. In particular, while Freud’s original theory centered around the Oedipus complex and the notion of infantile sexual desires, later theorists have developed the theory in widely divergent (and often incompatible) directions. Otto Rank’s version of psychoanalysis reduces virtually every psychological complex to the birth trauma, Alfred Adler unearthed inferiority complexes everywhere, Melanie Klein introduced the notion of breast envy as a counterweight to penis envy, Carl Jung developed the theory of unconscious archetypes (anima, persona, shadow), and so forth (Macmillan, 1997). As a result of this problem of underdetermination, communities of believers are often beset by schisms and internal dissent. In the absence of any evidential constraints for fixating the parameters of conspiracy explanations, anyone can always come up with a rival conspiracy theory that fits the evidence equally well. According to Crews (1998, p. xxx), the epistemological structure of psychoanalysis renders the development of the psychoanalytic movement “drastically centrifugal, spinning off ever more numerous, mutually excommunicating schools and cliques” (see also Gordin, 2012, p. 202).

Since epistemic black holes are extremely resilient to external challenges, these competing version of the theory will often try to ‘engulf’ one another. In the case of conspiracy theories, believers will sometimes explaining the very existence of rival theories as providing further evidence of the alleged plot. For instance, when the influential French conspiracy theorist Thierry Meyssan suggested that on 9/11 the Pentagon was hit by some sort of missile instead of a passenger plane, other 9/11 Truthers went on to argue that Meyssan’s no-plane theory was itself planted by the Deep State to sow doubt and discredit the conspiracy theory community (Sunstein & Vermeule, 2009, p. 223). Analogously, the different schools of psychoanalysis after Freud have often turned one another, explaining dissent in theory-internal terms. As historians of the psychoanalytic movement have observed, theoretical disputes were resolved by accusing the other party of harboring some repressed desire or unresolved complex that warranted further psychoanalytic treatment. Freud made a habit of using this strategy against his renegade disciples, who eventually returned the favor by directing it at their former master (Borch-Jacobsen & Shamdasani, 2011; Sulloway, 1992).

## Ideological determinants

Even though empirical evidence cannot “fixate” the parameters of an epistemic black hole, other factors can do so. In many cases, what we see is that the theoretical parameters will be determined by shared ideological prejudices, and may therefore evolve to reflect changing cultural sensibilities. A striking instance is provided by the fate of antisemitic conspiracy theories about the dangers of ‘World Jewry’ during the past century. Prejudice and hostility against Jewish minorities has a long and sordid history in Christendom (and to a lesser extent in the Islamic world), dating back for many centuries. Nonetheless, contemporary forms of conspiratorial antisemitism, which obsesses over a world-spanning conspiracy of international Jewry, only emerged in the late 19th century (Pipes, 1999). Unlike earlier form of anti-Jewish animus, such as the blood libel in the middle ages, it was less driven by overtly religious motives, but more concerned about the integration of Jewish minorities in public life, and especially their prominent role in the world of finance and commerce. By the early 20th century, antisemitic conspiracism gained ascendancy throughout the Western world, appearing in both leftist and right-wing versions, and documents like the *Protocols of the Elders of Zion* were widely read, discussed and taken seriously. In the 1940s, the right-wing version of antisemitic conspiracism culminated in the genocidal fanaticism of Nazi Germany.

In the aftermath of the Second World War, however, Jews abruptly disappear from conspiracist literature. Because of the widespread abhorrence of Nazism, conspiracy theorists began to abandon or downplay the Jewish element in their conspiracy theorizing. Instead, they settled for other culprits such as the CIA or FBI, which reflected the economic and cultural dominance of the United States as the new global superpower. Other favorite targets became the United Nations and the Bilderberg group, a transnational organization of political leaders and other elites which holds annual conferences since 1954. Because of its notorious privacy and secrecy, the Bildergroup became a suitable target for conspiracy theorists. In short, this shift from Jews to other perpetrators did not reflect any novel evidence, but was driven by “changing social and political circumstances” (Byford, 2011, p. 97). It is notable that, in recent years, the Jews have made a comeback on the conspiracist scene. Because the horrors of the Holocaust have been fading from memory, and because criticism of Israel and Zionism has become more politically respectable, the taboo on antisemitism has been losing strength in many countries. As a result, old-fashioned antisemitic conspiracy theories have reappeared on the scene, both in the form of anti-Zionism on the left and racialized conspiracism on the right. One notable example is the widespread (and false) rumor that no Jews were present in the Twin Towers during the 9/11 attacks, because they had somehow been warned about the impending plane crashes.

The history of psychoanalysis offers a similar example of how theoretical developments can reflect changing cultural environment rather than a changing evidence base. In the early days of psychoanalysis, Freud touted the concept of *penis envy* as one of the most important discoveries of psychoanalysis. According to Freud, the development of the female psyche revolves around the unconscious desire to possess the male penis. As the little girl discovers that her body lacks the prized appendage, her whole process of psychological maturation is being built around the unconscious desire to have a penis, and her resentment about this wish not being fulfilled. In the most favorable cases, the desire for a penis is later substituted for a desire to have a baby. Penis envy, according to Freud, was not a peculiar desire occurring in some women, but a universal and general law of female psychology.

In the second half of the 20th century, however, the doctrine of universal penis envy in women started to disappear from the psychoanalytic literature. It is unlikely that this theoretical change was driven by a changing evidence base, for Freud and his followers had confirmed the existence of penis envy in numerous cases, and the method of investigation remained unaltered. As the philosopher Frank Cioffi rhetorically asked: “When did women stop wanting penises?” (Cioffi, 1998, p. 27 ). As in the case of the Jews disappearing from conspiracist literature, the notion of universal penis envy had just become ideologically unpalatable. Feminist critiques exposed the sexist and misogynist overtones of Freud’s “phallocentric” theory of the female psyche, and some feminist psychoanalysts like Melanie Klein and Karen Horney proposed alternative concepts like *breast envy* and *womb and vagina envy* (Sayers, 1987). But these were equally arbitrary and underdetermined by evidence. Just as the prominence or absence of ‘the Jews’ in conspiracy theories reflected the changing cultural fate of antisemitism, the specific content of psychoanalytic theory tended to reflect changing cultural sensibilities rather than changing evidence (Cioffi, 1998).

# Conclusion

This paper has analyzed the warped epistemology and cultural dynamics of epistemic black holes, belief systems that are self-sealing and extremely resistant to external challenges. This epistemological analysis complements traditional explanations of the psychological appeal of belief systems, as well as contingent historical explanations of their success. For instance, though it is plausible that humans have evolved tendencies to overdetect conspiracies, the extreme resilience of conspiracy theories to counterevidence and criticism helps to explain their perennial appeal and cross-cultural persistence. The most notable examples of such black are conspiracy theories about historical events, but less obvious examples include Freudian psychoanalysis, as well as certain religious and supernatural belief systems. By postulating intelligent agencies that purposefully evade detection, these belief systems are armed with a natural resistance against external challenges.

This epistemological analysis also helps us to understand the cultural development and dynamics of epistemic black holes. Most importantly, because of their extreme resilience to counterevidence, black hold suffer from an radical problem of underdetermination. As a result of this, such belief systems tend to be unstable and vulnerable to internal disarray, since believers can always come up with a rival version that accommodates the evidence equally well. In other cases, we see that the evolution of such belief system flexibly accommodate to changing cultural circumstances and sensibilities.

Finally, I believe that this epistemological analysis may be useful for pedagogical purposes. By understanding the self-sealing logic of conspiracy theories and other epistemic black holes, people may better appreciate the arbitrary and gratuitous nature of such beliefs. By seeing how, using the same types of inferences and evidence, entirely different theories can be concocted that are equally plausible and equally compatible with the evidence, people might be better “immunized” against the attraction of such irrational belief systems (Norman, 2021).

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1. I have borrowed the analogy between belief systems and black holes from Law (2011), who talks about “intellectual black holes”. His definition is more encompassing, including any irrational belief system that is attractive and from which it is hard to escape: “a bubble of belief that, while seductively easy to enter, can then be almost impossible to think your way out of again.” (Law, 2011, p. 9) [↑](#endnote-ref-1)
2. Popper was not really interested in particular “theories” about historical events, but in a general mode of explanation in the social sciences, according to which it is enough to know who *wanted* something to happen to explain *why* it happened. For this reason, Popper was also not particularly interested in “secrecy”, and his definition of conspiracy does not fully map onto our modern one. For a discussion of the misunderstanding of Popper’s remarks on the conspiracy theory of society, see (Galbraith, 2022; Jarvie, 2016, pp. 293-294). [↑](#endnote-ref-2)
3. Some philosophers have argued that “secrecy” is not an essential attribute of conspiracy theories, depending on how it is construed. In fact, some conspiracies may require the conspirators to reveal their secret at some point, after the plan has been executed (e.g. political coups). Here I will assume that secrecy is an essential ingredient at least for as long as the (alleged) conspiracy is underway. See Dentith & Orr (2018) for a philosophical analysis of “secrecy” in conspiracy theories. [↑](#endnote-ref-3)
4. In recent years, a number of philosophers have challenged the notion that “conspiracy theories” suffer from sort of general deficiency, arguing that every conspiracy theory should be evaluated on its own merits. For a defense of this “particularism”, see (Buenting & Taylor, 2010; Dentith, 2018a, 2018b, 2019; Pigden, 1995). For a defense of more “generalist” positions, see (Harris, 2018; Stokes, 2018). [↑](#endnote-ref-4)
5. A list of contemporary imprints of the *Protocols* can be found on Wikipedia: bit.ly/3qU7W7a [↑](#endnote-ref-5)
6. Original French text: “l’hostilité au modèle freudien relève moins de la discussion scientifique que de la résistance des savants eux-mêmes à leur propre inconscient.” (Roudinesco, 1999, p. 73) [↑](#endnote-ref-6)
7. The quote comes from an article in the French newspaper *Le Figaro* in 1864, but variations have been attributed to various other writers. <https://quoteinvestigator.com/2018/03/20/devil/> [↑](#endnote-ref-7)
8. Logically speaking, any scientific theory suffers from underdetermination by evidence (Stanford 2017), but scientists have different ways of rationally discriminating between rival theories (e.g. simplicity, fecundity, coherence). Moreover, one of the alternatives may always be ruled out by the next piece of evidence. This is not the case for rivals conspiracy theories, which are always compatible with any evidence. [↑](#endnote-ref-8)