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Commentary

Combatting Misinformation Requires Recognizing Its Types and the Factors That Facilitate Its Spread and Resonance



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As sociologists who have studied organized climate change denial and the political polarization on anthropogenic climate change that it has produced in the US since the late 1990s (Dunlap, McCright, & Yarosh, 2016; McCright & Dunlap, 2000), we have closely followed the work of Lewandowsky and his collaborators over the years. Like them, we have observed how the “climate change denial countermovement” (Dunlap & McCright, 2015)¹ has employed the strategy of manufacturing uncertainty—long used by industry to undermine scientific evidence of the harmful effects of products ranging from asbestos to DDT and especially tobacco smoke (Michaels, 2008; Oreskes & Conway, 2010)—to turn human-caused climate change into a controversial issue in contemporary American society. And, like Lewandowsky, Ecker, and Cook (2017) in “Beyond Misinformation,” we view these past efforts as key contributors to the present situation in which pervasive misinformation has generated “alternative facts,” pseudoscience claims, and *real* “fake news”—a “post-truth era” indeed.²

The current state of affairs has provoked much consternation among academics and journalists in the US and beyond. For example, scholars have organized initiatives (e.g., the University of Sydney’s Post-Truth Initiative), conferences (e.g., “The Press and the Presidency in the Post-Truth Era” at the University of

Nebraska, Lincoln), workshops (e.g., “Seeking Truth in a ‘Post-Truth’ World” at Bethel University), speaker series (e.g., “Media and Politics in a Post-Truth Era” at Furman University), and courses (e.g., “Calling Bullshit” at the University of Washington) to interrogate misinformation in the present era. Several recent books (e.g., Tom Nichols’s *The Death of Expertise* in 2017) try to explain the routine disrespect of facts and declining authority of science across society. Popular periodicals feature cover stories or special issues devoted to the conspiracy theories and alternative facts that contribute to America’s “post-truth moment” (e.g., September 10, 2016 issue of *The Economist* and September 2017 issue of *The Atlantic*). And, of course, journalists struggle daily to make sense of a sitting US President routinely dismissing stories, journalists, and entire outlets as “fake news.” Within this context, we widen our scope beyond climate change denial to discuss misinformation more generally and, in doing so, offer a sociological response to Lewandowsky et al. (2017), aimed at complementing and extending their analysis.

We broadly agree with most of what Lewandowsky et al. (2017, p. 4) write, and as sociologists are especially pleased to see them emphasize the “larger political, technological, and societal context” in which misinformation has evolved and must be addressed. Nonetheless, we are skeptical of the efficacy of their “technocognition” approach for combating the growth of misinformation in the US, as will become clear. Before we briefly identify the factors that amplify some types of misinformation more than others later in our essay, we devote most of our attention to presenting a conceptual framework for describing key

¹ We also refer to this as the “climate change denial machine” (Dunlap & McCright, 2011).

² It is no coincidence that the Oxford Dictionaries named “post-truth” as their 2016 Word of the Year.

Author Note

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types of misinformation by selected characteristics of their messengers. While all misinformation can be problematic, some types seem more consequential and may be more challenging to combat than others. That is, strategies that may prove effective at countering or neutralizing one type of misinformation may not work against others (and may even backfire)—especially when we consider the particular combinations of social, political, and economic factors that facilitate the differing types of misinformation. Given this, and mindful of space limitations, our final section offers a few suggestions for future work.

Key Types of Misinformation

We can arrange the conceptual space of misinformation along two dimensions. One is a messenger's ontological position on truth and facts, which ranges from strong realism (i.e., acceptance that truths exist external to your mind and a respect for facts) to strong constructivism (i.e., agnosticism about or even disbelief in the existence of external truths and a disrespect of facts). The other dimension is a messenger's typical rhetorical style and primary audience, which ranges from an informal, conversational style directed toward people's daily lives (i.e., lifeworlds) to a formal, persuasive style aimed at institutions and systems. Combining these two dimensions produces four ideal-types of misinformation: truthiness, bullshit, systemic lies, and shock-and-chaos (see [Figure 1](#)). As with all models and frameworks, ours simplifies reality for the purpose of presentation and interpretation. In actuality, the boundaries between quadrants are porous, and some messages may feature multiple types of misinformation simultaneously—depending on the audience, context, and life course of the message.

Truthiness occupies the top left quadrant in [Figure 1](#). The intellectual foundations of truthiness are found in popular (mis)readings of the works of French postmodern philosophers and British science and technology studies (STS) scholars since the 1960s.³ Briefly, these academics aimed to challenge and “deconstruct” the hegemonic power structure of Western science, which has supported patriarchal capitalism and white supremacist colonialism since the Enlightenment. In pursuing a Leftist political agenda of critiquing the political and moral authority of Western science, empowering historically marginalized peoples, and legitimizing indigenous knowledge, they argued that what we consider as scientific facts and knowledge are essentially the result of ongoing social processes of negotiation among many claims-makers, none of whom have privileged access to complete truth. Yet, popular (mis)readings of their works, which have mobilized troops in the so-called “science wars,” have led many people to (mis)interpret their key argument as promoting an extreme relativism whereby all actors' claims are *equally* valid and accepted “facts” are the outcomes of power and epistemic procedures.”⁴

Occurring in parallel was the rise of identity politics in the US, initially on the Left since the mid-1960s but perhaps just as prominently on the Right in recent years. Combining identity politics and the postmodern arguments above helps produce truthiness, in which “facts” and “reality” are things some people feel—rather than know—to be true. Nowhere is this so poignantly described than in the October 17, 2005 pilot episode of *The Colbert Report*. As his conservative character (a parody of Fox News's Bill O'Reilly), Stephen Colbert coined the term “truthiness”⁵ as something you just feel to be true:

Anybody who knows me knows that I'm not fan of dictionaries or reference books. They're elitist, constantly telling us what is or isn't true or what did or didn't happen. . . . I don't trust books. They're all fact and no heart. And that's exactly what's pulling our country apart today. 'Cause face it, folks, we are a divided nation. . . . We are divided between those who think with their head and those who know with their heart.

Thus, truthiness is an emotional, non-cognitive form of radical constructivism; it is simply feeling something to be true without the need for reasoned argument or rigorously collected and analyzed empirical evidence. Popular purveyors of truthiness include such famous conservative media personalities as Sean Hannity, Bill O'Reilly, and Glenn Beck. Even as they spread their messages across society, they aim for a highly personal connection with their audience. For some media organizations like Fox News and the Sinclair Broadcasting Group, truthiness is the coin of the realm.

The top right quadrant is the domain of “bullshit” (BS), for which we turn to Harry Frankfurt's (2005, p. 61) famous definition: “The liar cares about the truth and attempts to hide it; the bullshitter doesn't care if what they say is true or false, but rather only cares whether or not their listener is persuaded.” BSing, then, is a rather personal and typically self-serving form of dishonesty, with its purveyors treating information so cavalierly that they seem to have a fundamental disrespect for reason and rules of evidence.⁶ Prevalent here are the kinds of conspiracy theories that thrive on the internet and are peddled by outlets like Alex Jones's Infowars and Steve Bannon's Breitbart News. Self-professed “truthers” seem to have turned BSing into a vocation (e.g., [Kay, 2011](#); [Leibovich, 2015](#)): 9/11 truthers, Sandy Hook truthers, and citizenship truthers (aka, “birthers” who challenge the established fact that President Obama is a natural born citizen).

Perhaps the most infamous BSer of our age is President Donald Trump, who spreads it so frequently and effortlessly that observers are challenged to keep up. He enlists a revolving door of personnel whose primary role is to justify his spoken and

strong relativism to deny and/or avoid responsibility for problems like climate change. And quite recently, the emergence of the post-truth era has stimulated debate among STS scholars over the field's role in contributing to it (e.g., [Collins et al., 2017b](#); [Fuller, 2017](#); [Sismondo, 2017a, 2017b](#)).

⁵ Merriam Webster named “truthiness” as their 2006 Word of the Year.

⁶ Male politicians figure prominently in this quadrant, especially when managing personal scandals (e.g., John Edwards, Mark Sanford, and Anthony Weiner).

³ The former include the likes of Jean Baudrillard, Jacques Derrida, Michel Foucault, and Jean-François Lyotard, while the latter include such scholars as David Bloor, Barry Barnes, Harry Collins, Steve Fuller, and Trevor Pinch.

⁴ Over a decade ago [Latour \(2004\)](#), a prominent STS scholar, acknowledged the field as having contributed to a situation in which powerful interests exploit

Typical Rhetorical Style and Primary Audience

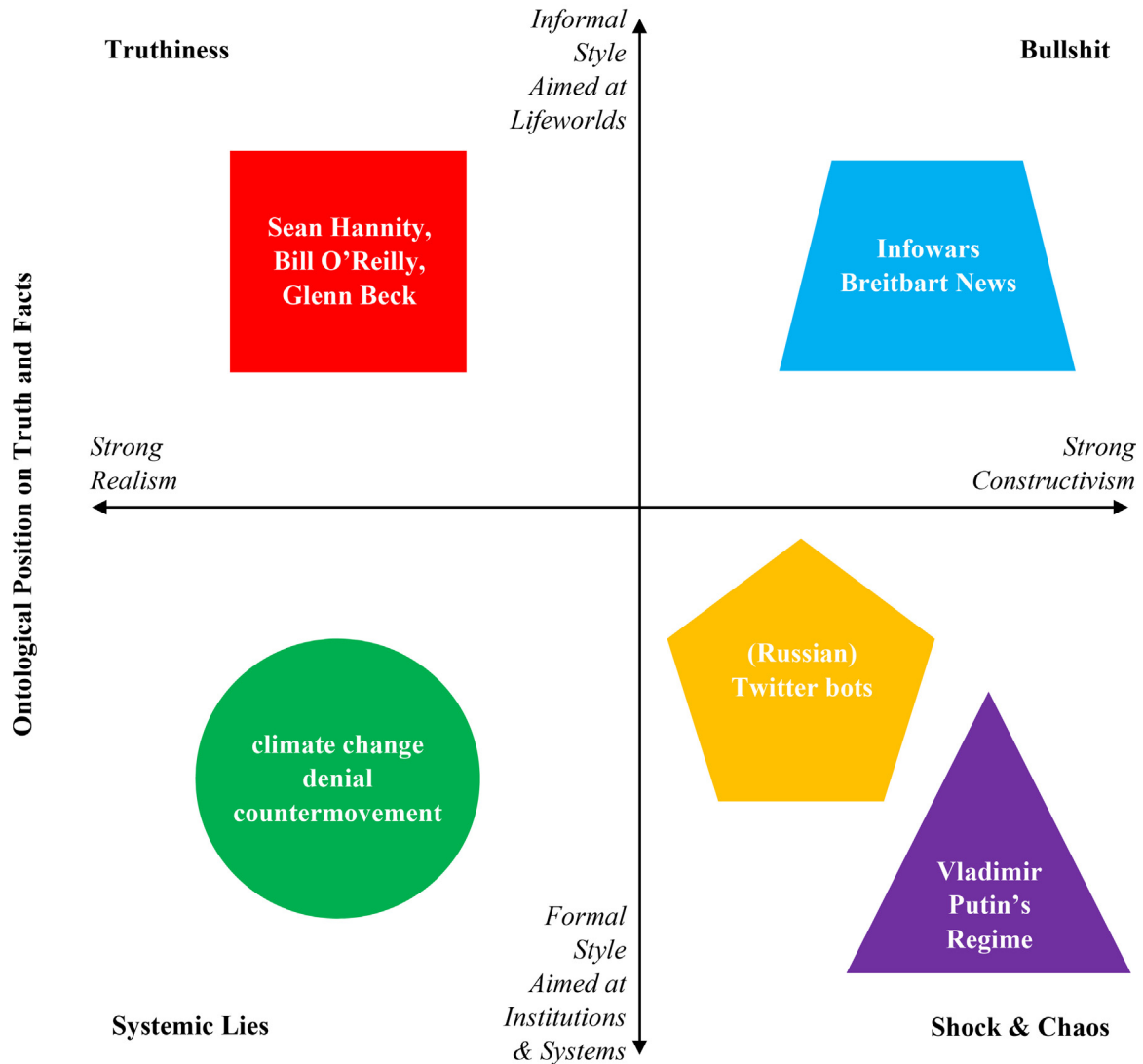


Figure 1. Key types of misinformation with illustrative examples of selected messengers.

tweeted BS to the American public. Trump is an exemplary BSer because he is driven much more by self-serving narcissism than by any ideologically coherent political agenda. Journalists continually document the growing list of untruths that illustrate Trump's willingness to BS about almost anything, big or small (e.g., Kelly, Kessler, & Lee, 2017; Leonhardt & Thompson, 2017). Indeed, it was White House Press Secretary Sean Spicer's repeated, impassioned defense of Trump's BS claims about having the largest inauguration crowd ever that prompted Senior White House aide Kellyanne Conway to unleash the now infamous "alternative facts" on the world a mere two days into the Trump Administration (Moore, 2017).

Systemic lies, which occupy the lower left quadrant of Figure 1, are perhaps the most pernicious type of misinformation. These are carefully constructed fabrications or obfuscations intended to protect and promote material or ideological interests with a coherent agenda. As such, purveyors of this type of misinformation target organizations, movements, and institutions they

perceive as threatening their interests. Systemic lies align closely with what we have termed "anti-reflexivity," or the defense of the industrial capitalist system from the claims of scientists and social movements that, for the regular functioning of the system, produce serious problems requiring governmental intervention (e.g., McCright & Dunlap, 2010). We may characterize anti-reflexivity as speaking *power to truth* using any one of the set of nondecision-making strategies in the "anti-reflexivity playbook" (see Table 2 in McCright & Dunlap, 2010).

The US-based climate change denial countermovement's messages, which employ some of the language and trappings of science and authoritative expertise, may be the most successful systemic lies of the last few decades. Briefly, this countermovement uses money and resources from industry and conservative foundations to mobilize an array of conservative think tanks, lobbying organizations, media outlets, front groups, and Republican politicians to ignore, suppress, obfuscate, and cherry-pick scientists and their research to deny the reality and seriousness of

climate change (e.g., [Brulle, 2014](#); [Dunlap & McCright, 2011, 2015](#); [Farrell, 2016a, 2016b](#); [McCright & Dunlap, 2010](#)). The success of the climate change denial countermovement owes much to the Right's superior effectiveness in framing and re-directing public discourse toward advancing their ideological interests. Indeed, the Right seems especially adept at using Orwellian language to promote their ideological and material interests via what we would argue are systemic lies:

- the George W. Bush Administration's Clear Skies Initiative and Health Forests Initiative of 2003, which would have weakened existing air quality and forest conservation protections, respectively;
- "right-to-work" laws that further weaken labor unions and the very mechanisms (e.g., collective bargaining) that earned workers hard-fought rights in the first place;
- "religious liberty" bills designed to legalize discrimination against the LGBTQ community, based on a narrow, fundamentalist interpretation of the Christian Bible;
- the Trump Administration's 2017 Presidential Advisory Commission on Election Integrity, which appears designed to reduce election integrity by suppressing likely Democratic voters; and
- countless focus-group generated terms that conservative activists have infiltrated into our public discourse: e.g., "family values," "junk science," "partial birth abortion," "death panels," "death tax," "job creator," and, most recently, "fake news."

Finally, a type of misinformation we call "shock and chaos" occupies the lower right quadrant in [Figure 1](#). It is misinformation intended to destabilize social relations and societal institutions so that its proponents may consolidate power and force unpopular decisions on a confused and/or distracted public (e.g., [Paul & Matthews, 2016](#)). As such, it is a mix of the "shock doctrine" strongly critiqued by [Naomi Klein \(2008\)](#) and postmodern authoritarianism championed by Vladimir Putin's key advisors, Vladislav Surkov (e.g., [Pomerantsev, 2014](#)) and Aleksandr Dugin (e.g., [Ratner, 2016](#)).⁷ Briefly, shock and chaos, which is most commonly seen within nations like Russia, North Korea, and Iran, involves weaponizing misinformation to secure the allegiance of followers and to root out and suppress potential dissidents (e.g., [Hains, 2016](#); [Shore, 2017](#)). Russia seems especially active in employing shock and chaos misinformation against Western democracies: (a) hacking campaigns, elections, or referendum votes in France (e.g., [Border, 2017](#)), Germany (e.g., [Brennan, 2017](#)), the United Kingdom (e.g., [Syal, 2017](#)), and the US ([CNN Staff, 2017](#); [The New York Times Staff, 2017](#)); (b) infiltrating news and social media platforms (e.g., [Calabresi, 2017b](#); [Lee, 2017](#)); and (c) spreading propaganda supporting or opposing different civil society groups (e.g., [Orr, 2017](#); [Syeed, 2017](#)).

While shock and chaos misinformation has been largely absent from the US historically, many observers express con-

cern about its increasing prevalence in recent years due largely to Russian efforts. We are only beginning to discover the extent to which Russian forces are helping to spread shock and chaos misinformation in the US, partly because it is often hard to detect in a timely manner. Nevertheless, there is compelling evidence that

- Russian forces hacked (and publicly leaked data from) the Democratic National Committee computer networks (e.g., [Calabresi, 2017a](#));
- while the social media accounts characterized as "Bernie Bros" (ostensibly white male supporters of Senator Bernie Sanders) were probably not Russian bots themselves, they nevertheless seemed adept at spreading Russian-generated misinformation (e.g., [Ferguson, 2017](#));
- Russian Twitter bots are promoting right-wing groups and causes (e.g., [Dorell, 2017](#)); and
- on the campaign trail (e.g., [Naylor, 2016](#)) and in the first few months of his Presidential Administration (e.g., [Clifton, 2017b](#)), Donald Trump or his allies routinely spread misinformation generated by Russian forces.

Indeed, more than a few analysts suggest that Donald Trump's Presidential campaign and resulting administration is closely following the shock and chaos misinformation strategies of the Putin regime (e.g., [Clifton, 2017a](#); [Mariani, 2017](#)).⁸

domestic politics and Dugin, a sociologist and political analyst, has focused mostly on international relations, both have long aimed to promote Russian dominance in the global geopolitical order. Surkov often gets credit as the key architect of Putinism, a new style of authoritarianism cloaked in democratic rhetoric ([Pomerantsev, 2014](#)). Surkov is described as a master of postmodern theater ([Pomerantsev, 2011](#), p. 5):

[C]ontemporary Russia . . . is a dictatorship in the morning, a democracy at lunch, an oligarchy by supertime, while, backstage, oil companies are expropriated, journalists killed, billions siphoned away. Surkov is at the center of the show, sponsoring nationalist skinheads one moment, backing human rights groups the next. It's a strategy of power based on keeping any opposition there may be constantly confused, a ceaseless shape-shifting that is unstoppable because it's indefinable.

[Dugin's \(1997\) The Foundation of Geopolitics](#)—one of many espousing his "fourth political theory"—lays out the blueprint for Russian ascendance via neutralizing or even defeating the US. [Dugin \(1997, p. 367\)](#) makes clear the importance of misinformation campaigns and attacks on US civil society:

It is especially important to introduce geopolitical disorder into internal American activity, encouraging all kinds of separatism and ethnic, social, and racial conflicts, actively supporting all dissident movements—extremist, racist, and sectarian groups, thus destabilizing internal political processes in the US. It would also make sense simultaneously to support isolationist tendencies in American politics.

⁸ A brief comparison of the personal Twitter accounts of President Donald Trump (@realDonaldTrump) and President Barack Obama (@BarackObama) is revealing. As of September 7, 2017, about 17.7% (16,680,211) of Obama's 94,238,483 Twitter followers but approximately 51.2% (19,335,714) of Trump's 37,765,067 followers were classified as "fake" by the service Twitter Audit. Indeed, between September 5th (when we first checked for this note) and the 7th, Trump's total number of followers remained relatively constant (37,589,213 and 37,765,067, respectively). Yet, Twitter Audit increased its estimation of the fake ones by nearly three million a mere two days later: from 16,614,432 fake

⁷ While Surkov, a businessman and politician, has focused primarily on

Key Factors that Facilitate the Spread and Resonance of Misinformation in the US

Lewandowsky et al.'s (2017) proposed “technocognition” approach, combining psychological principles and technological innovation to combat the growth of misinformation, is laudable. Yet, countering misinformation may be more challenging than Lewandowsky et al. (2017) imply, especially in the US where several factors amplify the resilience and potency of misinformation within large sectors of society (e.g., Maza, 2017). Further, effectively combating misinformation will likely require understanding the characteristics and dynamics of the different types of misinformation we have outlined. More importantly, we must understand how combinations of these types of misinformation synergize to have even more complex and recalcitrant impacts.

We are skeptical of the success of the technocognition approach in the US, largely because of the megatrends that Lewandowsky et al. (2017) identify as giving rise to our current post-truth era. In our mind, the foremost barrier to combatting misinformation in the US is the intense political polarization that, of course, is related intimately to decreasing social capital, rising inequality, declining trust in science, and an increasingly fractionated media landscape. While still debating the sources of polarization, political scientists agree that it has reached unprecedented levels and stems more from Republicans moving far to the right than Democrats moving to the left (Mann & Ornstein, 2016). The rise of “negative partisanship,” in particular, has created a situation in which Republicans and Democrats are likely to regard the opposing party as a threat to the nation and view its followers in highly negative terms (Pew Research Center, 2016).⁹ In this context, Republicans’ skepticism about Russian meddling in the last election and especially their increasingly favorable views of Russia and Putin may not be so surprising; anything and anyone keeping Democrats out of office is acceptable (Riley, 2017).

This intense political polarization in the US is abetted by three factors largely beyond the scope of Lewandowsky et al. (2017). First is the intentional promotion of misinformation in the powerful conservative echo chamber, ranging from the conspiracy theories of Infowars and Rush Limbaugh to the consistent lies and exaggerations about liberal politicians and Democratic candidates spread on Fox News, Breitbart, and talk radio (Benkler, Faris, Roberts, & Zuckerman, 2017). Second is the utility of misinformation (especially systemic lies but also, increasingly, shock and chaos) to powerful political and economic interests (e.g., the Koch Brothers and fossil fuels corporations) and their consequent and unrelenting support for it, which was only briefly touched on by Lewandowsky et al. (2017). Third is the institutionalization of “false equivalence” in so-called mainstream

media, evidenced by never-ending efforts to equate a major falsehood from the Right with a far less consequential one from the Left (Alterman, 2016). Likewise, major venues like CNN not only allow much misinformation to go unchallenged, as when interviewing Trump surrogates, but provide a platform for it by consistently including the same people on its TV panels—all in the interest of trying to appear “unbiased.”¹⁰ The combination of the above factors in our highly polarized nation creates major barriers to combatting misinformation.

Going Forward: Suppositions to Address in Future Work

As mentioned above, a better understanding of the different types of misinformation and how they may synergize when combined is needed to effectively combat misinformation with solutions tailored to contexts and audiences. We end with some initial suppositions intended to spur work in this area.

Whether or not conservatives are “innately” more prone to accept and promote misinformation than are liberals, the US media landscape nevertheless has far more avenues for the former than for the latter to send and receive misinformation: broadcast networks (e.g., Fox News, The Blaze, One America News Network), popular websites (e.g., Infowars, Breitbart, Daily Caller, The Drudge Report), and other outlets (especially conservative talk radio). Thus, in our politically polarized society, combating emotionally resonant *truthiness* and *bullshit* within this cohesive, insulated, and near-impenetrable conservative echo chamber may not be feasible (Benkler et al., 2017). With the rise of social media and the absence of the Fairness Doctrine to prohibit broadcast licensees from having a consistent political slant (e.g., Hershey, 1987), penetrating this echo chamber with reasoned arguments supported by science and facts may be a quixotic task.

In addition, the production and consumption of *systemic lies*, epitomized by organized climate change denial, has aligned with political ideology in the US over the last few decades (e.g., Dunlap & McCright, 2015; Dunlap et al., 2016; Farrell, 2016a, 2016b; McCright & Dunlap, 2000, 2010, 2011). Conservative citizens are more likely than are liberals or moderates to believe misinformation about climate change (e.g., McCright, Charters, Dentzman, & Dietz, 2016). This is likely because political ideology is correlated strongly with support for protecting and maintaining the existing political-economic system, with conservatives reporting much stronger support than liberals (e.g., Jost, Federico, & Napier, 2009; Jost, Nosek, & Gosling, 2008). As such, we expect that conservatives are more likely to produce and consume systemic lies about similar problems such as poverty, racism, gender inequality, and US imperialism. We speculate that Lewandowsky et al.'s (2017) technocognition approach will be insufficient in countering systemic lies in the US, in large part, because the latter

followers on September 5th to 19,335,714 fake followers on the 7th. Many have observed that the number of Trump’s Twitter followers varies dramatically over the course of days and even hours, with most of the variation coming in fake followers or bots (e.g., Ingram, 2017; Riotta, 2017).

⁹ Dunlap et al. (2016) review the polarization literature in the context of climate change.

¹⁰ The fact that Trump and his followers now regard CNN as a purveyor of “fake news” belies the futility of utilizing false equivalence.

- are ideologically motivated, deeply held, and mutually reinforcing;
- are promoted within cohesive networks of industries, foundations, think tanks, activists, pundits, and politicians that promote ideologically coherent messages; and
- are often bolstered by like-minded truthiness and BS in an echo chamber.

Lastly, events over the past year suggest that US media companies and key institutions seem quite ill-equipped to recognize and combat *shock and chaos* misinformation in a timely manner. The mélange of anti-intellectual appeals, conspiratorial thinking, pseudoscientific claims, and sheer propaganda circulating within American society seems unrelenting. Further, the more widely and rapidly that shock and chaos misinformation spreads, the more citizens (especially conservatives) will lose trust in our core institutions and begin to question the truthfulness of nearly anything that comes out of most news outlets (Pew Research Center, 2017). The resulting cynicism that such processes engender may likely outpace the capacity of a technocognition approach to neutralize—let alone counter—shock and chaos misinformation.

As we have hinted above, what may be more challenging than any one of these types of misinformation are the toxic impacts from their synergies. When also considering the high degree of political polarization in our society (which, again, is largely due to the rightward shift of Republicans), we assert that whichever technocognition strategies are employed are unlikely to prove effective among conservatives. Rather, scientists, journalists, and other communicators may be better served in directing their technocognition strategies toward political moderates and liberals—combatting misinformation designed to reduce these citizens' motivations to vote and participate in governance more generally.

In closing, we also note that the technological architecture of the internet, and social media sites specifically, may be out-matched against the perseverance, resources, and hacking skills of those who seek to promote systemic lies and shock-and-chaos misinformation—especially when they are backed by influential economic interests or powerful state actors, both domestic and foreign. Fact-checking sites themselves may become politicized as misinformation *about them* infiltrates public consciousness. Also, social media sites such as Facebook may fail to adequately employ technocognition strategies out of fear of being labeled as biased—especially by conservative groups more likely to produce and consume misinformation (e.g., Heath, 2016; Nunez, 2016). This is not inconsequential, since more and more evidence is being discovered that Russian-backed shock-and-chaos misinformation spread strategically via Facebook—and bolstered by truthiness, BS, and systemic lies promoted by the Right—may have influenced the outcome of the 2016 US Presidential election (e.g., Castillo, 2017; Leonnig, Hamburger, & Helderman, 2017; Shane, 2017).¹¹

¹¹ Indeed, it appears that the election management company Cambridge Analytica helped the Trump campaign staff to precisely identify particular types

Conflict of Interest Statement

The authors declare no conflict of interest.

Author Contributions

AMM and RED wrote the manuscript.

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- of potential voters using psychographic data from millions of American adults (Grassegger & Krogerus, 2017). This was data hacked by Russian operatives (e.g., Berzon & Barry, 2017) and/or harvested by Trump campaign associates from sources such as private Facebook data (e.g., Schwartz, 2017). The Trump campaign's digital content staff then helped feed these potential voters misinformation that had been personally tailored for them (e.g., Collins et al., 2017a; Overby, 2017).

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