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SOCIAL-COGNITIVE PROCESSES UNDERLYING BELIEF IN CONSPIRACY THEORIES

Jan-Willem van Prooijen, Olivier Klein and Jasna Milošević Đorđević

Introduction

People differ in whether they perceive evidence for a conspiracy in similar stimuli. For instance, based on the same video footage, some people see irrefutable evidence that the moon landings were fake (e.g. the U.S. flag appears to be waving despite the lack of wind on the moon), while others do not see such evidence. This suggests a prominent role for psychology in the study of conspiracy theories, as this discipline examines what individual and social factors determine whether people believe or disbelieve conspiracy theories (van Prooijen 2018). In the current chapter, we specifically focus on the role of social cognition: How does the human mind process information about conspiracy theories, and what specific social-cognitive processes increase the likelihood that people believe these theories?

A central idea in the field of social cognition is that the human mind has two functional systems in place to process information about the physical and social environment (e.g. Kahne-man 2011). These systems are complementary, as both are necessary to help human beings effectively navigate their world. According to these so-called ‘dual-process models’ (Evans 2008), one of these mental systems is fast, and evaluates information through intuitions, emotions and heuristics (‘System 1’). For instance, through System 1 a perceiver may experience an immediate, gut-level suspicion that a new political candidate is not to be trusted. The other mental system is slow, and evaluates information through analytic thinking, rational deliberations and a thorough assessment of the available information (‘System 2’). For instance, through System 2 a perceiver may extensively assess the history of corruption of a new political candidate, and eventually conclude that this candidate is not to be trusted. In these examples, the final judgment is the same (the politician should not be trusted), but the social-cognitive processes underlying this judgment is different. In the first case, the perceiver has drawn this conclusion based on a feeling that emerged quickly and, in the second case, the perceiver has drawn this conclusion after an extensive analysis.

One important insight in the field of social cognition is that most beliefs that people hold about the world originate from System 1 thinking. For instance, Gilbert, Tafarodi and Malone (1993) noted that people’s first intuitive impulse after comprehending a proposition is to believe it, and they need to exert active mental effort (System 2) to unbelieve a proposition. They found that imposing time pressure on participants – disabling their capacity to use analytical System 2
processes – increased the influence of obviously false information on participants’ ratings of how to punish a criminal. Apparently, people need some time and effort to recognise information as false, and to adjust their evaluations of the criminal accordingly. Pantazi, Klein and Kissine (2018) have found that, even in the absence of such time pressure, people may display such a ‘truth bias’, that is, a tendency to believe information regardless of whether it is true. The idea that not believing but unbelieving requires System 2 thinking corresponds to findings pertaining to the social-cognitive basis of specific belief systems. For instance, research reveals that analytic thinking mediates the relationship between religiosity and happiness (Ritter et al. 2014), and increases the likelihood that people disbelieve religious claims (Gervais, Norenzayan 2012). Furthermore, belief in paranormal phenomena is associated with increased intuitive thinking and decreased analytic thinking (Aarnio, Lindeman 2005).

It is not necessarily self-evident that these insights generalise to conspiracy beliefs, however. Some conspiracy theories have turned out to be true (e.g. in 1973 many people already suspected that President Nixon was personally involved in Watergate (Wright, Arbuthnot 1974)). Also, conspiracy theories that are unlikely to be true often involve a long list of articulate arguments (Wagner-Egger et al. 2019), however, suggesting a role for System 2 processes. Even an outlandish conspiracy theory such as the Flat Earth movement (the conspiracy theory that the Earth is flat, and that scientists have been deceiving the public for over 400 years) has a long list of arguments to support its theory. These arguments include accusations of deception by N.A.S.A. (which supposedly fabricates satellite pictures of a round Earth), rigged plane windows to create the perceptual illusion of a curving Earth and testimonies of plane pilots who claim to not see the Earth’s curvature at high altitude. Even though these arguments are implausible, it is difficult to maintain that no deliberative thinking was involved in constructing such elaborate theories.

In sum, most beliefs that people have about the world are the result of System 1 thinking, but it is plausible to suspect a role for System 2 thinking in conspiracy beliefs as well. The present chapter seeks to resolve this discrepancy. We will argue that, like other forms of belief (e.g. Gilbert et al. 1993; Aarnio, Lindeman 2005; Gervais, Norenzayan 2012) conspiracy beliefs are primarily rooted in System 1 thinking. We will also argue that, after forming initial conspiracy suspicions, however, people subsequently use System 2 processes to justify and rationalise these suspicious sentiments. Through motivated reasoning, perceivers develop extensive and articulate conspiracy theories based on valid arguments, wild speculations or a combination of these. Most conspiracy theories hence originate from System 1 thinking, but people justify and maintain them through System 2 thinking.

Cognitive roots: Intuitive versus analytic thinking

Here, we review the evidence for two indicators of System 1 versus System 2 thinking in conspiracy theories: (1) intuitive versus analytic thinking and (2) the intensity of feelings and emotions, most notably anxious uncertainty (i.e. uncertainty as an anxious emotional experience, which is distinct from cognitive uncertainty due to a lack of information), as a result of threatening experiences. If belief in conspiracy theories originates from System 1 thinking, it should be reliably and positively associated with intuitive thinking. In addition, it should be associated with a range of feelings and emotions reflecting anxious uncertainty. If belief in conspiracy theories originates from System 2 thinking, however, it should be reliably and positively associated with analytic thinking, and unrelated, or even negatively related, with feelings of anxious uncertainty.

As to the first indicator, despite the observation that many conspiracy theories are complex and articulate, evidence suggests that belief in such theories is rooted in intuitive thinking. In
general, people’s beliefs about many societal issues that are subject to conspiracy theories (e.g. climate change, vaccines, nuclear power, G.M.O.) depend strongly on their cultural values or political attitudes (Kahan et al. 2011). When these values or attitudes are inconsistent with scientific evidence, people often reject the evidence (Washburn, Skitka 2017). This suggests that people’s beliefs about the world largely depend on what they intuitively feel is true.

One set of studies offered a straightforward test of the relationships between intuitive thinking, analytic thinking and conspiracy beliefs. Following experimental manipulations designed to stimulate analytic thinking, participants’ belief in conspiracy theories decreased. Measures of intuitive thinking, instead, reliably predicted increased belief in conspiracy theories (Swami et al. 2014). Correlational studies support these conclusions. These studies found that analytic thinking is insufficient to promote scepticism towards conspiracy theories; also, the motivation to be rational and base conclusions on evidence is critical. Put differently, only people who combine the skill with the will to think analytically display decreased conspiracy belief (Ståhl, van Prooijen 2018). Furthermore, lower education predicts a slight increase in conspiracy belief, a finding that is mediated by decreased analytic thinking and an increased tendency to perceive simple solutions for the problems that society faces (van Prooijen 2017).

In addition, belief systems that rely heavily on intuitive thinking are associated with greater conspiracy beliefs. Empirical studies have found positive and consistent relationships between conspiracy beliefs and beliefs in the paranormal, pseudoscience, superstition, precognition, witchcraft and extraordinary life forms (Darwin et al. 2011; see also Barron et al. 2014; Lobato et al. 2014; Swami et al. 2014; van Prooijen et al. 2018). Furthermore, recent studies investigated the phenomenon of ‘Bullshit receptivity’, which is a tendency to perceive a deeper meaning in statements that are grammatically correct and appear profound, but actually are a randomly chosen string of buzzwords (e.g. ‘Hidden meaning transforms unparalleled abstract beauty’). Findings revealed that bullshit receptivity is associated with reduced analytic thinking, increased faith in intuition and increased belief in conspiracy theories (Pennycook et al. 2015).

Complementary evidence suggests a role for heuristics and cognitive biases in conspiracy beliefs. Heuristics are mental shortcuts to evaluate complex information quickly and efficiently and are therefore part of System 1 thinking (Kahneman 2011). While heuristics are functional and often lead to correct conclusions with minimal mental effort, they often mislead perceivers into false judgments and bad decisions. One such heuristic is representativeness, which is the idea that the more strongly exemplars resemble a category prototype, the more strongly people assume that this exemplar possesses the salient attributes of this category (Kahneman, Tversky 1972). For instance, people widely regard a sparrow (an exemplar) as more representative for the category ‘birds’ than an ostrich; people are therefore more likely to assume that a sparrow instead of an ostrich can fly. In this example, the representativeness heuristic produces a correct conclusion (sparrows indeed can fly, and ostriches cannot). In various other instances, however, the representativeness heuristic contributes to cognitive biases.

One such cognitive bias is the conjunction fallacy, which is an error in probabilistic reasoning pertaining to the likelihood that two events co-occur (Tversky, Kahneman 1983). A well-known example of the conjunction fallacy is the ‘Linda-problem’ in which participants receive a description of a woman named Linda that is representative of the category ‘feminists’ (e.g. she is 31 years old, single, outspoken, majored in philosophy, and is deeply concerned with issues of discrimination and social injustice). Then, participants rated the likelihood of a range of options that included the following: (a) Linda is a bank teller; or (b) Linda is a bank teller and active in the feminist movement. Statistically, option (a) is always more likely than option (b): The probability of one of the constituents occurring (she is a bank teller) can never be lower than the probability of this constituent co-occurring with a different constituent (besides a bank
teller she is also active in the feminist movement). Yet, a majority of participants rated option (b) as more likely than option (a) (Tversky, Kahneman 1983). Of interest for the present purposes, the more often research participants make this conjunction fallacy, the more strongly they believe conspiracy theories (Brotherton, French 2014). This suggest that heuristic thinking, and the biases that result from it, is associated with belief in conspiracy theories.

Another cognitive bias resulting from the representativeness heuristic is stereotyping, that is, (over-)generalised beliefs about groups of people. Various studies suggest that stereotyping is closely associated with belief in conspiracy theories. For instance, one study revealed that, in German samples, conspiracy beliefs are associated with anti-Americanism, and with stereotyping of high-power groups (e.g. managers; politicians: Imhoff, Bruder 2014). Likewise, antisemitism is closely associated with belief in Jewish conspiracy theories (e.g. Kofta, Sedek 2005). Also, individual difference variables that predispose people to stereotyping and prejudice are often associated with belief in specific conspiracy theories, notably authoritarianism (i.e. a tendency to value order and authority) and social dominance orientation (i.e. a tendency to accept or even prefer inequality between groups) (see Abalakina-Paap et al. 1999; Swami 2012).

What are the more specific automatic cognitive processes underlying conspiracy beliefs? Various authors have highlighted the role of at least two processes, namely pattern perception and agency detection (e.g. Shermer 2011; Douglas et al. 2016; van Prooijen, van Vugt 2018).

Pattern perception refers to the mind’s tendency to perceive causal connections between stimuli. This mental faculty is functional for human beings because many stimuli in fact are causally connected, and recognising these causal relationships is essential to survive and stay healthy (e.g. large predators can harm or kill humans; eating contaminated food causes illness). Quite often, however, people mistakenly perceive causal connections that do not exist, referred to as illusory pattern perception. For instance, illusory pattern perception is strong among habitual gamblers, who in casinos often perceive patterns in random outcomes (Wilke et al. 2014).

Conspiracy theories by definition contain patterns, that is, assumptions of causal relationships between events, people and objects. For instance, a celebrity can die of a drug overdose without a conspiracy being involved. Once people start seeing a causal link between such an event and a distrusted powerful group (e.g. a secret service agency), however, a conspiracy theory becomes more likely (‘the celebrity did not overdose but was murdered’). One interesting hypothesis, therefore, is that people who tend to perceive patterns in random stimuli (i.e. illusory pattern perception) are particularly likely to believe conspiracy theories. Various studies support this hypothesis. Van Prooijen, Douglas and De Inocencio (2018) found that perceiving patterns in random strings of coin toss outcomes, or in the abstract paintings by Jackson Pollock, predicted belief in conspiracy theories. Furthermore, Van der Wal, Sutton, Lange and Braga (2018) presented participants with a range of existing but likely spurious correlations (e.g. chocolate consumption within a country predicts the number of Nobel Prize winners within that country). Results revealed that the more strongly participants believed that these relationships represented actual causal effects, the more strongly they believed conspiracy theories. These findings suggest that a tendency to (over)perceive patterns predicts conspiracy beliefs.

However, other scholars (Dieguez et al. 2015, Wagner-Egger et al. 2018) have failed to observe a link between pattern perception (in coin tosses) and endorsement of conspiracy theories. More research is needed to establish the robustness of the association between conspiracy belief and illusory pattern perception, and its boundary conditions. Furthermore, most findings establishing this link are correlational, and future research needs to establish the causal relationships between pattern perception and conspiracy belief.

The second cognitive process underlying conspiracy theories, agency detection, refers to the mind’s tendency to perceive intentionality behind others’ actions and events. This mental faculty
is functional to regulate social relationships. For instance, recognising if actions were intentional improves accountability judgments, and helps perceivers establish the quality of their interpersonal relationships (e.g. if one gets hurt by a friend, it matters whether one believes that the friend did this on purpose or by accident). Like pattern perception, however, people also regularly detect agency where none exists. Does over-perceiving agency predict belief in conspiracy theories? By definition, conspiracy theories involve agency: Assuming that a group of actors collude in secret to commit harm implies that these actors have a purposeful goal, and hence are agentic. Studies indeed support the idea that over-recognising agency predicts increased belief in conspiracy theories. For instance, belief in conspiracy theories is related with anthropomorphism, that is, ascribing human intentions to non-human stimuli (e.g. assuming that the environment experiences emotions); moreover, it is related with ascribing agency to a series of moving geometric figures on a computer screen (Imhoff, Bruder 2014; Douglas \textit{et al.} 2016; see also Wagner-Egger \textit{et al.} 2018).

A cognitive process closely associated with agency detection is teleological thinking, or the tendency to ascribe function and a final cause to natural facts and events. An example would be to view a rainbow at the top of a mountain as a ‘reward’ for a long hike. Teleological thinking often presumes that an entity was behind the observed factor or natural event. For example, the hiker may presume that God has intentionally placed the rainbow there. Nonetheless, Wagner-Egger \textit{et al.} (2018) have measured the tendency towards teleological thinking in large Swiss and French samples and found that it was correlated with endorsement of conspiracy theories, independently of other forms of agency perception, such as animism (i.e. attribution of consciousness to non-living entities).

In sum, the first indicator of System 1 thinking, intuitive thinking, predicts belief in conspiracy theories. Conspiracy beliefs are related with intuitive belief systems (e.g. belief in the paranormal), heuristic thinking and the automatic cognitive processes of pattern perception and agency detection. Analytic thinking instead predicts decreased belief in conspiracy theories. These findings support the assertion that conspiracy theories originate from System 1 thinking.

\section*{Cognitive roots: Threat and uncertainty}

A second indicator of System 1 versus System 2 thinking is the intensity by which people have feelings and emotions that are associated with threatening experiences: System 1 thinking can be ‘hot’ and emotional, whereas System 2 thinking tends to be ‘cold’ and calculative (Kahneman 2011). One pertinent finding in conspiracy theory research is that particularly emotions or feelings reflecting uncertainty and fear increase belief in conspiracy theories. Conspiracy theories surge particularly following distressing and anxiety-provoking societal events, such as natural disasters, terrorist strikes, wars, economic crises and rapid societal change (e.g. Hofstadter 1966; Pipes 1997; van Prooijen, Douglas 2017, 2018). Studies indeed found that threatening and consequential societal events (e.g. a political leader dies) elicit stronger conspiracy beliefs than societal events that are less threatening or consequential, and therefore less likely to elicit feelings of anxious uncertainty (e.g. a political leader gets in a dangerous situation but survives; McCauley, Jacques 1979; van Prooijen, van Dijk 2014).

Both experimental and correlational studies have examined the role of feelings and emotions in conspiracy thinking more directly. For instance, in a range of experiments participants recalled a situation in which either they were in full control or lacked control. Lacking control is an experience closely associated with anxious uncertainty and, indeed, participants who recalled a situation where they lacked control subsequently reported stronger conspiracy beliefs than participants who recalled a situation where they had control (Whitson, Galinsky 2008; van Prooijen,
Social-cognitive processes

Acker 2015: Study 1). Likewise, subjective uncertainty (van Prooijen, Jostmann 2013) and threats to the societal status quo (Jolley et al. 2018) increase conspiracy thinking. Finally, attitudinal ambivalence – an unpleasant experience closely associated with feelings of anxious uncertainty, characterised by mixed (i.e. both positive and negative) evaluations of an attitude-object – increases belief in conspiracy theories (Van Harreveld et al. 2014). These findings suggest that feelings and emotions associated with threatening experiences causally influence belief in conspiracy theories.

Correlational findings are consistent with these observations. Numerous studies have found relationships of conspiracy beliefs with dispositional anxiety (Grzesiak-Feldman 2013), death-related anxiety (Newheiser et al. 2011), lack of control (van Prooijen, Acker 2015: Study 2), self-uncertainty (van Prooijen 2016), powerlessness (Abalakina-Paap et al. 1999) and system identity threat, that is, the perception that society’s fundamental values are changing (Federico et al. 2018). While these correlations do not show that conspiracy theories originate from these feelings or emotions (and, indeed, the links between feelings, emotions and conspiracy beliefs are likely to be bidirectional; e.g. Douglas et al. 2017; van Prooijen, Douglas 2018), they are consistent with a model suggesting that System 1 thinking plays a prominent role in conspiracy beliefs.

The above evidence is limited by pertaining to negative feelings and emotions only. One study experimentally tested the causal influence of both emotional valence (i.e. positive versus negative) and emotional uncertainty, however (Whitson et al. 2015). Specifically, some negative emotions imply uncertainty about the world (e.g. worry and fear), but some positive emotions do so as well (e.g. surprise and hope). Likewise, some negative emotions imply certainty about the world (e.g. anger and disgust) as do some positive emotions (happiness and contentment). Interestingly, the results revealed that, not emotional balance, but emotional uncertainty increased conspiracy beliefs. These findings suggest that both positive and negative emotions may drive conspiracy beliefs, but only if they imply feelings of uncertainty about the world.

Trust is another crucial ingredient in conspiracy theories. When information comes from a trustworthy source, people are less likely to scrutinise it, which may result in accepting it using System 1 thinking. Conversely, distrust is likely to trigger the use of more reflection and critical appraisals of information. This implies that, when people feel disenfranchised, they may distrust official accounts and embrace conspiracy theories more easily. Conversely, trust in authorities may similarly foster a blind adhesion to official accounts (Miller et al. 2016).

Taken together, these findings suggest a prominent role for threatening experiences in conspiracy beliefs. Strong feelings and emotions that are closely coupled with anxious uncertainty drives belief in conspiracy theories. These findings complement the findings on intuition and heuristics, and further support the notion that conspiracy theories originate from fast (System 1) mental processes.

Complex conspiracy theories

Does all of this imply that System 2 is not involved in conspiracy thinking? Assuming a lack of System 2 thinking is difficult to reconcile with the observation that many conspiracy theories are rather elaborate. Debating a committed ‘conspiracy theorist’ can be challenging (particularly if one enters the debate unprepared). For instance, the common conspiracy theory that the 9/11 terrorist strikes were an inside job by the U.S. government is based on extensive analyses of the temperatures at which steel melts, the maximum temperatures produced by burning kerosene, expert testimonies and analyses of video footage that seem to suggest hidden explosives in the Twin Towers.
Quite often, these deliberative analyses combine correct scientific facts with incorrect inferences, wild speculations and a selective assessment of the evidence. For instance, steel indeed melts at about 2750°F and burning kerosene only reaches a maximum of about 1500°F (a correct scientific fact). Raising this scientific fact as evidence for controlled demolition assumes, however, that it was necessary for the steel construction to melt in order for the building to collapse (an incorrect inference). In fact, the maximum temperatures reached by burning kerosene were more than enough to weaken the steel constructions of the Twin Towers up to the point that it could not carry the weight of the higher floors anymore, causing the buildings to collapse (for details, see Dunbar, Reagan 2011). Moreover, these conspiracy theories often include expert testimonies that support the theory (e.g. engineers who believe that the Twin Towers collapsed through controlled demolition) and ignore expert testimonies to the contrary (e.g. engineers who do not believe that the Twin Towers collapsed through controlled demolition).

These observations suggest that deliberative (System 2) thinking is involved when assessing these complex conspiracy theories. Such System 2 thinking appears to be motivated, however, by a desire to find evidence in support of the conspiracy theory. Put differently, while analytic thinking may lead some perceivers to unbelieve a conspiracy theory (Swami et al. 2014; see also Gilbert et al. 1993), it may help other perceivers to find evidence for a conspiracy that they started out assuming to exist. For example, Republicans who are motivated to believe that Democrats conspire are likely to find such evidence, and vice versa (Uscinski, Parent 2014; Miller et al. 2016).

These propositions are consistent with the basic notion that people are motivated to maintain a coherent worldview, in which beliefs and actions converge with their knowledge about the world (e.g. Festinger 1957). This implies a regular challenge to cope with information that is inconsistent with one’s beliefs, however. For instance, people who believe that climate change is a hoax will inevitably come across – and may even actively pay attention to – news reports about melting icecaps in the Arctic, extreme weather in various parts of the world and reports of rising global temperatures. People can resolve such discrepancies in various ways, which sometimes may include adjusting their beliefs (e.g. people may accept the evidence that climate change is real). Alternatively, however, people might resolve such discrepancies through motivated reasoning strategies that enable them to uphold their beliefs. These strategies include invalidating the sources of the information (e.g. the news reports were produced by a conspiracy to persuade people of climate change) or embracing other explanations that preserve the worldview that they had prior to the discrepant information (e.g. climate change may be real but it was not caused by human activity; Kahan et al. 2011). Maintaining one’s worldview may not only fulfil individual-level motives but also serve to maintain one’s integration in important social groups, especially when these beliefs are central to the ideology of these groups. The need to achieve objective and accurate knowledge may be less crucial than to preserve one’s social integration.

Such motivated reasoning is hence more complicated than the simple assertion that people believe whatever they want to believe. Instead, people’s motivation to uphold a certain belief influences what information they consider, and how much value they place in each source of information. For instance, people often selectively embrace, or avoid, information to arrive at a certain conclusion (Sweeney et al. 2010). Perceivers might experience this information search as an objective epistemic analysis, yet it was likely to confirm the preferred conclusions. It is easy to find some support for almost any conspiracy theory (e.g. one empirical study about climate change that turned out fraudulent); likewise, it is easy to find some contradictory evidence for almost any scientific theory (e.g. a climate change model that failed to produce accurate predictions). It has been
noted that people endorse lower evidentiary standards for preferred conclusions (‘Can I believe this?’) as opposed to un-preferred conclusions (‘Must I believe this?’), resulting in a confirmation of one’s initial beliefs (Epley, Gilovich, 2016). Put differently, when assessing conspiracy theories, people often do not act like independent scientists or judges, but as lawyers motivated to defend their case.

The idea that people intuitively make assumptions of conspiracies (based on System 1 thinking) and then selectively search for evidence to support their theory (which involves System 2 thinking) is consistent with broader models of human morality. These models are relevant for the current purposes, as arguably a conspiracy theory is a specific judgment of immoral behaviour (i.e. assumptions that actors develop evil schemes in secret and then carry them out). Notably, the social intuitionist model of morality (Haidt 2001) asserts that people form moral judgments intuitively, based on subjective feelings of right or wrong. People are then motivated to make sense of such feelings, however, and may occasionally be challenged to explain their moral judgments. To justify their moral sentiments, therefore, people search for rational reasons why they feel a certain way. Research offers evidence for this process, for instance by showing that people maintain their moral judgments even if they fail to find rational arguments – a phenomenon referred to as ‘moral dumbfounding’ (Haidt 2001).

In a famous study to illuminate these principles, Haidt (2001) first presented a text describing how a brother and sister end up having sexual intercourse together on their holiday, and then asked research participants whether it was morally right or wrong for them to do so. Participants largely felt that it was morally wrong for a brother and sister to have sex. Haidt then asked participants to explain why they felt this way, however. Interestingly, the text rebutted most of the standard arguments that people raise against incestuous brother-sister relationships. These arguments include the risk of inbreeding (they used two types of contraceptives); the risk of damaging their relationship (after the experience they felt closer than ever before); the risk of hurting their parents (they were abroad and kept the experience a special secret); the risk of abuse or pressure (the experience was fully consensual by two mature adults); and the risk of a slippery slope (they agreed to do it only once). After a while, many participants gave up trying to give rational reasons – but typically without altering their moral judgment. Apparently, a deep intuitive feeling of right and wrong shaped participants’ moral judgments (i.e. incestuous brother-sister relationships are morally wrong), and they subsequently searched for rational reasons to support these sentiments.

A similar process is likely for conspiracy theories. When first confronted with a distressing societal event, perceivers may intuitively conclude that the event is suspect or that the facts do not add up (e.g. the death of Princess Diana cannot have been an accident). Perceivers want to make sense of these suspicious sentiments, however, and therefore try to find evidence for an initial suspicion that a conspiracy was responsible. Through motivated reasoning, perceivers selectively embrace evidence for a cover-up and dismiss evidence to the contrary. The result is an elaborate and sophisticated theory that appears well-grounded in reason and evidence. These processes rarely take place in isolation. People seek and evaluate evidence through communication with others, especially in-group members. The selective focus on evidence supporting one’s beliefs can be amplified in ‘echo chambers’ in which such communication takes place (e.g. Internet; Klein et al. 2015).

In sum, we propose that the two basic modules of the human mind – System 1 and System 2 – are both involved in conspiracy theories. Through System 1 processes, people accept the basic premises of a conspiracy theory. System 2 processes, then, can have two distinct implications. Analytic thinking may lead some perceivers to unbelieving a conspiracy theory (Swami et al. 2014; see also Gilbert et al. 1993). For other perceivers, however (presumably those deeply
invested in the idea that there must have been a conspiracy), analytic thinking may become part of a motivated reasoning process that reinforces the conspiracy theory into an elaborate and carefully crafted narrative.

**What about real conspiracies?**

In this section, we address two remaining concerns. First, what do the cognitive processes described here imply for anti-corruption efforts that include uncovering actual conspiracies (e.g., the Iran-Contra Affair)? Second and relatedly, what do these insights imply for people who disbelieve conspiracy theories – do conspiracy sceptics accept non-conspiratorial narratives through similar cognitive processes, making them relatively oblivious to actual corruption?

As to the first concern, some scholars mistakenly propose that psychology as a discipline assumes that conspiracy beliefs are mostly irrational (e.g. Butter, Knight 2015). This, for instance, ignores the rich tradition within psychology to examine the causes of actual corruption and conspiracies (e.g. Weisel, Shalvi 2015; for overviews, see Köbis et al. 2016; van Prooijen, van Lange 2016), as well as the role of self-interest and dishonesty in human behaviour (e.g. Batson et al. 1997; Gino, Wiltermuth 2014). Psychological definitions of conspiracy theories do not assume them false per se, nor does the psychological approach imply a value judgment of believers or non-believers (van Prooijen 2018).

Instead, psychologists focus on individual or social factors that statistically predict degrees of conspiracy thinking. Some conspiracy theories are possible or even plausible (e.g. allegations that secret service agencies regularly violate privacy laws), while other conspiracy theories are unlikely in light of logic or scientific evidence (e.g. Chem-trail conspiracy theories). Citizens structurally differ in how many conspiracy theories they endorse, however, and how credible they find them (e.g. Goertzel 1994; Swami et al. 2011). Our arguments pertain to factors that predict people’s susceptibility to unproven conspiracy narratives. Investigating such susceptibility does not make assumptions of how valid a specific conspiracy claim is. For instance, concluding that intuitive thinking statistically predicts an increased susceptibility to a range of conspiracy theories is quite different from assuming that Watergate did not happen. In fact, evolutionary psychology proposes that the human tendency to believe conspiracy theories evolved as an adaptive mechanism among ancestral humans to cope with the dangers of hostile coalitions, that is, truly existing conspiracies (van Prooijen, Van Vugt 2018).

What do the cognitive processes described in this chapter imply for legitimate suspicions of corruption? Would a police detective, who ends up uncovering a major conspiracy committing corporate fraud, also use System 1 and 2 processes in a similar fashion? We speculate here that quite often such a detective indeed might go through a similar mental sequence. Many corruption investigations start with an inconclusive piece of evidence that prompts an intuitive suspicion that ‘something is fishy’ (System 1), which subsequently warrants a more extensive investigation (System 2). This investigation, then, includes assessing eyewitness testimonies, collecting objective evidence such as payment transactions and consulting legal experts to establish if, and in what specific way, the suspected conspirators broke the law.

In fact, quite often the System 2 processes that are involved during such a police investigation may be comparable to the motivated reasoning account described in this chapter. Motivated reasoning is at the core of tunnel vision, which is common in legal investigations, and has led to many innocent convictions (Findley, Scott 2006). An important challenge, therefore – for both police detectives and concerned citizens – is to evaluate all the available evidence for actual conspiracies objectively, including pieces of evidence that are inconsistent with one’s initial suspicions. To reduce the number of false-positives when trying to uncover existing conspiracies, people need to
resist the temptation of acting like lawyers defending their case, but instead should behave like impartial judges or scientists (Epley, Gilovich 2016).

A second and related concern is what the propositions of the present chapter imply for citizens who disbelieve most conspiracy theories. We speculate that the cognitive processes underlying such disbelief can take two distinct forms. One form is that people may disbelieve conspiracy theories through similar cognitive processes. In these cases, people intuitively believe in the nonexistence of a conspiracy, and then justify this intuition through motivated reasoning. This process may lead perceivers to ignore actual malpractice (e.g. Republicans who, as the Watergate scandal unfolded, firmly believed in Nixon’s innocence until he resigned). Both belief and disbelief in conspiracy theories can be rooted in the cognitive processes described here.

A different form of disbelief, however, is the result of habitually processing information objectively and critically. We propose that the tendency to rely on impartial analytic thinking and value objective evidence is at the core of scepticism (Ståhl, van Prooijen 2018). Of importance, scepticism does not imply gullibly accepting any official statement of power holders, nor does it imply gullibly accepting any bizarre conspiracy theory. Instead, it implies a humble awareness that one’s initial intuitions may be mistaken, along with a reliance on evidence, reason and logic to come to objective conclusions. The sceptic approach thus involves a critical analysis of policy proposals or official readings of distressing events, but, also, a critical analysis of conspiracy theories. Sceptics also may form initial impressions of societal events through System 1 processes, but, in contrast to non-sceptics, they subsequently are more likely to disbelieve these first impressions through System 2 processes untainted by motivated reasoning.

**Conclusion**

What is most opposed to the discovery of truth is not the false appearance that proceeds from things and leads to error or even directly a weakness of the intellect. On the contrary, it is the preconceived opinion, the prejudice, which, as a spurious a priori, is opposed to truth.

*Schopenhauer, A. (1974 [1851]: 14)*

In the present chapter, we highlighted the cognitive processes underlying belief in conspiracy theories, and particularly challenged the notion that such beliefs are rooted only in System 1 thinking. The human mind is complex, and instead of being mutually exclusive, Systems 1 and 2 are complementary when people process information about the social world (Kahneman 2011). Specifying the role of both mental systems may integrate empirical findings suggesting a role of intuition (Swami et al. 2014) and emotion (Whitson et al. 2015) in conspiracy thinking, with the articulate nature of many conspiracy theories. We conclude that conspiracy beliefs largely originate through System 1 processes, yet people justify and sustain them through System 2 processes. Schopenhauer may have underestimated the role of reasoning in the quest for truth: Reason can greatly assist preconceived opinions in paving the road to conspiracy beliefs.

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