Social-Cognitive Processes Underlying Belief in Conspiracy Theories

Jan-Willem van Prooijen[1,2], Olivier Klein[3], & Jasna Milošević Đorđević[4]

[1] VU Amsterdam

[2] the NSCR

[3] Université Libre de Bruxelles

[4] Singidunum University Belgrade

Address correspondence to Jan-Willem van Prooijen, VU Amsterdam, Department of

Experimental and Applied Psychology, Van der Boechorststraat 7, 1981BT Amsterdam, the

Netherlands. E-mail: j.w.van.prooijen@vu.nl

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Abstract

People have two integrative mental systems in place to process information about the world. One is fast and automatic, relying on emotions, intuitions, and heuristics ("System 1"); the other is slow, effortful, and deliberate, relying on conscious reflection and rational calculations ("System 2"). In the present chapter, we argue that both mental systems uniquely contribute to conspiracy beliefs. Evidence suggests that belief in conspiracy theories largely originates from System 1 processes, as underscored by research findings relating conspiracy beliefs to intuition, decreased analytic thinking, and anxious uncertainty. These insights do not preclude a role for System 2 processes in conspiracy theories, however. Inspired by social intuitionist models of morality, we suggest that once formed, people justify conspiracy theories through a deliberate process in which they selectively search for evidence to support their suspicions. We conclude that conspiracy theories originate through System 1 processes, but people justify and maintain them through System 2 processes that involve motivated reasoning.

Index words: Conspiracy beliefs; Dual-process models; System 1; System 2; Intuitive thinking; Analytic thinking; Anxious uncertainty; Bullshit receptivity; Conjunction fallacy; Pattern perception; Agency detection; Teleological thinking; Control; Complex conspiracy theories; Motivated reasoning; Social Intuitionist Model; Real conspiracies; Corruption.

Social-Cognitive Processes Underlying Conspiracy Theories

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 US 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., Kahneman, 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 *un*believe 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 recognize 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 *un*believing 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, Preston, & Hernandez, 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 generalize 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 NASA (which supposedly fabricates satellite pictures of a round Earth), rigged airplane windows to create the perceptual illusion of a curving Earth, and testimonies of airplane 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., Aarnio & Lindeman, 2005; Gilbert et al., 1993; 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 rationalize 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,

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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, GMO) depend strongly on their cultural values or political attitudes (Kahan, Jenkins-Smith, & Braman, 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, Voracek, Stieger, Tran, & Furnham, 2014). Correlational studies support these conclusions. These studies found that analytic thinking is insufficient to promote skepticism 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, Neave, & Holmes, 2011; see

also Barron, Morgan, Towell, Altemeyer, & Swami, 2014; Lobato, Mendoza, Sims, & Chin, 2014; Swami et al., 2014; Van Prooijen, Douglas, & De Inocencio, 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, Cheyne, Barr, Koehler, & Fugelsang, 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-)generalized 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, Anti-Semitism 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, Stephan, Craig, & Gregory, 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., Douglas et al. 2016; Shermer, 2011; 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 recognizing 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, Scheibehenne, Gaissmaier, McCanney, & Barrett, 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, Wagner-Egger, & Gauvrit, 2015, Wagner-Egger, Gauvrit, & Delouvée, 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, recognizing 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-recognizing 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 (Douglas et al., 2016; Imhoff & Bruder, 2014; see also Wagner-Egger, Delouvée, Dieguez, & Gauvrit 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 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 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 nonliving 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.

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 (Van Prooijen & Acker, 2015, Study 1; Whitson & Galinsky, 2008). Likewise, subjective uncertainty (Van Prooijen & Jostmann, 2013) and threats to the societal status quo (Jolley, Douglas, & Sutton, 2018) increase conspiracy thinking. Finally, attitudinal ambivalence—an unpleasant experience closely associated with feelings of anxious uncertainty, characterized by mixed (i.e., both positive and negative) evaluations of an attitude-object—increases belief in conspiracy theories (Van Harreveld, Rutjens, Schneider, Nohlen, & Keskinis, 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, Farias, &Tausch, 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, Williams, & Vitriol, 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, Galinsky, & Kay, 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 valence 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 scrutinize 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, Saunders, & Farhart, 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 US 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 *un*believe 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 (Miller et al., 2016; Uscinski & Parent, 2014).

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 worlds, 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 fulfill 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 (Sweeny, Melnyk, Miller, & Shepperd, 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 behavior (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, Van der Linden, Pantazi, & Kissine, 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 *un*believe 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 skeptics accept non-conspiratorial narratives through similar cognitive processes, making them relatively oblivious for 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, in press). 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, Van Prooijen, Righetti, & Van Lange, 2016; Van Prooijen & Van Lange, 2016), as well as the role of self-interest and dishonesty in human behavior (e.g., Batson, Kobrynowicz, Dinnerstein, Kampf, & Wilson, 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 peoples' 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 *dis*believe 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 skepticism (Ståhl & Van Prooijen, 2018). Of importance, skepticism 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 skeptic approach thus involves a critical analysis of policy proposals or official readings of distressing events, but also, a critical analysis of conspiracy theories. Skeptics also may form

initial impressions of societal events through System 1 processes, but in contrast to non-skeptics, they subsequently are more likely to unbelieve these first impressions through System 2 processes untainted by motivated reasoning.

Concluding remarks

"The discovery of truth is prevented more effectively, not by the false appearance things present and which mislead into error, not directly by weakness of the reasoning powers, but by preconceived opinion, by prejudice"

Schopenhauer (1942, Vol. 2, Ch. 1, § 17)

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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Author Bios:

Jan-Willem van Prooijen is Associate Professor at the Department of Experimental and Applied Psychology, VU Amsterdam, and Senior Researcher at the NSCR. His research focuses on the psychological aspects of belief in conspiracy theories. Furthermore, he has ongoing research on various related topics including ideological extremism and unethical behavior.

Olivier Klein teaches social psychology at the University Libre de Bruxelles (Belgium), where he heads the center for social and cultural psychology. He is co-chief editor of the International Review of Social Psychology. Besides conspiracy theories, his research interests include intergroup relations, gender, food psychology and research methods.

Jasna Milošević Đorđević teaches Social psychology at the Faculty of Media and Communication (Serbia), and is Vice Dean for Science. As a research associate in the Institute for political studies and consultant in Ipsos Serbia she leads numerous projects. She is interested in science skepticism, conspiracy theories, gender, and collective action.