Hannah Arendt and the contemporary social construction of conspiracy theorists

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Abstract

There has been much concern with the abundance of misinformation in public discourse. Although misinformation has always played a role in political debate, its character has shifted from support for a specific position to a “shock and chaos” stream of misinformation and conspiracy theories. Exposure to conspiracy theories can have considerable adverse impact on society. I argue that scholars therefore have a responsibility to combat conspiracy theories and misinformation generally. Exercising this responsibility requires an understanding of the varied rhetorical roles of conspiracy theories. Here I focus on instances in which people reject unequivocal scientific evidence and invoke conspiracy theories, or radical anti-institutional positions, based on ideological imperatives. I argue that those positions do not always reflect true attitudes. Instead, people may deploy extreme rhetoric as a pragmatic tool of political expression. I investigate this possibility by focusing on the role of conspiracy theories in the rejection of science. Conspiracist cognition and rhetoric violate the epistemic standards that underpin science. Ironically, this violation of epistemic standards renders conspiracy theories useful as a rationally deployed tool that serves political purposes. I present a study that confirms that conspiracy theories can be deployed to support worldview-motivated denial of science. I provide suggestions how scholars can debunk or defang conspiratorial rhetoric.

Keywords: social construction, conspiracy theories

Word count: approximately 9,000

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— In an ever-changing, incomprehensible, world the masses had reached the point where they would, at the same time, believe everything and nothing, think that everything is possible and that nothing was true. (Hannah Arendt, *The origins of totalitarianism*, 1951).

— This was the largest audience to ever witness an inauguration, period . . . (Trump Press Secretary Sean Spicer, 21 January 2017).

— Just remember, what you're seeing and what you're reading is not what's happening. (U.S. President Donald Trump, 24 July 2018)

Democracy has an uneasy relationship with the notion of truth (Rosenfeld, 2018). On the one hand, democracy is based on the idea that truth matters. Policy making is unlikely to succeed if it ignores relevant facts, and voters in liberal democracies overwhelmingly want their political representatives to be honest (Allen, Birch, & Sarmiento-Mirwaldt, 2018). On the other hand, in a democracy no one has an exclusive right to determine what the truth is. Instead, democratic truth-finding is messy and highly contested, to the extent that the very idea of fact checking has been called into question (Uscinski, 2015). Similarly, Coleman (2018) described the notion of objective political truth as a “conceit,” calling instead for “openness to eclectic epistemic claims” (p. 164) and the emergence of political truth “from a sensibility towards the complexities and disparities of subjective experience” (p. 169). This approach to democratic truth-finding meshes well with the widespread view in the social sciences that knowledge, including scientific knowledge, is socially *constructed* (e.g., Berger & Luckmann, 1966).

The inherent messiness of democratic truth-seeking has always provided politicians with the space for spin, misdirection, and outright dishonesty. For example, there is evidence to suggest that the U.K. Government under Tony Blair and the U.S. administration under

George W. Bush intentionally deceived the public about the evidence for the presence of Weapons of Mass Destruction (WMD) in Iraq in the lead-up to the invasion of 2003 (Herring & Robinson, 2014b, 2014a; Kaufmann, 2004).

Somewhat curiously, however, the WMD deception initially stimulated relatively little public and intellectual concern about the broader role of truth and deception in a democracy. Concern about the role of truth in politics and the state of our democracies moved center stage only 13 years later, in 2016, as a result of two events: The U.K.'s vote to leave the European Union and the election of Donald Trump to the U.S. presidency. Trump's election caused widespread shock around the world, in part because of his record of inaccuracy during the campaign: Independent fact checkers *PolitiFact* identified 70% of his statements as "mostly false", "false" or "pants on fire" lies. For the opposing candidate, Hillary Clinton, just over 25% of statements fell into these categories.

Closely entwined with Donald Trump's apparent inaccuracy—as of the time of this writing (November 2019) the *Washington Post* has counted more than 13,000 misleading or false statements—is the supporting role of misinformation in his election. There is evidence that "fake news", fabricated stories that are presented as news, influenced the popularity of many issues in the lead-up to the election (Vargo, Guo, & Amazeen, 2018).

"Fake News" can take many forms, but they frequently involve conspiracy theories. One troubling theory involved rumors that the Democratic party was running a child sex trafficking ring out of the basement of a pizzeria in Washington D.C. This conspiracy theory surfaced in the fall of 2016 and went viral on Facebook (Kafka, 2016). The claim was accepted as being possibly true by nearly one third of Americans and nearly one half of Trump voters (Kafka, 2016). It ultimately prompted one individual to enter the pizzeria with a semi-automatic assault rifle and fire shots inside the restaurant.

Political leaders are not immune to spreading conspiracy theories: For example,

Donald Trump has repeatedly tweeted conspiratorial content relating to climate change, from claiming that “scientists have manipulated data on global warming” to proposing that the “concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive” (Matthews, 2017). Trump also engages in conspiratorial discourse in other domains (Lewandowsky et al., 2018).

Neither conspiracy theories nor false media reports are new phenomena. So what explains the sudden concern with misinformation from 2016 onward, whereas an organized deception that led to the invasion of a country failed to arouse similar persistent concern in 2003? One possible answer was provided by McCright and Dunlap (2017), who argued that the last decade has witnessed a transition from “systemic lies” to a “shock and chaos” regime of disinformation. Systemic lies are carefully curated attempts to convince the public of a specific falsehood, such as the existence of WMD in Iraq or the absence of climate change. Although deceptive, systemic lies at least tacitly accept an underlying reality—neither George W. Bush nor Tony Blair denied the existence of Iraq and they never made claims that were instantly and readily disprovable. Today’s shock and chaos regime, by contrast, is characterized by epistemic insouciance and a blizzard of erratic, often contradictory, messages. A striking example is the Russian government’s response to the downing of Malaysian Airlines flight MH17 in 2014 by a Russian-made Buk missile. Sputnik, RT (Russia Today) and other pro-Kremlin websites first denied it was a Russian missile. Then they said the missile was fired by Ukrainians. Then they said the pilot had deliberately crashed the airliner, and the plane had been full of dead bodies before impact. Finally they said it was all part of a conspiracy against Russia (Lewandowsky & Lynam, 2018).

I consider this shift, from tacit realism to epistemic insouciance, to be the primary driver of current concern with “fake news”. I have discussed the reasons for this shift elsewhere (Lewandowsky, 2020; Lewandowsky, Ecker, & Cook, 2017). Here I analyze the circumstances and consequences of this shift to develop four cascading arguments: (1) I

argue that scholars have a particular responsibility in addressing the fallout from “shock and chaos” disinformation because it appears to legitimize itself by an—unwarranted—appeal to the epistemic and social constructivism that pervades the social sciences. (2) Shock and chaos disinformation and conspiracy theories can be linked to the finding that segments of the public are prepared to take increasingly radical and anti-institutional positions. It is unclear, however, whether this extremism and other fallouts of shock and chaos reflect actual core attitudes or whether conspiracy theories are *sometimes* used to signal a political stance rather than because they are believed to be true. (3) To examine the potential signaling function of conspiracy theories I exploit the fact they are, by their very nature, antithetical to science and democracy. This is because conspiracist cognition and rhetoric violate conventional epistemic standards that underpin science and evidence-based deliberation. Accordingly, conspiracism is typically involved in all forms of science denial. (4) Ironically, it is this violation of epistemic standards that renders conspiracy theories useful as a rational rhetorical tool.

I then present a study that draws these strands together. I conclude by outlining how scholars can respond to conspiratorial discourse, with a particular emphasis on differentiating between situations in which it reflects a cognitive disposition and other contexts in which conspiracy theories are deployed as a rhetorical tool.

From academic constructivism to the hyperconstructivism of “shock and chaos”

There is widespread agreement in the social science literature that much of knowledge is socially *constructed*, and that it is the objective of the social sciences to understand this constructive process (e.g., Berger & Luckmann, 1966). A commitment to constructivist epistemology became entrenched in American higher education, and science education in particular, between the 1960s and 1980s, arguably propelled by seismic societal shifts—such as the civil rights movement—that emphasized cultural pluralism (Cobern & Loving, 2008). A corollary of constructivism is relativism, because “in constructivism, the classical notion of

truth is replaced by the notion of viability. This notion implies that there may exist alternative constructions, none of which can ever claim truth for itself” (Roth & Roychoudhury, 1994, p. 7). It follows that “different social formations may well construct their realities quite differently” (Miller, 2019, p. 444).

Contemporary purveyors of shock and chaos disinformation frequently resort to that relativist defense when their claims are challenged. For example, Trump’s counselor Kellyanne Conway famously declared that she was in possession of “alternative facts” when being challenged on Trump administration claims that Donald Trump’s inauguration crowd was the largest ever (it was not). In the U.K., rightwing personality Katie Hopkins declared that “Fact is an antiquated expression . . . There is no such thing as fact any more.” Also in the U.K., populist leader Nigel Farage claimed that “One man’s fact is another man’s lie.” McVittie and McKinlay (2018) coined the phrase “ontological gerrymandering” to describe those attempts to escape accountability by invoking an extreme constructivist and relativist notion of truth. The apparent ontological shift from tacit realism to an unbounded constructivism by purveyors of shock and chaos has been noted repeatedly (e.g., McCright & Dunlap, 2017; Waisbord, 2018).

Some scholars have suggested that academic constructivism plowed the fields on which shock and chaos disinformation, and its enabling ontology of truth, found a fertile ground (e.g., Dennett, 2000). In a 2017 *Guardian* interview, Dennett was particularly blunt: “I think what the postmodernists did was truly evil. They are responsible for the intellectual fad that made it respectable to be cynical about truth and facts” (<https://www.theguardian.com/science/2017/feb/12/daniel-dennett-politics-bacteria-bach-back-dawkins-trump-interview>). Aupers (2012) also highlighted the link between postmodernism and the delegitimization of objective science in the public’s eye.

Shock and chaos and “post-truth” as the “Rosemary’s Baby” of the social sciences? The language of academic constructivism undoubtedly bears resemblance to shock-and-chaos

ontological gerrymandering. There are, however, important differences. The recognition that scientific facts are socially constructed, and often contested, does not entail a licence to invent facts to one's own liking. As Waisbord (2018) put it: "Sure, we should approach facts and expertise critically, contest self-appointed arbiters of truth, believe truth is misty and manifold, conceive truth-telling as a complex process, be sensitive to multiple perspectives, and doubt any confident claims to truth. Such sensibility, however, is completely different from the conviction that facts and rigor do not matter, that all truth-telling is wrong, and that subjective beliefs are sufficient proof of reality" (p. 21). Or in Miller (2019)'s succinct terms: "relativism does not mean that . . . murder is just as good as chocolate" (p. 442). Accordingly, even scholars who argue against the existence of objective political truths (Coleman, 2018) refer to Trump's inauguration crowd claim as "manifestly incorrect" (p. 158).

Nonetheless, the deployment of relativist language by "post-truth" defenders has caused considerable discomfort. Some prominent constructivist scholars, such as Bruno Latour, have recognized that "... dangerous extremists are using the very same argument of social construction to destroy hard-won evidence..." (Latour, 2004, p. 227). Latour (2004) suggests that this unintended consequence of constructivism was facilitated by "the mistake I made, . . . to believe that there was no efficient way to criticize matters of fact except by moving away from them" (p. 231). Latour (2018) has therefore called for the return of some of the authority of scientific expertise.

I suggest that the proper response to Latour's concern and Dennett's accusation is for social scientists to recognize their responsibility in combating shock and chaos disinformation. Recognizing this responsibility does not require an acceptance of blame or of a causal role of constructivism in creating the "post-truth" world. On the contrary, constructivism may be one tool to help us understand the origins of shock and chaos disinformation (Fischer, 2019). Another tool is empirical research, and the study reported

below illustrates how behavioral data can assist social scientists in exercising their responsibility to combat shock and chaos disinformation.

Shock and chaos and its fallout

The link between shock and chaos disinformation and tyranny was recognized long ago. As Hannah Arendt put it in 1967: “the result of a consistent and total substitution of lies for factual truth is not that the lies will now be accepted as truth, and the truth be defamed as lies, but that the sense by which we take our bearings in the real world—and the category of truth vs. falsehood is among the mental means to this end—is being destroyed” (Arendt, 1967). This disorientation may have two mutually reinforcing consequences: First, if people no longer find anything believable they may end up believing—and saying—anything. Second, if people believe anything or nothing, they may end up finding nothing worthy of preservation. Both consequences are empirically discernible in contemporary American society.

Evidence that people will believe, or say that they believe, demonstrable falsehoods was provided by Schaffner and Luks (2018). In their study, participants were shown two side-by-side photographs of the inaugurations of Barack Obama in 2009 and Donald Trump in 2017 and were asked to pick the photo with more people. Far more people attended Obama’s inauguration than Trump’s, with some estimates pegging Obama’s crowd at 2-3 times the size of Trump’s. Schaffner and Luks (2018)’s study was conducted immediately after Trump’s press secretary, Sean Spicer, had claimed that Trump’s inauguration crowd was the largest ever, thereby turning attendance into a political issue. The study revealed that among non-voters and Clinton voters, 3% and 2% of respondents, respectively, chose the incorrect picture (i.e., the picture from Trump’s inauguration with far fewer people). Among Trump voters, this proportion was 15%. The results identify a clear instance in which people’s partisan identity overrode unambiguous perceptual evidence.

The idea that the very notion of evidence and truth itself may be compromised by shock and chaos is supported by public opinion data, such as a Pew poll (July 2017) that showed that a majority of Republicans, by a 58% to 36% margin, considered colleges and universities to have a *negative* effect on the way things are going in the U.S. Among Democrats, opinion was split in reverse, with a 72% (positive) to 19% (negative) margin.

There is also evidence that some people no longer consider democratic institutions worth preserving. Petersen, Osmundsen, and Arceneaux (2018) developed a “need-for-chaos” scale that probes people’s willingness to “burn down” all democratic institutions in order to “start over”. The idea of a national “rebirth” after complete destruction—thereby eliminating perceived decadence and decay—is known as palingenesis and is a pervasive element of fascist ideology (e.g., Colasacco, 2018). Petersen et al. (2018) found that up to 40% of Americans either endorsed or did not object to the idea that democratic institutions should be torn down or burned to the ground.

The insidious fallout from shock and chaos disinformation is particularly pronounced when the material is packaged as a conspiracy theory. Conspiracy theories flourish under conditions of ontological insecurity (Aupers, 2012) and in times of societal crisis (van Prooijen & Douglas, 2017). The centrality of conspiracy theorizing in shock and chaos disinformation is therefore unsurprising. Yablokov (2015) has argued that the Russian government is deliberately using conspiratorial content in its main news channel, RT (Russia Today), as a political instrument to legitimize its own policies while delegitimizing American positions. In the west, far-right disinformation is also tightly coupled with conspiracy theories that target Islam or are anti-Semitic (Bennett & Livingston, 2018).

There is now considerable evidence that the mere exposure to conspiratorial material adversely affects people’s reasoning and attitudes (Jolley & Douglas, 2013; Jolley, Meleady, & Douglas, 2019). To illustrate, exposure to conspiracy theories about immigrants to Britain from the European Union has been shown to exacerbate prejudice towards this group (Jolley

et al., 2019). And when people are exposed to anti-Semitic conspiracy theories, prejudice increases not just against Jewish people but towards other outgroups as well (Jolley et al., 2019).

I interpret the results just reviewed as revealing the coupling between shock and chaos disinformation and adverse societal outcomes. There is, however, another possibility. This alternative view holds that people sometimes respond not on the basis of true beliefs but in order to signal support for a political viewpoint. For example, perhaps some of the 51% of Republican respondents who told pollsters in 2015 that they thought President Obama had been born abroad (Barr, 2015) did not believe this to be true, but used that response to express dissatisfaction with Obama's policies. To explore this possibility further, I examine the role of conspiracy theories in people's rejection of well-established scientific propositions.

Conspiracy theories as antithesis to science

Conspiratorial cognition is almost invariably involved whenever people deny well-established scientific propositions, such as the link between the HIV virus and AIDS (e.g., Kalichman, 2009), the benefits of vaccinations (e.g., Briones, Nan, Madden, & Waks, 2012), or the fact that greenhouse gas emissions cause climate change (Lewandowsky et al., 2013c). I suggest that there are two reasons for the affinity between science denial and conspiratorial cognition. First, the conspiracist reasoning is identifiably different from standard cognition and arguably less useful for truth-seeking. Lewandowsky et al. (2018) listed six attributes of conspiracist reasoning. To illustrate, conspiracy theorists typically exclude the possibility of accidents. Small random events are taken to constitute evidence for the preferred theory, such as intact windows at the Pentagon after the 9/11 attacks which are interpreted as evidence for the involvement of the Bush administration (Swami, Chamorro-Premuzic, & Furnham, 2009). Conspiracist cognition is also inherently self-sealing: that is, evidence that counters a theory is re-interpreted as evidence *for* that conspiracy, on the notion that the stronger the evidence against a conspiracy, the more the conspirators

must want people to believe their version of events. Conspiracy theories therefore undermine evidence-based democratic debate (e.g., Sunstein & Vermeule, 2009) and, when they become focused on a fantasmic enemy, may “become a vehicle for the rise of totalitarian forms of rule” (Heins, 2007, p. 789).

The second reason for conspiratorial science denial may be more pragmatic. When people are motivated to reject well-established science for political or personal reasons—for example, because they fear that cutting greenhouse gas emissions will undermine free enterprise (Bohr, 2016)—they face a dilemma. By definition, well-established science is supported by an overwhelming scientific consensus, and this consensus must either be denied or explained away to enable denial of the scientific facts. One way in which the consensus can be ignored is via a presumed conspiracy among researchers (Diethelm & McKee, 2009). If scientists agree on climate change not because of scientific evidence but because they wish to introduce a world government by pricing carbon emissions, then the consensus can be dismissed.

Rational deployment of conspiracist rhetoric: An empirical examination

If conspiracy theories are deployed to explain away an inconvenient scientific consensus, then this should be detectable on the basis of variables that are known to determine opposition to the science, rather than dispositional factors that drive people towards endorsement of conspiracies more generally. That is, whereas a range of personality variables such as schizotypy and paranoid ideation are known to predict belief in conspiracy theories generally (e.g., Darwin, Neave, & Holmes, 2011), such a dispositional tendency towards conspiracism may be relatively less important in situations in which a conspiracy is invoked to explain away a scientific consensus that is inconvenient for other, unrelated reasons. The following study explored this possibility.

The study also examined various aspects of people’s naive ontology of truth; that is,

whether truth is knowable at all and by what means it is best established. The study also further explored people’s need for chaos and how this palingenetic belief related to their ontology of truth, conspiratorial disposition, and scientific understanding.

Method

Participants. The 200 participants were recruited online from Amazon’s MTurk in May 2019 using the TurkPrime interface (Litman, Robinson, & Abberbock, 2017). All participants were U.S. residents, had an approval rating of 98% or better, and had participated in at least 5,000 previous tasks (HITs) on MTurk. Participants were paid \$1.10 for completion of the survey, which took 10 minutes on average (median 8 minutes). One repeated submission from the same IP number was eliminated. A further 4 participants failed an attention check (i.e., they reported a different age when asked a second time), yielding a final sample of 195 participants for analysis (105 female and 90 male, mean age 44.23, range 22 – 73).

Questionnaire and constructs. The study was administered using the Qualtrics platform. After an attentional “captcha” to guard against non-human responders, participants provided consent and basic demographics (age and gender). Participants then responded to the items shown in Table 1. Items were presented in the order shown, except that items 1-5; 6-8; 9-11; and 12-31 were randomized separately for each participant. Unless otherwise noted, all items used a 7-point response scale ranging from “Strongly disagree” to “Strongly agree”, with the midpoint “Neither agree nor disagree.” Items with the suffix “REV” in the label (first column in Table 1) were reverse scored for analysis.

The questionnaire targeted 6 attitudinal constructs. The labels for the items in each construct share a common prefix in the first column in Table 1. (a) Political attitudes (prefix “Political”) were measured by a subset of 5 items from a scale developed by Thomas Scotto and Jason Reifler for their ESRC project “Public Opinion and the Syrian Crisis in Three Democracies” (ES/L011867/1). (b) The presumed knowability of truth (“Knowable”) was

measured by presenting 3 quotes from public figures who questioned that truth or that facts could be unequivocally ascertained. The first two statements were made by Katie Hopkins, a columnist for UK tabloids and the third statement was made by Donald Trump’s attorney, Rudy Giuliani. Participants indicated their agreement or disagreement with each statement. A further two items queried the presumed knowability of truth directly. (c) Conspiracism (“Conspir”) was measured using 5 items taken from Imhoff and Bruder (2014). These items do not target belief in specific conspiracies but probe a broader, likely dispositional, tendency to engage in conspiracist cognition (d) Reliance on sources of knowledge (“Source”) was measured by 4 items developed by my team. (e) Need for chaos (“Need”) was measured using 4 items from the scale developed by Petersen et al. (2018). (f) Reliance on intuition (“Intuitive”) as a source of knowledge was measured using 5 items developed by my team.

All scales, including those developed in my lab, had been used in prior research and have been found to have satisfactory properties. Scales were scored by averaging responses to all items, rescaled to the range 0–1, after reverse-scoring. Scales were coded such that higher scores indicated greater conservatism, greater endorsement of the knowability of truth, higher levels of conspiracism, greater reliance on trustworthy sources of knowledge, greater need for chaos, and greater reliance on intuition. Items 1-31 were presented one at a time on separate screen pages.

The questionnaire additionally examined two aspects of scientific consensus. People first indicated their perceived scientific consensus (items with prefix “Consens”, using a percentage scale) for the link between HIV and AIDS, the link between CO_2 and climate change, and the safety and efficacy of vaccinations. At the end of the questionnaire (items 32-34) participants were presented with accurate information about the scientific consensus (e.g., “Virtually all medical scientists agree that HIV causes AIDS”), followed by the question “How much do you think each of the following reasons contributes to this scientific agreement?” The question was accompanied by the 6 response options in Table 2. Options

were presented together on the same screen and participants could choose any number of options on a 5-point scale ranging from “Not a reason” to “The only reason”.

After all items in Table 1 had been presented, participants were again asked to indicate their age, followed by a question probing how much attention they paid. Any participants who indicated that they were not “paying much attention” or did not want their data to be used for other reasons would have been eliminated (none did).

Results and discussion

Figure 1 shows the distribution of estimates of the scientific consensus for the three domains. People on average recognize the existence of a strong consensus, with mean estimates 94.85, 93.04, and 84.14 for AIDS, vaccination, and climate change, respectively. Although those values are high, the estimate for climate change falls below the true value of 97% (Cook et al., 2013, 2016).

Figure 2 shows the correlation matrix for all attitudinal constructs (composite scores) and the consensus estimates. Only significant correlations ($p < .05$) are shown. The icons above the diagonal visually indicate strength and direction of the correlation, and the lower diagonal shows the exact values of the correlation coefficient. Several aspects stand out. First, the three consensus estimates are substantially correlated. This replicates previous results (Lewandowsky et al., 2013b). Second, the constructs related to ontology fall into two distinct clusters: The notion that truth is knowable is positively associated with reliance on evidence-based sources and the three consensus estimates, and it is negatively correlated with constructs in the opposing cluster, namely conspiracism, need for chaos, and the belief that intuition is a good guide to truth. Correspondingly, the latter constructs correlate with each other but tend to be negatively associated with the consensus estimates. Third, at a more detailed level, the correlations between conspiracism and the consensus estimates range from non-significant (for AIDS), to modest ($r = -.15$ for climate change) to substantial ($r = -.36$

for vaccinations). The differences between those magnitudes turn out to be highly diagnostic.

The remaining analyses focused on the final items in the study (Items 32–34 in Table 1) that queried people’s perceived reasons underlying the scientific consensus. The data are shown in Figure 3. People clearly endorsed the non-conspiratorial reason that invoked independent assessment of the evidence more than any of the conspiracist options. Of even greater interest are the correlations between those presumed reasons and conservatism (Figure 4) and conspiracism (Figure 5). Considering conservatism first, it is clear that political attitudes had no effect on people’s presumed reasons for the consensus about HIV/AIDS. None of the 6 correlations are significant. By contrast, political views were a modest determinant for vaccinations and a major determinant for climate change. The more conservative people were, the less likely they were to accept that the scientific consensus on climate change was based on evidence, and the more likely they were to ascribe the consensus to various potentially conspiratorial factors, such as “group think” or the suppression of dissent. A very different pattern is obtained for the correlations involving dispositional conspiracism. For climate change, those correlations are non-significant or small, whereas many are at least modest for AIDS and all are large for vaccinations.

The data permit three conclusions. First, overall people largely accept that scientists arrive at a consensus through evidence rather than on the basis of other variables that point to an underlying conspiracy (Figure 3). Second, the degree of preference for an evidence-based over a conspiratorial explanation is associated both with people’s political views (Figure 4) and their dispositional tendency to accept conspiracies (Figure 5). Third, the strengths of those associations differ considerably between domains in a manner that is indicative of the worldview-triggered rhetorical deployment of conspiracy theories. I explore the last point further.

I define deployment as the difference between the endorsement of an evidence-based consensus and the other 5 potentially conspiratorial reasons. Specifically, I compute the

difference between the correlation for the evidence-based explanation and the average of the other 5 correlations for each domain in Figures 4 and 5. The greater that difference, the more people tend to deploy a conspiracy to explain the consensus. The variables that trigger deployment are conservatism and conspiracism. For example, conservatism is a strong predictor of deployment for climate change, but ineffective for AIDS and a modest trigger for vaccinations. I next relate these deployment indices for climate change and vaccinations to data from the literature that have examined the association between science denial and worldviews or conspiracism (I was unaware of data for AIDS). Correlations between worldview, variously defined as conservatism or endorsement of free-market economics, and denial were reported by Lewandowsky et al. (2013c), Lewandowsky et al. (2013a), and Hornsey et al. (2018a) for climate change, and by Lewandowsky et al. (2013a) and Hornsey et al. (2018b) for vaccinations. The same studies also reported associations between science denial and conspiracism. Figure 6 shows the relationship between deployment observed in the present study and the strengths of associations observed in the literature. The left panel considers conspiracism (i.e., deployment computed from Figure 5) and the right panel examines the role of worldviews (Figure 4).

The most striking aspect of Figure 6 is the reversal of deployment for vaccinations and climate change between the two panels. The left panel shows conspiracism-triggered deployment as a function of the association between conspiracism and denial in prior research. The stronger that association, the more a conspiratorial explanation was deployed in the present study. This is unsurprising and best considered a replication and extension of previous research. People will engage in a conspiracy-based explanation of the consensus to the same extent that their attitudes are determined by their conspiracism. The right panel shows worldview-triggered deployment—that is, the extent to which people will invoke a conspiracy to explain a scientific consensus as a function of their worldview. Worldviews are a major determinant of attitudes towards climate change but play only a minor role with vaccinations. Accordingly, we find that worldview deploys conspiracism to a far greater

extent for climate change than for vaccinations. This arguably reflects a strategic choice: people whose worldviews render climate change particularly threatening will invoke a conspiracy instead of accepting an evidence-based explanation for the consensus, and they will do so to a greater extent than their predisposition towards conspiracism would suggest.¹

Implications of the findings

Political truths are often difficult to ascertain and competing claims may co-exist (Coleman, 2018). Harambam and Aupers (2015) has shown that these difficulties are emphasized and exploited by people in the conspiracy milieu. People in this milieu “argue that the ideal of objectivity is highly problematic: scientific ‘facts’ are not so much ‘discovered’ but ‘constructed’” (Harambam & Aupers, 2015, p. 474). The analysis and data presented in this paper caution against an uncritical acceptance of this avowedly constructivist perspective and instead suggest that social scientists have a responsibility to rebut conspiracy theories and shock and chaos disinformation to guard society against collateral damage.

I accept that social construction plays a role in generating scientific knowledge and in democratic fact-finding. However, I reject a radical form of constructivism, such as Fuller (2017)’s

embrace of the post-truth world as a welcome consequence of the creative deployment of “social and epistemological constructivism in an increasingly democratised context” (p. 42). I object to the implied “anything goes” relativism that sets all knowledge claims on an equal footing. I reject the idea that truth (without scarequotes) is a gratuitous and pointless add-on to social construction. This position is supported by the three lines of

¹ Qualitatively identical results are obtained if each participant’s endorsement of an evidence-based consensus is subtracted from the average of the other 5 conspiratorial reasons, and those individual deployment scores are simultaneously regressed on conspiracism and conservatism for each domain. The pattern of standardized regression weights mirrors that shown in Figure 6.

argument posited at the outset, now buttressed by the results of the study.

The first argument concerns the collateral damage from shock and chaos disinformation and conspiracy theories. I cannot discern any societal, social, epistemic, or ontological benefit in the fact that exposure to conspiracy theories reduces people's willingness to be politically engaged (Jolley & Douglas, 2013), to lose trust in their local schools (Einstein & Glick, 2015), or to become more prejudiced (Jolley et al., 2019). In the present study, collateral damage was discernible in the associations between need for chaos and conspiracism and intuitive truth seeking. It should be concerning that reliance on feelings to find truth and the endorsement of conspiracism—both elements of shock and chaos disinformation—is associated with an increased belief that society and its institutions should be burned to the ground.

The second argument notes the antithetical relationship between scientific and evidence-based democratic truth-seeking on the one hand, and conspiracy theorizing on the other. Recent analyses of this incompatibility have been provided by Lewandowsky et al. (2015), Lewandowsky, Cook, and Lloyd (2016), and Lewandowsky et al. (2018). The present study adds to this by showing that dispositional conspiracism is a significant predictor of conspiracist explanations for a scientific consensus.

Turning to the third argument, the present study shows that conspiracist explanations are sometimes deployed to explain away a scientific consensus that is denied for political reasons. At first glance this finding seems to contradict the first two arguments: If conspiracism is deployed as a rhetorical tool, rather than reflecting a disposition, do we still have to be concerned about collateral damage and do we need to worry that conspiracist reasoning is antithetical to evidence-based reasoning? Closer inspection reveals this contradiction to be more apparent than real. Collateral damage from shock and chaos is not limited to *believing* in conspiracy theories. The observed collateral damage extends to people who are not particularly predisposed to conspiracism and is observed after mere exposure to

conspiratorial content (e.g., Jolley & Douglas, 2013; Jolley et al., 2019). Whether people articulate a conspiracy theory for convenience or because they believe it based on their psychological disposition is irrelevant to the effect it has on third parties. Likewise, pragmatic intentions are irrelevant to the epistemic status of conspiracy theories and their incompatibility with scientific reasoning: Lewandowsky et al. (2016) showed that climate denial, like conspiracy theories in general (Wood, Douglas, & Sutton, 2012), is internally incoherent and hence non-scientific. The fact that climate denial is deployed for entirely rational political reasons, namely to preserve the economic status quo (Lewandowsky et al., 2016), is irrelevant to its epistemic status. Pragmatic intentions relating to deployment are, however, relevant to the choice of countermeasures.

Responding to shock and chaos disinformation and conspiracy theories

How should social scientists respond? Misinformation is often difficult to correct (e.g., Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012; Lewandowsky, 2019), and this difficulty is exacerbated in the context of conspiracy theories. The self-sealing nature of conspiracy theories may protect them against debunking (Sunstein & Vermeule, 2009). The results of the present study highlight the importance of audience segmentation: if a conspiracy theory is deployed for pragmatic reasons, communicative efforts will be met with a different echo than if someone believes in a conspiracy theory for dispositional reasons.

Communicating with the public at large

In light of the collateral damage from conspiracy theories, the best response is prevention rather than cure—that is, the best way to control conspiracy theories is to prevent them from spreading. Some psychological interventions are promising. For example, Lutzke, Drummond, Slovic, and Árvai (2019) showed that sharing of conspiratorial climate-denial posts on Facebook was reduced by a simple intervention that encouraged people to ask four questions about the material before sharing it: (1). Do I recognize the news organization that posted the story? (2). Does the information in the post seem

believable? (3). Is the post written in a style that I expect from a professional news organization? (4). Is the post politically motivated?

When efforts to contain the spread of a conspiracy fail, a two-pronged approach can be employed. The first prong involves interventions that occur *before* people are exposed to conspiratorial content. The second prong involves debunking after people have become familiar with a conspiracy theory.

Empowerment and inoculation. Endorsement of conspiracy theories is associated with feelings of reduced control and perceived threat (Uscinski & Parent, 2014). This link appears to be causal (Whitson & Galinsky, 2008) as well as bidirectional—if people are given a sense of empowerment, their resilience to conspiratorial material is increased. For example, Prooijen and Acker (2015) showed that if people’s sense of control is primed, then their endorsement of a conspiracy theory is reduced. Considering variables outside the laboratory, education yields empowerment by enabling people to feel more in control of their lives, and this has been shown to lead to reduced endorsement of conspiracy theories (van Prooijen, 2017). At the political level, citizens’ general feeling of empowerment can be instilled by ensuring that decisions by government or other officials are perceived to follow fair procedural justice principles (van Prooijen, 2018).

A related approach relies on inoculation—that is, alerting people that they may be misled and familiarizing them with the techniques that disinformers are using. Jolley and Douglas (2017) demonstrated the success of inoculation in an experiment involving people’s attitudes towards vaccinations. Jolley and Douglas (2017) found that when people were inoculated by first receiving anti-conspiratorial material, they were no longer adversely affected by subsequent conspiratorial rhetoric. By contrast, if the conspiratorial material was presented first, the countering material was less effective.

Debunking When there are no opportunities for inoculation or empowerment, communicators have to resort to corrections. Fortunately, debunking efforts with

participants who are unlikely to accept conspiracy theories in the first place, such as university students or members of the public at large, are often at least partially successful. For example, Schmid and Betsch (2019) showed that conspiratorial denial of the efficacy and safety of vaccinations can be defanged by rebuttal messages. Orosz et al. (2016) compared three debunking techniques: evidence-based rational counterarguments, ridicule of the people who believe conspiracy theories, and compassionately calling attention to the targets of conspiracy theories. The evidence-based and ridicule interventions were found to significantly reduce acceptance of a conspiracy theory that had been presented to participants at the outset. The empathy manipulation was unsuccessful.

Communicating with people who believe in conspiracy theories

The community of people who are identifiable “believers” is quite heterogeneous. In an analysis of 2.25 million comments posted on the Reddit site *r/conspiracy*, Klein, Clutton, and Polito (2018) discovered that the vast majority of the community was interested in only one or a small subset of conspiracy theories, and engaged in rhetoric that was occasionally only mildly conspiracist. This meshes well with the notion developed here, that deployment of conspiratorial rhetoric may be driven by pragmatic considerations. Klein et al. (2018) also found that around 5% of commenters endorsed a multitude of different theories. Although small, this group was responsible for 64% of all comments (The most active author wrote 896,337 words, twice the length of the *Lord of the Rings* trilogy). Because their influence may be considerable, engagement with this small group of committed conspiracy theorists may occasionally be required.

Lessons for how to engage with this small group can be gathered from research into extremist deradicalization. Conspiracy theories are an inevitable ingredient of political extremism (Kundnani, 2012), and research on deradicalization has yielded several recommendations. First, counter-messages created by former members of an extremist community (“exiters”) are evaluated more positively and remembered longer than messages

from other sources (Schmitt, Rieger, Ernst, & Roth, 2018). Second, approaches should be empathic and seek to build understanding with the other party (without conceding intellectual ground). Because interventions rest on developing the participants' open-mindedness, the communicators must lead by example (Ponsot, Autixier, & Madriaza, 2018). Third, people who hold conspiracist beliefs perceive themselves as critical thinkers who are not fooled by an official account (e.g., Lewandowsky et al., 2015). This perception can be leveraged by messages that affirm the value of critical thinking but then redirect this examination towards the conspiracy theory (Voogt, 2017).

Conclusions

The observed pragmatic deployment of conspiracist explanations meshes well with the expressive responding observed by Schaffner and Luks (2018) in the inauguration-crowd task. In that sense, the present data confirm the role of social processes in the construction of political “truths.” However, it does not follow that the “truths” constructed in this manner deserve equal recognition as claims arising from scientific investigations or fact checking (Graves, 2017). On the contrary, the very fact that arguments, explanations, responses to perceptual questions, or indeed conspiracy theories can be constructed and deployed for reasons other than genuine belief highlights the risks of considering those manifestations as good-faith socially-constructed knowledge claims.

These risks can be brought into sharp focus by considering instances of corporate deception. There is overwhelming evidence that the tobacco industry knew of the harms arising from their products from the 1950s onward, but that they continued to deny those harms in public (Oreskes & Conway, 2010). Likewise, as analysis of internal documents has revealed (Supran & Oreskes, 2017), ExxonMobil accepted the scientific consensus on climate change a long time ago but its public-facing statements continued to express doubt about global warming. It was clearly in the commercial interests of the tobacco industry and of ExxonMobil to publicly doubt and deny inconvenient scientific knowledge. The fact that

those statements were knowingly deceptive carries two implications. First, as noted by Baker and Oreskes (2017), the behavior cannot be readily explained without invoking a notion of truth. If truth or truth-seeking were wholly extraneous to the construction of knowledge, why would ExxonMobil and the tobacco industry *knowingly* engage in deception? Why would they construct two “truths”, one for the public and an opposing one for their own internal purposes? Second, supposing we had remained ignorant to this day of the duplicity of the tobacco industry and ExxonMobil, any interpretation of the industry’s public-facing statements as a “socially-constructed knowledge claim” would have been deeply flawed.

Democratic truth-finding is messy. But not all competing epistemic claims should be taken seriously. On the contrary, when claims are made on the basis of convenience or deception, they should be eliminated from consideration.

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Table 1

Items used in the questionnaire

Number	Item label	Item text
1	Political_left_right	People sometimes use the labels 'left' or 'left-wing' and 'right' or 'right-wing' to describe political parties, party leaders, and political ideas. Using the 0 to 10 scale below, where the end marked 0 means left and the end marked 10 means right, where would you place yourself on this scale?
2	Political_ideology_1	People are better off in a free market economy.
3	Political_ideology_2	This country would have far fewer problems if there were more emphasis on traditional family values.
4	Political_ideo_3_REV	The world is always changing and we should adjust our views of moral behaviour to those changes.
5	Political_ideo_4_REV	Socialism has many advantages over Capitalism.
6	Consens_AIDS	Out of 100 medical scientists, how many do you think believe that the HIV virus causes AIDS? (Enter a number between 0 and 100)
7	Consens_Vax	Out of 100 medical scientists, how many do you think believe that vaccinations provide safe and effective protection against infectious diseases? (Enter a number between 0 and 100)
8	Consens_Climate	Out of 100 climate scientists, how many do you think believe that CO2 emissions cause climate change? (Enter a number between 0 and 100)

9	Knowable_1_REV	"There is no truth, only the truth of the interpretation of the truth that you see."
10	Knowable_2_REV	"Fact is an antiquated expression. All reporting is biased and subjective. There is no such thing as fact anymore."
11	Knowable_3_REV	"Facts are in the eye of the beholder."
12	Conspir_1	There are secret organizations that have great influence on political decisions.
13	Conspir_2	Most people do not see how much our lives are determined by plots hatched in secret.
14	Conspir_3	There are certain political circles with secret agendas that are very influential.
15	Conspir_4_REV	I think that the various conspiracy theories circulating in the media are absolute nonsense.
16	Conspir_5	Secret organizations can manipulate people psychologically so that they do not notice how their life is being controlled by others.
17	Source_Science	The scientific method is a reliable and effective method to establish the truth.
18	Source_Politics	Politics is an unreliable and ineffective method to establish the truth.
19	Source_Common_REV	Common sense is a reliable and effective method to establish the truth.
20	Source_Intuition_REV	Intuition is a reliable and effective method to establish the truth.

21	Need_for_Chaos_1	I fantasize about a natural disaster wiping out most of humanity such that a small group of people can start all over.
22	Need_for_Chaos_2	I think society should be burned to the ground.
23	Need_for_Chaos_3	When I think about our political and social institutions, I cannot help thinking "just let them all burn".
24	Need_for_Chaos_4	We cannot fix the problems in our social institutions, we need to tear them down and start over.
25	Intuitive_2_REV	Sometimes evidence unnecessarily overcomplicates simple truths.
26	Intuitive_3	I must know the facts to know the truth.
27	Intuitive_5_REV	When I feel something is true, I am normally right.
28	Intuitive_7	People rely too much on their "sixth sense" for the truth instead of evidence.
29	Intuitive_8	Gut reactions are useless to establish the truth.
30	Knowable_5	The truth exists even if it is unknown to us.
31	Knowable_Explicit_T	Even in a complex situation, it is possible to get to the bottom of the truth.
32	WhyConHIV	
33	WhyConClim	
34	WhyConVax	

Table 2

Response options for items 32-34

Scientists independently assessing the evidence and coming to the same conclusion
Scientists responding to availability of government funding
Scientists falling into the trap of ‘group think’
Scientists succumbing to political pressure from government or society
Scientists pursuing their own political agenda
Scientists suppressing dissenting skeptical opinions

Figure 1. Distribution of estimates for the scientific consensus on AIDS, climate change, and vaccinations (responses to items 6-8 in Table 1). The vertical orange line for climate change indicates the true scientific consensus, estimated to be 97%.

Figure 2. Correlation matrix for all attitude constructs and perceived consensus. Only significant correlations ($p < .05$) are shown. The icons above the diagonal visually indicate strength and direction of the correlation using the temperature scale on the right. The lower diagonal shows the exact values of the pairwise correlation coefficient r .

Figure 3. Strengths of presumed reasons for the existence of a scientific consensus. For each domain, the 6 dots refer to the response options in Table 2.

Figure 4. Correlation between conservatism and the presumed strength of reasons for the existence of a scientific consensus. For each domain, the 6 dots refer to the response options in Table 2. Non-significant correlations ($p > .05$) are grayed out.

Figure 5. Correlation between conspiracism and the presumed strength of reasons for the existence of a scientific consensus. For each domain, the 6 dots refer to the response options in Table 2. Non-significant correlations ($p > .05$) are grayed out.

Figure 6. Left panel shows the observed associations between dispositional conspiracism and denial from the literature (X-axis) and the conspiracism-triggered deployment of conspiratorial explanations in the present study (Y-axis). Values on the X-axis are from Lewandowsky et al. (2013c), Lewandowsky et al. (2013a), and Hornsey et al. (2018a) (U.S. data) for climate change, and from Lewandowsky et al. (2013a) and Hornsey et al. (2018b) (U.S. data) for vaccinations. Right panel shows the observed associations between worldviews (free-market endorsement and conservatism) and denial of climate change and vaccinations from the literature (X-axis) and the worldview-driven deployment of conspiratorial explanations in the present study (Y-axis). Data on the X-axis are from the same sources as for the left panel. See text for explanation of how deployment (Y-axis) was computed.