Behind the screen conspirators: Paranoid social cognition in an online age

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> We are so constituted that we believe incredible things, and once they are engraved upon the memory, woe to him who would endeavor to erase them.
>
> Goethe (1774/2009, August 15, 1771)

Conspiracy theories are often viewed with skepticism. In a recent study (Klein, Pantazi, & Kissine, 2014) conducted via the online software AMAZON MTurk, 96 US participants were asked to report on a scale from 1 to 5 and for a series of 21 traits whether they applied much more to people who did not believe in conspiracy theories or to people who did not believe in conspiracy theories. The traits roughly tapped the two main dimensions of social judgment (Fisk, Cuddy, & Glick, 2007): Competence on the one hand, warmth on the other. As shown in Figure 1, believers were perceived, in decreasing order of importance, as more gullible, crazy, easily influenced, stupid, naïve, manipulative, dishonest, assertive and selfish than non believers. By contrast, nonbelievers were perceived to be more rational, trustworthy, likeable, intelligent, honest, sociable, lucid, warm, and nice. Thus, believers are both perceived more negatively on warmth (morality) and competence. They are also viewed as suffering from mental disorders.

[Figure 1 here]

Thus, designating an account of social events as a conspiracy theory renders it illegitimate. Such a qualification amounts to denying any pretense of authenticity to the proposed explanation. It comes from a skeptic who rebels against the irrational believer. By debunking the conspiracy theory, the skeptic affirms his clairvoyance and stigmatizes the obscurantism

of his opponent. In the same sample, we indeed found that 74% of participants defined themselves as more rational than the average person in their country. This tendency was moderately correlated ($r = .34$, $p. < .001$) with self-definition as a nonbeliever (vs. believer) in conspiracy theories.

To affirm his rationality, the skeptic puts forwards empirical data questioning the plausibility of the conspiracy theory. He affirms his adhesion to a Cartesian ideal (i.e., his conclusions are logical deductions) and positivistic (these deductions are based on objectively appraised facts).

In spite of these aspirations, belief in conspiracy theories remains widespread in developed countries. For example, Oliver and Wood (in press) found that 19% of Americans agree with the statement that "the US invasion of Iraq was not part of a campaign to fight terrorism but driven by oil companies and Jews in the US and Israel" whereas 24 % believe that "President Barack Obama was not really born in the United States and does not have an authentic Hawaiian certificate». How can aspirations to rationality coexist with such a vast endorsement of conspiracy theories? In this paper, we purport to address this paradox by considering the cognitive underpinnings of conspiracy theories.

We will suggest that conspiracy theories are not perversions of rationality. To the contrary, we shall argue that general processes of causal explanation are likely to account for their formation and resistance to attacks against them.

Second, we will propose that the pathological view of conspiracy theories is not only misguided but that it may facilitate their endorsement by reducing vigilance towards dubious information.

Third, digital technologies may exacerbate the influence of the cognitive processes involved in the endorsement of conspiracy theories. Thus, rather than being a simple channel for the diffusion of such theories, the internet may be provide a social context facilitating their endorsement.

Before considering each of these points in detail, terminological clarifications are in order.

What is a conspiracy theory?

Keeley (1999, p. 116) defines a conspiracy theory as a "proposed explanation of some historical event (or events) in terms of the significant causal agency of a relatively small group of persons, the conspirators acting in secret".

Note first that the above definition does not have any bearing on the plausibility of the theory. In addition, according to this definition, a conspiracy theory necessarily possesses the following attributes:

- It involves causal reasoning
- It implies a form of social categorization

- It presumes intentionality on the part of members of the group.

To consider a group of individuals as possessing a joint intentionality and a capacity to act collectively presumes that this group is not only perceived as a set of distinct individuals, what Lorenzi-Cioldi (2002) calls a "collection group" (e.g., as one could categorize the owners of electric razors) but as an entity with an internal organization, or "aggregate group". The conspiring group is therefore not selected arbitrarily. The members of such a group must be perceived as sharing motivations that justify the organization of a conspiracy and as capable of implementing it. This competence and these motivations are embedded in social stereotypes regarding the conspiring group. Hence, the existence of mixed stereotypes describing Jews as ethnocentric but also as powerful and clever may have facilitated the emergence of conspiracy theories about Jewish domination (Glick, 2002). Thus, conspiracy theories presuppose stereotypes.

Cognitive processes promoting the endorsement of conspiracy theories

In social psychology, conspiracy theories are often approached in terms of their motivational underpinnings: For example, they can be considered as geared at finding a convenient scapegoat (Rotschild, Landau, Sullivan, & Keefer, 2012), legitimize one's prejudice against the "conspiring group" (or a surrogate, cf. Swami, 2012), as restoring predictability in an uncertain world (Van Prooijen & Jostmann, 2013). In this section, we depart from this motivational approach and consider several cognitive processes that may facilitate the endorsement of conspiracy theories. Below we consider four of them.

Conspiracy theories and Conceptions of chance

At the source of any conspiracy theory, one can always find an array of "facts", real or assumed that are subsequently organized into a coherent narrative. When a theory can account for many disparate events, it is often tempting to overestimate how necessary the co-occurrence, or *conjunction*, of these events is to produce the effect. This reflects a well known bias, the *conjunction fallacy* (Tversky & Kahneman, 1983). This bias precisely consists in estimating the likelihood of two joint events as higher than that of any of these events considered separately. For example, let us adopt the perspective of a believer in a Bush-led conspiracy of the 9-11 attacks to justify a subsequent war in Iraq. How would such a person appraise some of the observations related to these events, such as "finding melted steel in the remains of the twin towers" or "absence of reaction from the Bush government to information indicating that supporters of Al Qaida were training in US flight schools". Post hoc, the conjunction of these events may seem as more probable that any of these events taken separately because an alternate theory accounting for their co-occurrence is available. Precisely, research on the conjunction fallacy (Ahn & Bailenson, 1996) suggests that this bias is more likely to occur when a mechanistic explanation allowing to weave these events in a tight, coherent, narrative, is available.

People's difficulties in assessing chance may be another contributor to belief in conspiracy theories. Thus, due to the representativeness heuristic (Tversky & Kahneman, 1974), people tend to view chance as more "orderly" than it is: For example, people typically underestimate the likelihood that a random process may produce the same outcome successively (e.g., a series of tails when flipping a coin). This may lead to view really random "coincidences" as produced by chance (because such coincidences are not representative of the sort of outcomes

chance should produce). This problem becomes particularly acute when ignoring sample size: Thus, the occurrence of such series is obviously more likely when considering a large sample of events than when considering a small sample. But, when appraising "strange patterns", people often ignore the number of possible events of which they are part. For example, that two former CIA agents did not go to the World Trade Center on 9/11 can only be appraised by considering the larger sample of employees who did not go the WTC on that day (and especially of the number of current or former agents of the CIA who went to the WTC).

Conspiracy theories and Attributions of Intentionality

Every event is the product of a wide array of conditions, some of which are granted the status of "causes", whereas others will only be perceived as intermediary mechanisms. Law theorists Hart and Honoré (1959) argue that, in a judicial context, we tend to give the status of cause to a preceding event if it involves an intentional behavior. Social psychologists (McClure, Hilton, & Sutton, 2007) have supported this claim empirically by presenting their participants with long chains leading to a critical event (for instance the derailment of a train or a house fire). They experimentally varied certain preceding events involved in the causal chain depending on whether they were intentional (e.g., an individual throwing a cigarette butt) or not (e.g., a sunshine). They were thus able to demonstrate that their participants (college students) more often granted the status of cause to intentional behaviors. If we limit ourselves to the explanation of behaviors, other authors even suggest that an intentional explanation is chosen by default (Rosset, 2008). In other words, one of the central features of conspiracy theories, intentionality, seems to stem from an automatically triggered explanatory mode.

Stereotyping and Causal Power

Other aspects contribute to the perceived causal power of an antecedent. Among these, the role of typicality seems particularly relevant to the understanding of conspiracy theories. When an antecedent is typical of an agent, it is more likely to be considered an important cause even if, in practice, it is not more predictive of the outcome than a non typical antecedent. Imagine that, in order to explain the massacre of American soldiers on November 5, 2009 in Fort Hood (Texas) by psychiatrist of Palestinian descent, Nidal Malik Hassan, we could select from two potential causes: "Hassan was upset at his colleagues" vs. "Hassan was depressed". Further imagine that these causes are equally likely to lead to the observed effect (when the psychiatrist is upset, he is as likely to behave aggressively as when he is depressed). In other words, the conditional probability of an aggression is similar irrespective of whether Hassan is depressed or upset. It appears that, in such a situation, individuals show a preference for the more typical or frequent cause (Johnson, Long, & Robinson, 2001). That is, if we believe that Nidal Malik Hassan is often (seldom) upset at his colleagues, we will more (less) often use this cause in our explanation. This finding bears important implications for the understanding of conspiracy theories because it suggests that the way agents are socially categorized is likely to influence the perceived causal power of an antecedent. In our example, knowing that Hassan is of Palestinian descent, one could rely on this information to estimate the frequency of the antecedent: "He must often be irritated by native-born Americans" and consequently use this cause in his or her explanation. This mechanism can potentially explain why stereotype consistent behaviors easily find their way into conspiracy theories.

It thus appears that behaviors performed by one or more members of a group are more likely to be selected for inclusion in a causal explanation when these behaviors are (stereo-)typically associated with this group. As a result, they will generally be perceived as consequences of internal dispositions shared by members of this group. In this psychology, the intention can link up the disposition (that defines general traits) with the behavior. For instance, American imperialism (general disposition) can be used to explain the attack on the twin towers (behavior) – the collapse of which has been attributed to an explosion organized and camouflaged by the American administration – by invoking the will of the American authorities to dominate the Middle-East (intention).

Outcomes and Causes

Another attributional process that may favor the endorsement of conspiracy theories is the tendency to prefer single factor explanations: It is often much more satisfying, and less cognitively demanding, to identify an all encompassing factor that can singly explain an outcome (Fischhoff, 1984).

Similarly, people generally engage in causal explanation of events that have a high social or personal significance. In doing so, they may often be motivated to seek explanations that are proportional to the outcome (Fiedler, Freytag, & Unkelbach, 2011). Yet, as we well know, even the most dramatic outcomes may be caused by trivial events. This is particularly evident when loved ones disappear: The extent of the grief experienced by loss may make it difficult to accept that a simple ordinary cause may have produced it. In the same vein, the shock generated by the assassination of JFK was so strong that the "single shooter theory" may have

seemed difficult to accept. Coping with such a momentous event may demand a narrative that is paramount to the significance of the event to be explained. This assumption that causes should be proportional to their effects may reflect cognitive constraints as well: Thus, Heider (1944) posited the existence of a causal schema stipulating that a good cause should match an effect in magnitude. Recent experimental research (Fiedler et al., 2011) indeed suggests that people tend to consider a large effect as more likely to be caused by a given cause, when the magnitude of this "cause" is large rather than small. This pattern contradicts logic (i.e., if a weak cause produces a strong effect, this cause must be powerful indeed!). This may contribute to the popularity of conspiracy theories, which offer grand explanations of significant events (for an illustration, see Licata & Klein, 2000).

In sum, this overview of cognitive processes promoting adhesion to conspiracy theories suggests that skeptics may be right in arguing that conspiracy theories do not conform to Cartesian standards of logic and rationality. The use of judgmental heuristics based on faulty reasoning may facilitate the endorsement of such theories. However, the use of such heuristics, far from being the preserve of lunatics, seems to characterize the way most people ordinarily perform judgments and decisions, even if they can sometimes rely on more sophisticated strategies (Kahneman, 2011).

Skepticism and Conspiracy Theories

So far we considered several factors that facilitate the endorsement of conspiracy theories relative to other kinds of explanations. Let us now look at the effect that a conspiracy theory has on someone who is exposed to it. We consider two possible receivers: The naive, who

adheres to the theory, once exposed to it and the skeptic, who refuses to endorse it unless he is offered strong evidence of its validity. The posture of the latter is grounded on the Cartesian assumption that it is possible to be exposed to a conspiracy theory without, yet, believing it. In his fourth metaphysical meditation, Descartes (1641/2010) contemplates the possibility of forming a "true" idea. "How can we know that we are not misled?", he wonders. In his view, people must suspend their will before deciding to "affirm an idea". Once this idea is known well enough, one can attribute to it the status of truthfulness:

> "The reason for fallacies and errors: When I hold back my will enough in the bounds of my knowledge, so that it only makes judgments about the things that are clearly and distinctly represented by comprehension, I cannot be mistaken; because every clear and distinct conception is undoubtedly something real and positive, and thus, it cannot originate from nothing […]." (p 62, our translation)

In the Cartesian approach one can thus "envision" an idea before considering it as true. Once we have comprehended this idea well enough, so as to have constructed a satisfactory representation of it, we are able to adhere to it or, to the contrary, consider it false or unfounded. Descartes, thus, makes a fundamental distinction between representation on the one hand and conviction on the other. He encourages us to be skeptical about every theory and to examine the different facts in favor or against it before making a decision.

Contrary to this skeptical view, adherence to conspiracy theories seems to be guided by motivations – for example anti-Semitic or racist –, rather than by a cold-blooded quest for accuracy. In the adherence of conspiracy theories the will is in all respects subordinate to

comprehension, rather than preceding it. In this way, the adherent of conspiracy theories does not refrain from selecting among the available facts those that best match his theory, and even deploys his high imagination skills in order to assimilate those facts that seem to challenge it. He makes, thus, a great usage of explanations that are complex and unparsimonious (Bronner, 2013). For example, the idea that the explosion of the twin towers was just a decoy, explicitly or implicitly, assumes the collusion of two agents (the American government and the terrorists) and implicates the formulation of peripheral explanations instead of *prima facie* and more economical explanations involving only one agent, i.e. Al Qaida. This ad hoc and unparsimonious character, may explain the contempt for conspiracy theories. The Cartesian intellect appears as an ideal that designates the functioning of "my" intellect as a denunciator, as opposed to that of the credulous who is enslaved by his ideology and formulates less elegant explanations. In our study (Klein et al., 2014), the more people defined themselves as non-believers, the more they characterized believers are "crazier" than non-believers ($r = .37$, $p < .001$).

However, the opposition between the intellect and the will proposed by Descartes is not endorsed by everyone. Spinoza (1677/2010) in particular rejects this opposition and views beliefs as cognitive products of stimuli. In this view of the mind we have the tendency to "believe everything we know", and only through the force of will can we reject some representations, which initially exact our conviction unavoidably. If this is the case, then a conspiracy theory would become plausible just because it exists. Hence, contrary to the Cartesian view, distancing oneself from it would require more efforts than adhering to it.

Can we solve such a debate? When we are confronted with unverified affirmations about the world, do we behave in a Cartesian or in a Spinozan way? Gilbert et al. (1993) have tried to answer this question. They put their subjects (psychology students) in the shoes of a trial judge and asked them to read two reports about two different offenses. They told them, however, that part of the information contained in the two reports was false. The authors manipulated the truthfulness of the information, by varying their font color: The true information was presented in black fonts and the false information was presented in red fonts and was, thus, easily identifiable. For one report, the "false" information exacerbated the severity of the crime and for the other it mitigated it by presenting attenuating circumstances. Independently, half of the participants were asked to perform a concurrent digit-search task when reading two reports. After reading the two reports, participants were asked to play the role of judges, and propose a prison term for the two perpetrators on the basis of the information they had just read. Gilbert et al. assumed that if people are "Cartesian", they should be able to disregard the false information printed in red before making their judgments. Thus, the judgments of the two perpetrators –who only differed between them with respect to the *false* information presented in the reports– should not differ, and this regardless of whether participants were in the "distracted" or in the control group. On the contrary, if they are "Spinozan" a difference between the two groups should show up, as distracted participants, due to their restricted cognitive resources, should be unable to proceed to the rejection of the false information, which would be unavoidably endorsed upon reading. As a matter of fact, the authors found exactly this difference between the two groups: The difference in prison terms in the "attenuated" and "exacerbated" conditions was bigger for the distracted participants than for the control group. The conclusion of this experiment is simple: When lacking sufficient cognitive resources all affirmations seem true. Although subsequent research (e.g., Hasson, Simmons, & Todorov, 2005; Richter, Schroeder, &

Wormann, 2009) has suggested boundary conditions for such a "gullibility", it remains the case that unbelieving statements seems often much more taxing than believing them (see Kissine & Klein, 2013 for an extended discussion).

With respect to conspiracy theories and the two kinds of receivers we mentioned above, this study suggests that it is difficult to behave in a skeptical way when confronted with such constructions. When lacking sufficient cognitive resources we are likely to take them for granted, without even realizing the shortcomings of our critical sense.

Does our self-proclaimed rationality make us more vulnerable to conspiracy theories?

In the previous sections, we have shown that people tended to define themselves as skeptics and to decry conspiracy theories but that, when exposed to false information while lacking cognitive resources, they were influenced by it. In the present section, we shall consider how these two phenomena may interact.

In view of the preceding analysis, we can expect that mere exposure to a conspiracy theory, even a completely imaginary one, is sufficient to elicit at least some degree of adherence to it. Douglas and Sutton (2008) tested exactly this hypothesis. The participants in their study read several pieces of information, each supporting a different conspiracy theory concerning the “murder” of Lady Diana. For example, in support of the theory that “rogue cells” in the British secret services organized the murder, participants read that witnesses report having heard gunshots just before the accident. After that, participants were asked to indicate the extent to which they endorse each of the conspiracy theories supported by the information

they had read, as well as the extent to which they thought they endorsed the theories before reading the evidence (retrospective judgments). Crucially, the subjects thought that their judgments had not changed after reading the information, although they actually adhered to the conspiracy theories more than a control group, which had not been previously exposed to the evidence. Moreover, the subjects believed that the other participants in the study, in contrast to themselves, had been influenced by the information. This is an effect widely known as the "third person effect" (Davison, 1983), referring to a tendency for people to believe that others are more credulous or more powerless than themselves against persuasive media.

This study demonstrates the susceptibility of our judgments to "empirical" evidence –in our case facts supporting a conspiracy theory. What is more, we are, apparently, unconscious of this susceptibility of our judgments, which goes also against a Cartesian approach. We are, thus, always prone to overestimate our immunity to conspiracy theories.

This may render us even more vulnerable to them by decreasing our vigilance. Consistent with this proposition, studies have found that beliefs' in one's own objectivity or rationality could lead to more biased judgment of applicants in a job selection context (Uhlmann & Cohen, 2007). Thus, our misguided adhesion to the Cartesian ideal, i.e., the belief that we are Cartesian when we are actually Spinozan, may exacerbate this tendency. We precisely considered the validity of this hypothesis, as applied to conspiracy theories, in a preliminary experiment (Pantazi, Klein, Douglas, & Kissine, 2014.). In this study, we exposed student participants to information consistent with conspiracy theories regarding education reform. For example, the information that the minister of higher education was also the minister of

economy could suggest that the government was secretly reforming higher education to profit businesses (while its overt goal was to improve access to higher education). Two experimental manipulations were introduced. First, prior to receiving the information regarding the education reform, a third of participants were asked to generate 10 situations in which they had behaved rationally whereas a second third only had to generate 5 instances. The last (control) group was not asked to generate any behavior. This manipulation, inspired by Schwarz et al. (1991), was intended to manipulate self-perceptions as rational: Thus, we expected that participants would experience more difficulties retrieving a large than a small number of instances. Due to the accessibility heuristic (Tversky & Kahneman, 1974), they should utilize information about ease of retrieval to form judgments about their own rationality and therefore, perceive themselves as less rational in the 10 behaviors than in the 5 behaviors condition. Independently, for half the participants, we introduced the information presented to them as "supporting a conspiracy theory" whereas for the other the information was presented as "facts".

A few hours later, we evaluated participants' adhesion to conspiracy theories regarding the educational reform and uncovered an interesting pattern of results: There was a marginally significant interaction between the rationality manipulation and labeling ($p. < .08$). In the condition in which participants had to retrieve few instances of their rationality as well as in the control group especially, endorsement of the conspiracy theories was (descriptively) higher when the information was labeled as supporting a conspiracy theory than when it was not. Only when participants generated many instances of rational behavior did the opposite tendency appear (although it did not reach statistical significance). Thus, assuming that the manipulation of self-perceived rationality had the intended effect, these findings suggest that perceiving oneself as *more rational* leads to a greater, rather than to a lesser, endorsement of

information explicitly labeled as supporting a conspiracy theory. This is consistent with the proposition that by overestimating one's immunity to conspiracy theories, one becomes more vulnerable to them. Decrying conspiracy theories as "crazy", while trusting one's own rationality, may thus not only be unfounded, but make us even more vulnerable to such beliefs.

In the two experiments just described, participants were exposed to information that was consistent with conspiracy theories. Another way to test the limits of our rationality involves considering how people respond to facts when those *contradict* a conspiracy theories. After all, the self-proclaimed skeptic should be sensitive to such facts and like a good Bayesian adjust his beliefs accordingly. To this assumption we now turn.

Empiricism: An antidote?

> "A firm belief atthracts facts. They come out iv holes in th' ground an' cracks in th' wall to support belief, but they run away fr'm doubt."
>
> Dunne (1910/2005, "Things spiritual")

We saw that a conspiracy theory is grounded on some “facts”. Naturally, this empirical invocation presupposes that the interpretation of a fact is univocal. Yet, even when their authenticity cannot be denied, people adhering to a theory may be immune to facts blatantly contradicting this theory. Consider for example a study by Redelmeier and Tversky (1996) on the –unfounded– belief that there is a correlation between atmospheric pressure and arthritis

pain. These authors presented their subjects (students) with made-up graphs showing the evolution of these two variables in a 30 days period. It is noteworthy that even when in these graphs arthritic pain and atmospheric pressure were not correlated, the subjects (influenced by the false belief) perceived a relation between the two variables.

This study is a typical example of motivated reasoning (Kunda, 1990), indicating that people will tend to interpret facts in line with their pre-existing beliefs. A rational response to a conspiracy theory would involve showcasing evidence that is incompatible with the conspiracy theory, that is, to challenge the facts that lead to its emergence. For example, during his presidential campaign, Barack Obama was confronted with allegations that his nationality was not really American, but rather Kenyan (or Indonesian) and that he was a Muslim. In response to these allegations, his campaign team set up a website displaying the documents that proved his citizenship, his Christian faith, etc. This strategy is based on the assumption that the supporters of conspiracy theories are capable of correcting their theories or to abandon them once they are confronted with facts that contradict them. However, plenty of evidence suggests that even when new facts do not conform to an existing theory they can be assimilated and thus help keep intact its perceived plausibility (cf. Lewandowsky et al., 2012, Wyer, 1974). The same holds for conspiracy theories. All facts, even those seemingly challenging a conspiracy theory, can be integrated, for example by evoking a "camouflage attempt" or a "will to divert attention", which renders the theory irrefutable. For example, endorsers of the above-mentioned theory concerning Obama argued that the certificate put forth by his team, even though authentic, was not valid because it didn't have a stamp.

Belief perseverance

Despite these assimilatory tendencies, adherents of these theories relish data. As we have already said, a theory emerges because it explains the contingency of some facts. The skeptic can thus expect an adherent to the theory to question his beliefs in the face of evidence questioning these initial data. Consider, for example, that in the light of new archives it is found out that that the substance identified as melted steel is compatible with the "airplane collision theory" of the 9/11 bombings. We would expect that the theory that the two airplanes were a mere diversion to hide a real explosion set up by the Pentagon should no longer be endorsed. But are we capable of correcting inferences once the facts generating them prove to be wrong a posteriori?

The works on belief perseverance (Anderson, Lepper, & Ross, 1980) undermine this hope. In such studies, people are presented with a finding (e.g., that firemen have a more risky temperament than others) and asked to explain it. Half of the subjects are subsequently informed that the effect to be explained was actually absent (e.g., there is no correlation between being a fireman and being risky). In spite of such a debriefing, participants keep believing more in the presence of the effect than a control group (that has not been exposed to the effect).

These results suggest that merely formulating an explanation about an empirically induced relation strengthens the observer's feeling that this relation is "true", even if the evidence inducing this relation proves to be false a posteriori. In other words, people behave as "good Spinozans". Such belief perseverance seems to depend in a large part on our tendency to draw inferences from the initial (false) information (Greitemeyer, 2014). When correcting the misinformation, one rarely achieves to delete all the inferences that were drawn from it. With

respect to conspiracy theories, people who initially formulate conspiracy theories to account for unexpected phenomena may "stick" to them even in the face of contradictory evidence: For example, in a study by Lewandowsky, Stritzke, Oberauer and Morales (2005), Americans, who had generally supported the US intervention in Iraq in 2003, still held on to the belief that Saddam possessed hidden weapons of mass destruction after this information was retracted (and although they knew it had been). Thus, in line with the Spinozan hypothesis, being exposed to information makes people believe it.

The "mille-feuilles"

Another problem facing skeptics of conspiracies theories resides in the level of expertise often needed to debunk a conspiracy theory. The relation between facts and theories is not self-evident. Understanding the relevance of one to the other often demands a level of expertise that few can achieve. For example, the conspiracy theories surrounding 9/11 were backed up by knowledge in the domain of construction, aeronautics, counter-intelligence, politics, etc. A single skeptic could hardly master the evidentiary quality of the "facts" harbored in each of these domains to support the theory. Bronner (2014) has suggested that "believers" rely on the "mille-feuilles"[i] strategy, which involves relying on a wealth of weak arguments from very different domains. An expert in each of these domains could easily debunk the arguments relevant to her field, but she could not engage with all of them.

To conclude this section, although strategies may be available to correct false conspiracy theories (Lewandowsky et al., 2012), doing so demands to overcome mighty cognitive and motivational barriers that may prove insurmountable.

Paranoid Social Cognition

In this chapter, we have considered conspiracy theories as reflecting an ordinary mode of reasoning. We highlighted several cognitive processes that may facilitate the elaboration of such theories, especially preferences for explanations involving intentional factors and stereotyping. Such factors involve data that are immediately available in the "believer's" environment. We have also alluded to motivational factors that may facilitate adhesion to conspiracy theories. Nevertheless, beyond such purely psychological perspectives, social psychology has done little to shed light on the emergence of conspiracy theories in larger social institutions. A notable exception in this regard is Kramer's work on the development of generalized suspicion in organizational contexts (Kramer, 1998). The model is based on the assumption that beliefs proceed from the interaction between ordinary (and therefore non-pathological) cognitive processes in specific social conditions. He especially considers three factors that may facilitate the development of a "paranoid" social cognition: The perception that the self is "different" from the other members of the organization (e.g., being "new", belonging to a minority group, etc.), uncertainty regarding one's status in the organization, and finally the perception that one is evaluated within this system. These three factors are thought to produce a form of defiance towards the organization and a state of "hypervigilance". The latter results in a tendency to overly detect and interpret ambiguous behavior on the part of colleagues.

Kramer's work constitutes an attempt to approach the emergence of conspiracy beliefs within organizations. He did not consider how such paranoid cognition may develop much more broadly across all layers of society. In the next section, we precisely consider how, in the past

decades, the development of digital technologies may have facilitated the development of conspiracy theories by exploiting the type of ordinary cognitive functioning we have considered in the previous sections. In doing so, we echo the analyses proposed by the French sociologist Gerald Bronner (2011), that have been widely reported in the francophone world, but are not yet available to English speaking audiences.

How digital information technologies may exacerbate conspiracy theories

Digital technologies may contribute to the endorsement of conspiracy theories in several ways:

- First, by facilitating and encouraging the production and diffusion of unverified information
- Second, by removing barriers to belief in conspiracy theories.
- Third, by facilitating modes of surveillance by large organizations or states (what we call the "Snowden effect").

The current interests for conspiracy theories stems to a great extent from the expansion of the internet, which facilitates the diffusion of knowledge. With internet access, people can easily publicize their thoughts and interpretations about current events and access an almost unlimited store of knowledge about these same events. The number of individuals with internet access has ninefold between 2008 and 2013 (Carlson & Shontell, cited by Sparrow & Chatman, 2013) and the amount of information available on the World Wide Web is gigantic. In line with a situated social cognition perspective (Smith & Semin, 2007), we should

consider the "ecology" of the processes we investigate. In this regard, we suggest that the internet enhances the impact of some of the processes that facilitate the adhesion to conspiracy theories. Let us now consider how.

Availability

The abundance of information available on the internet may facilitate the endorsement of conspiracy theories in several respects. Thus, Bronner (2013) has shown that pseudoscientific accounts are often more easily available than "orthodox" explanations of events (as e.g., revealed by a tabulation of Google "pageranks"). For example, websites about "creationism" or skeptical about the reality of global warming are more likely to be featured in the top Google search results than those favoring the evolutionary account and the existence of global warning respectively. Bronner has not examined the frequency of conspiracy theories but, if his analysis applies to them as well, the sheer overrepresentation of information consistent with conspiracy theories may make internet users more likely to be influenced by them. Conspiracy theories are indeed strongly represented on the internet. For example, when searching for "9/11" on Google[ii] , two sites advocating conspiracy theories on the attacks[iii] appear in the top 10 searches. Thus, the sheer overrepresentation of information consistent with conspiracy theories may make internet users more likely to be influenced by them.

We should also consider the influence of digital technology on information processing. This can be considered from the production or the reception side.

On the reception side

Consider a (literate) New Yorker in the early XXth century: Such a person may primarily access information via the print media. At best, information could be updated on a daily basis. Purchasing a newspaper would demand a financial investment and typically, the amount of information presented in the newspaper would be quite limited, allowing to maximize the likelihood that it will be processed in depth.

Compare this experience with that of a contemporary New Yorker: Information from a vast number of media sources is available instantaneously. Besides, when such information is found, reading it on a screen, rather than on paper may lead to more shallow processing (e.g., Mangen, Malgerno, & Bronnick, 2013). In addition, readers will be faced with competing stimuli: Images, videos, advertisements, but also information from other websites or applications. These factors may constitute a formidable challenge for readers' attentional skills. Further, information is likely to be updated much more frequently, further increasing the difficulty of processing it thoroughly.

On the production side

For our imaginary reader of the early XXth century, information was most likely to be provided by professional journalists. Although such information could very well be incorrect, influenced by propaganda, etc., the journalist – materially – had time to verify this information.

The frequent update of information means that the producers of this information have often less time to double check information before broadcasting it. Also, outside professional journalists, anyone with internet access may post unverified information.

As Bronner argues, for many producers of information, there may be more rewards to posting "interesting" information than to posting "accurate" information. These rewards may be social (e.g., others may enjoy the company of those who communicate information with high entertainment value) or financial (sites with "juicy" information may be more profitable due to advertisement revenue). In this respect, it is important to consider the many intermediaries between the producers and the consumers of information. More and more people are reading newspapers via social networking sites (e.g., "friends" who recommend reading a specific article or share it via their Facebook page). This was possible in a purely "offline" world (i.e., acquaintances could e.g., recommend an article) but we surmise that the expansion of online social networks and the sheer facility of sharing information online, considerably accentuates this phenomenon (Bashky, Rosenn, Marlow, & Adamic, 2012). For these "friends", again, transmitting accurate information may not be a chief concern. Contrary to the actual producers of information, they are not accountable for its content and may therefore convey it with less concern for its accuracy, sometimes even transmitting an article without having read it, just on the basis of its title.

In an environment in which so much information is freely available, the increased pressure on commercial producers of information to gain an edge on their competitors may also facilitate the spreading of unverified information. Besides, there are financial incentive to divert readers' attentional resources from the core of the story to the advertisements that surround it

in the hope of generating more "clicks" and thereby revenue. Although this may reduce the likelihood that people assimilate false information for lack of attention, it may also lead to more shallow, and less critical, processing of such information, and hence to more assimilation. This prediction would be consistent with a Spinozan model and lead to greater endorsement of false information. Thus, this can result in greater gullibility or in greater reliance on causal explanations featuring a single factor (such as a grand conspiracy) because critical thinking and more elaborate explanations demand more cognitive resources.

What is more: Internet users tend to overestimate their internet literacy (Sparrow & Chatman, 2013). Thus, they tend to believe that they are more competent internet users than they actually are. Also, people tend to believe that the information they receive on the internet, such as search engine results, is more objective and reliable than it actually is (Jansen et al., cited by Sparrow & Chatman, 2013) when they are not. They also tend to believe that online information is more credible than traditional sources (Johnson & Kaye, 1998). Based on the analysis we have presented in the previous sections, such overconfidence may render people more likely to be influenced by inaccurate information. The belief that one is a competent internet user may make her or him less vigilant to possible biases.

The "Snowden effect"

While digital technology may have been an efficient channel for the dissemination of conspiracy theories, it is also possible that the very structure of the internet may have contributed to producing, rather than simply broadcasting, such theories. Indeed, as more people are interconnected, collecting data about individuals becomes much easier. Thus,

when you buy a book at an online bookstore, this bookstore has often much more information on you than the typical bookseller. Private companies, but also government, actively collect such information. The perception that one is under surveillance from companies and government, while it may seem paranoid, is actually true (Ball, Borger, & Greenwald, 2013). There is a leap from such a belief to actually espousing conspiracy theories but it is not a great one. When companies or governments actively monitor users' activity, it is easy to attribute them malicious intentions for doing so and secret plans. Conspiracy theories may easily shape up.

On the one hand, by creating the conditions for such surveillance, these technological advances may paradoxically increase skepticism towards any information and therefore make people *less* gullible. After all, shouldn't the realization that the media collects information about individuals result in less trust towards content posted on the internet, including questionable conspiracy theories?

While this inference may be logically appropriate, a generalized distrust of information communicated on the internet, may not lead people to become more skeptic towards conspiracy theories. On the contrary, it may fuel a tendency to disbelieve information that comes from easily accessible and mainstream sources more than anything else and therefore contribute to conspiracy thinking: "The truth must be hidden somewhere", far from our eyes. The increasing distrust towards the media, which predates the Snowden case (Gallup, 2013), provides a fertile ground for such tendencies. Such distrust indeed predicts a tendency to turn towards non-mainstream media sources (Tsfati & Cappella, 2003), i.e., those that are most likely to advocate conspiracy theories.

Further, distrust in government and official discourse is one of the main drivers of adhesion to conspiracy theories (Wood, Douglas, & Sutton, 2008). To the extent that "official" accounts of events coincide with the mainstream media (as is the case, e.g., for global warming or the 9/11 terrorist attacks), internet users may easily confuse both.

These, admittedly speculative, conjectures suggest that the internet provides an ideal environment for promoting the form of paranoid cognition highlighted by Kramer (1998) not only because it may serve as a channel for broadcasting such theories but because it can be used to engage in massive surveillance.

Conclusion

We have started this chapter by showing that people generally define themselves as rational and mentally sane individuals as opposed to the deluded believers in conspiracy theories. We have then suggested that, contrary to this belief, the cognitive processes driving adhesion to conspiracy theories were perfectly ordinary and did not depend on pathological tendencies.

Based on the direct perception "Spinozan" model, we suggested that extra effort is demanded to "unbelieve" information which, by default, is considered as true. This may render people particularly vulnerable to conspiracy theories. Combined with self-perceptions as "rational" and "not easily influenced", it may result in an underestimation of one's own gullibility as well. This, we suggested, may not be without consequences as self-inflated beliefs in one's

rationality may foreclose the effortful "epistemic vigilance" necessary to discard information that is consistent with conspiracy theories.

In view of this analysis, we suggested that digital media may constitute an ideal breeding ground for the emergence of conspiracy theories for several reasons. First, because by providing an immense amount of information, the cost of engaging in effortful "disbelieving" of questionable information is higher. Second, because the internet can be viewed as a competitive "ideas market" (Bronner, 2011), which rewards the production of entertaining information at the expense of accuracy (cf. Klein et al., 2009). Third, because it enables a mass surveillance of citizens, which may fuel suspicion and encourage paranoid social cognition.

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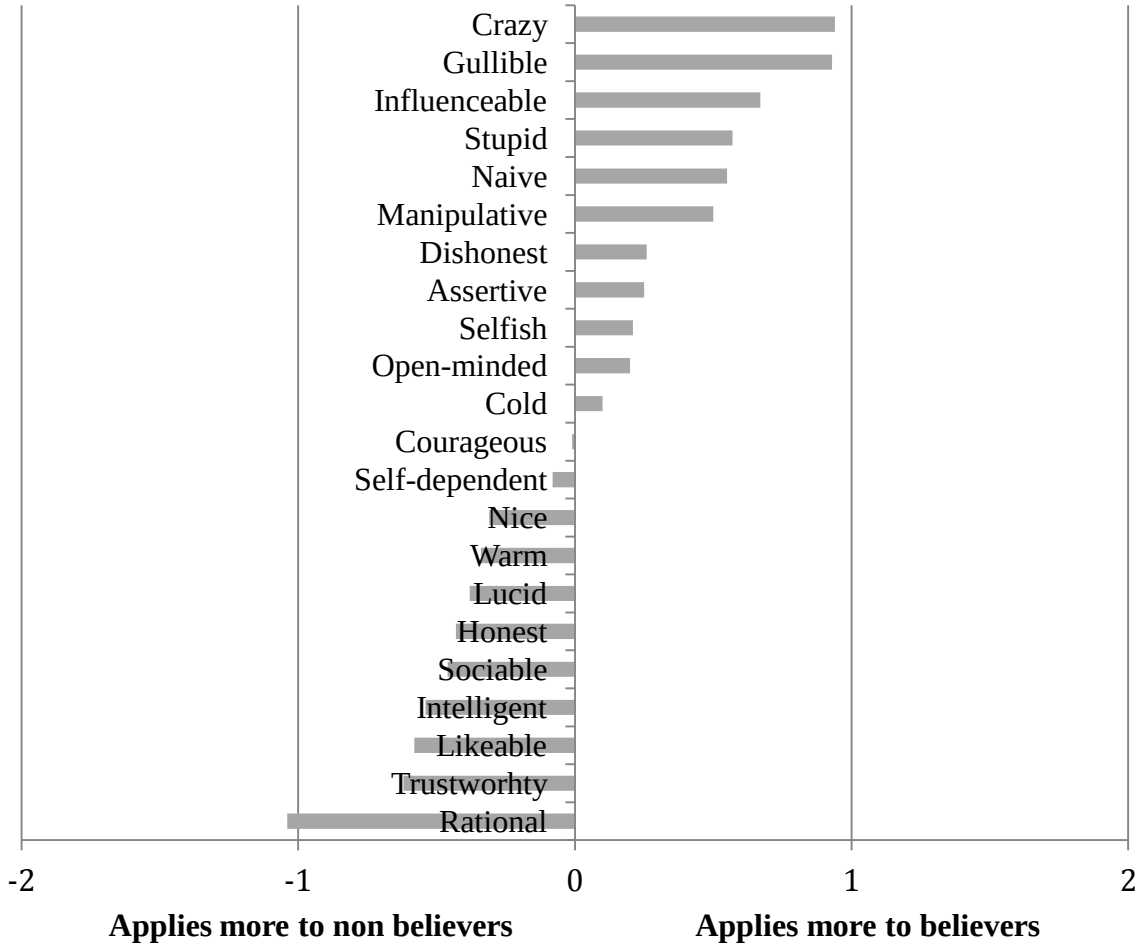
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Figure 1: Perceived applicability of psychological traits to non believers and believers in conspiracy theories



Footnotes

[i] A "mille-feuilles" is a multi-layered cake traditional in French pastry

[ii] On June 30, 2014

[iii] 911Truth.org and www.reopen911.info