



The unedited public sphere

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Abstract

The health of democratic public spheres is challenged by the circulation of falsehoods. These epistemic problems are connected to social media and they raise a classic problem of how to understand the role of technology in political developments. We discuss three sets of technological affordances of social media that facilitate the spread of false beliefs: obscuring the provenance of information, facilitating deception about authorship, and providing for manipulation of social signals. We argue that these do not make social media a “cause” of problems with falsehoods, but explanations of epistemic problems should account for social media to understand the timing and widespread occurrence of epistemic problems. We argue that “the marketplace of ideas” cannot be adequate as a remedy for these problems, which require epistemic editing by the press.

Keywords

Artificial intelligence, bot, computational propaganda, deepfake, machine learning, propaganda, public opinion, public sphere, social media army

The role played by changing media technologies in the health of democratic communication has been a concern of scholars perennially. We are now in a period of renewed scrutiny of media tools and businesses, which in many cases appear to undermine democratic processes and communication, and for which remedies sometimes appear out of reach. A prominent concern involves epistemic problems having to do

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with publics' ability to discern what is true and what is not in the flow of political communication through mass media channels as well as social media tools. These epistemic concerns receive a number of labels: "disinformation order" (Bennett and Livingston, 2018), "epistemic crisis" (Benkler et al., 2018), "disrupted public spheres" (Bennett and Pfetsch, 2018), and, especially in public commentary, "post-truth politics" (Suiter, 2016; Waisbord, 2018). The many influences on these problems in addition to changes in media environments have been well cataloged at this point in an outpouring of scholarship since about 2016.

Some of the most important recent scholarship has moved toward untangling the relative importance of various influences or causes of epistemic problems, among these media technologies themselves. Developing causal accounts that include technologies presents a conceptual problem: In what sense can technology be considered a *cause* of epistemic problems? And whatever the answer is, how will public spheres overcome these problems? Research designed to investigate specific technologies and pathways, such as Facebook or Twitter networks themselves, or political bots, often situate media tools closely to causal processes. For instance, Vosoughi et al. (2018) convincingly show that false claims diffuse through Twitter faster and farther than do comparable true claims. While their finding does not depict social media as a "cause" of falsehoods, it implicates properties of one social media tool closely in the problem of falsehoods in contemporary public spheres. Other research examines the "impact" of Twitter and Facebook usage (Boukes, 2019) and the "effects of Twitter commentary" (Dounoucos et al., 2019) and examines whether "the Internet will promote democracy" (Hong and Kim, 2018).

By contrast, research that investigates system-level developments tends to situate technology in the background of larger, deeper developments. For example, Waisbord (2018) argues that the rise of "post-truth" communication is tied to the breakdown around the world of the mass media systems of the last century. System-level accounts that take into consideration a broad range of contributors and processes are likely to describe path dependencies. For example, Benkler et al. (2018) provide the most comprehensive assessment of recent epistemic problems in the US case. They downplay the relative importance of Russian democracy-hacking through the Internet, faux news sites, online "echo-chambers" in social media, behavioral marketing, and the alt-right's use of digital media. They find that while all of these may present legitimate specific concerns, the epistemic crisis in the United States associated with the rise of Trumpism is primarily a function of the larger right-wing media "ecosystem" and the response of mainstream news businesses to its agenda and frames. That is, technology itself is not an important cause of epistemic failure, but is embedded deeply in the path-dependent political fabric of particular places and times.

A better reconciliation of technology-specific accounts with system-level accounts is needed, for conceptual clarity about causation and for efforts to reason out potential remedies. A motivation for trying to reconcile these approaches is the near simultaneity of epistemic problems across political systems. Bradshaw and Howard (2017) go so far as to suggest that undemocratic communication connected to propaganda and falsehoods is now no less common across democracies than in authoritarian regimes. This suggests the existence of common stimuli or changes in the context of communication.

Technology is clearly a candidate explanation, although hardly the only one. While the right-wing media ecosystem of the United States is itself not duplicated elsewhere, decaying trust in media and institutions has occurred in many countries. Social and economic disparities and divisions have also increased, political momentum has shifted from centrist parties toward extremes, and the capacity of institutions to represent complex and changing societies has eroded, among other changes (e.g. Bennett and Pfetsch, 2018; Blumler, 2018; Blumler and Kavanagh, 1999; Dahlgren, 2005; Pfetsch, 2018; Van Aelst et al., 2017).

The sense in which social media and other technologies are anything like a “cause” of epistemic problems appearing in disparate democratic systems is not a straightforward question.

In this essay, we lay out a middle path employing the perspective of technological affordances (Hutchby, 2001). From this perspective, social media afford political actors’ expanded opportunities to act. These expanded opportunities do not compel action and indeed are acted upon differently across actors and political contexts. This permits path-dependent analyses of specific historical trajectories. Commonality in opportunities provided by social media accounts for a trend toward similarity. This permits analyses of how a technology tends to have “an effect” that is similar across countries.

We explore this line of theorizing here by considering three affordances of social media. We chose these using several criteria. They have the properties of occurring across political contexts, not being reducible strictly to properties of technology itself or to the choices of political actors, and entailing expanded opportunities for epistemic problems in public spheres. In selecting these, we sought to look beyond the Facebook and Fox corporations, British tabloids, the German AfD party, the Russian Internet Research Agency, Twitter, and traditional news organizations. All contribute variously to epistemic problems in various places and times and would be part of any account of why epistemic problems in the United States exhibit differences from those occurring at the same time in Germany or the United Kingdom. We rather seek to shed light on affordances of social media that are facilitating falsehoods across political systems. These criteria lead us to three affordances: obscuring of the provenance of information, facilitating deception about authorship, and manipulation of social signals. Social media inherit the property of digital media and computing more generally of being among the most flexible and affordance-rich technologies in history. No widely accepted enumeration of all their affordances exists, so we do not argue that other affordances are not as important. So our account is not intended to explain all the relevant affordances of social media for epistemic problems; instead, we use these three to illustrate how the affordance framework can be used to reconcile technology-specific and system-level approaches to explanation.

After illustrating the affordance approach, we then turn to a problem that is connected: the status of the “marketplace of ideas” as a self-correcting mechanism for falsehoods that might circulate via these affordances (Vraga and Bode, 2018). The crux of our argument in this second part of the essay addresses cognitive limitations that restrict citizens’ abilities to deal with falsehoods in contention with truth; comparable limitations do not attend to citizens’ capacity in the aggregate to engage with contending ideas, values, or interests (Wells, 2013). This brings us back, in the age of social media and

computation, to the Fourth Estate as the remedy for the problems of social media. Affordances of social media increase demands on mass media-era institutions of the press; where those institutions fail at their epistemic functions, the technologies of the digital media era make public spheres most vulnerable to epistemic threats.

Throughout, we employ the term “public sphere” as a short-hand way to refer collectively to citizens as political communicators (speakers and listeners, consumers, and producers of communication), to citizens as participants in political organizations, to media businesses of all kinds, and to formalized institutions and processes of political communication by elites (Weeks et al., 2017). An alternative but less parsimonious term would have been Dahlgren’s “democracy’s communication spaces” (Dahlgren, 2005). “Media environment,” “the hybrid media environment,” “information regime,” and other terms emphasize particular aspects of democracy’s communication spaces. We use “public sphere” advisedly because while it has the generic use of the kind we intend, it is also a philosophical construct. Here, we do not mean to invoke the nuanced arguments of Habermas (1989) about *Öffentlichkeit* or to engage the extensive debates his work has triggered regarding deliberative democracy, about which we are somewhat skeptical in any case (Gil de Zúñiga, 2015). Also, although we address ourselves to epistemic matters, we do not take a position on the concept of “epistemic abstinence” in deliberation theory, which concerns whether democratic legitimacy through exchange of views can be achieved without the necessity of appeals to truth. Thus, our concern here is not about the mechanisms of formal political deliberation and the achievement of considered opinion among participants to conversations, but the broader process by which truths and falsehoods circulate in political communication systems among citizens, news businesses, political elites, and broader information networks.

Epistemic problems in the public sphere

Modern democratic communication has been understood as problematic since at least the time of Walter Lippman’s work. At present, the depth and breadth of problems with public spheres is reflected in the many theoretical approaches present in the literature. These have examined destabilization, incoherence, fragmentation, disruption, dissonance, commercialization, mediatization, and others (e.g. Bennett & Pfetsch, 2018; Blumler, 2018; Blumler and Kavanagh, 1999; Dahlgren, 2005; Mutz, 2015; Neuman, 2016; Pfetsch, 2018; Van Aelst et al., 2017; Waisbord, 2018).

Recently, literature on political communication has focused on what might be termed epistemic failures in public spheres or an “epistemic crisis” (Benkler et al., 2018). The concern is the extent to which citizens are successfully deceived or acquire false beliefs in non-deceptive ways. As Benkler et al. (2018) put it succinctly, the current problem is an increased vulnerability to false beliefs. This is not unrelated to such long-standing concerns as fragmentation, incoherence, and disorder in public spheres. But epistemic problems are in some ways more precisely defined and reliably observed than problems such as “incoherence” or “disorder,” as important as those concepts are. An epistemic failure can be defined as the presence of widely held false beliefs related to public affairs and in principle could be measured directly with survey techniques.

False beliefs are of course, endemic in the human condition. They can be perpetuated by cultural beliefs and assumptions that are passed along through generations, they can be randomly distributed and circumstantial, and they can reflect the systematic workings of cognitive biases and heuristics. The proposition that an epistemic crisis in public spheres is at hand is therefore a claim about a trend toward increased occurrence of widely held false beliefs by citizens about public matters. Benkler et al. (2018) offer evidence for increased vulnerability to such beliefs in the United States, particularly among about 25–30% of citizens.

Epistemic failures defined this way reflect so-called “post-truth politics” (Davis, 2017; Rose, 2017; Suiter, 2016; Waisbord, 2018). They are also associated with larger problems of democracy, including the decay of democratic norms in the United States, and propaganda and suppression of dissent in other places (Levitsky and Ziblatt, 2018). Some authors draw a general connection between the anti-democratic impulses of right-wing populism and practices that contribute to epistemic failures (Bennett and Livingston, 2018; Waisbord, 2018).

The question of technology and its affordances

Technologies of social media and computation are by most accounts important parts of the story of epistemic failures, as they are part of larger problems in democracies having to do with institutions, trust, representation, and the rule of law. Unusual would be the account of contemporary threats to public spheres that does not refer to social media as part of the story. These technologies are integrally connected in various ways to communication abundance, disruptive communication, “mass self-communication,” and the many other ways of conceptualizing contemporary public spheres (Bennett and Pfetsch, 2018; Blumler, 2018; Castells, 2015). At the same time, the “effects” of social media are unfolding together with globalization and growing economic strains, as well as other historic developments such as migration of peoples. All of these contribute to deep problems in democracy, as well as to the particular problem of epistemic failure. Should social media be understood as a “cause” of epistemic failures? Despite the prominence of social media in problems of epistemic failures—and one could pose the same question about social media and other phenomena such as political polarization or extremism—few scholars would go so far as to attribute causal influence to social media.

The problem of how to understand the role played by technology in complex social or political developments is an old one. Sociologists of technology long ago rejected causal accounts that entail various forms of technological determinism, that attribute causal agency to technology itself, or that identify “essential” properties of technology apart from human agency and the human interpretations given to technologies. Strictly speaking, technological artifacts, including software systems, are not political actors, though they are created and employed by political actors, including corporations, government elites, organized political interests, and citizens themselves. Decades of analysis of sociotechnical systems points to the political and social actors involved with technology for the basis of causal accounts, not to the technologies themselves.

Yet separating technologies from social phenomena is not straightforward, and a great deal of literature has addressed these theoretical problems of “the social and the material” (Leonardi and Barley, 2008). The apparent connection between social media and epistemic failures across democracies shows limitations of the view that technologies should have no prominent place in explaining outcomes. A widespread, loosely constructed consensus exists among scholars of media and political communication that social media and related technologies have different implications or exert different forces on politics than do technologies of mass media. More importantly, social media seem implicated in similar problems of epistemic failure across countries exhibiting enormous variation in social and political arrangements. To reduce the story of social media to the social and political processes in which it is embedded places at risk our ability to understand fully what is common about epistemic failures across countries.

The *technological affordance* framework offers a middle way between technology-specific accounts of effects, impacts, or consequences and social constructionist accounts that tend toward reducing technology out of the picture via path-dependent stories (Gibson, 1979; Hutchby, 2001; Bucher and Helmond, 2018). As a general matter, the affordances of a technology are the possibilities for action it offers humans. From this perspective, a technology has “action potential” but does not have causal agency (Majchrzak et al., 2013). Technologies like social media offer opportunities for acting by making some courses of action more obvious, easier, less effortful or costly, more likely to be successful, or some combination. How these are perceived and acted upon are shaped by context, including the capabilities of actors themselves.

Following Evans et al. (2017), we do not understand a single theory of affordances to exist. Instead, the affordance concept provides a framework for addressing problems of causation in the light of long-standing debates about how to distinguish the material from the social. In the affordance framework, agency comes from the use of technology by actors, not from the technology itself, while the technology makes some actions easier than others. This does not challenge the fact that political actors face opportunities and constraints that are a function of context having nothing to do with the technology. One of the important nuances of this framework is that affordances of a technology have range, which is to say that they are variable, but these affordances are not reducible simply to the goals or intentions of actors. For social media, this implies the existence of a range of outcomes from its use in politics across countries as well as a degree of commonality across contexts.

The affordance framework is well-developed and has been employed broadly in describing peoples’ interaction with social media in many contexts, from work and organizations to identity development and peer relationships. But it has not been prominent in the study of politics (Evans et al., 2017). Some of the affordances commonly ascribed to social media include anonymity, persistence, coordination, automation, visibility, searchability, availability, and others (e.g. Bucher and Helmond, 2018; boyd, 2011; Evans et al., 2017; Leonardi, 2011). Most affordances can be either normatively attractive or unattractive, or both, depending on context, and many are directly relevant to politics and problems in public spheres.

To understand the role of social media in epistemic failures, we sought to identify affordances that meet three criteria. The first is diffuseness, which is to say that the affordance

is associated with social media across a wide range of contexts. This criterion makes explicit an intrinsic part of the affordance framework: affordances are associated with technologies and are not simply epiphenomena arising from people's intentions or actions in using the technology in some particular set of circumstances. The diffuseness criterion rules out affordances such as secrecy due to encryption, which one finds in only a handful of social media tools. The second criterion, which is also part of the affordance concept, is that the affordance is neither an actor, such as Facebook Corporation or the Alternative for Germany party, nor simply technology itself, such as the presence of code or a coding language. Affordances occur at the level of engagement between people and technology. Third, we sought to identify opportunities for action associated with social media that are relevant to the spread of widely held false beliefs related to public affairs. Our selection of affordances meeting these criteria is threefold: obscuring of the provenance of information, facilitating deception about authorship, and manipulation of social signals. While this set is not exhaustive and undoubtedly others could be identified, we view these affordances as illustrative of the problem of explaining the connection between epistemic failures and use of social media.

Obscuring of the provenance of information

Networked communication tends to obscure the provenance of information. Social media facilitate the easy authorship, forwarding, and endorsement of messages through multi-step, horizontal flows. The structure of these flows tends to make the original author and intent of information more difficult to discern than in the case of mass media messages, which tend to be distributed centrally from news businesses with brand and source information tightly connected to content. To a citizen reading a social media feed on a mobile device, a headline from the BBC that has passed through other citizens, gathering likes or comments, will not necessarily look different from a rumor originating in a discussion thread in Reddit. Social media facilitate engaging with messages in terms of their social context, as opposed to their origins or veracity.

The opportunities that most social media provide for engaging with social context over provenance also results in false signals of authority or truthfulness. Social media provide easy opportunities for people to observe and contribute to signals about popularity, via commenting, liking, reposting, retweeting, upvoting, and so on. Popularity then challenges truthfulness for influence on audiences (Chang et al., 2015). Where false claims are purposefully constructed to deceive and to contain novel or emotional content, they may propagate better through networks than true claims (Vosoughi et al., 2018). This stands in some contrast to the communication technologies of traditional news embedded in journalistic businesses, which are oriented toward signaling the provenance of information and the attribution of sources to claims (Messing and Westwood, 2014).

Deception about authorship

Closely related to opportunities social media provide for obscuring the provenance of information is deception about authorship. By authorship here we mean accurate identification of a political speaker, writer, or actor. It is easier to deceive others on a large

scale using social media than in person or via responsible mass media, and this allows impersonation of organizations by individuals or other organizations, and impersonation of citizens by others, including foreign actors and bots.

The deception affordance arises from at least two arrangements. The first is an artifact of large networks with non-personal relationships, because expectations of personal knowledge of others are low in such contexts. The second is the widespread practice of social media corporations not requiring thorough authentication and accurate disclosure of identity associated with accounts. Social media also facilitate *automated* deception about authorship, including deception about whether the author of a message is human or machine. Techniques of computational propaganda make it easy for political actors to automate the monitoring of content in public spheres as well as responding to it with programmed “bot” messages that appear to come from human actors.

To be sure, a debate exists about the extent of this latter problem. A reliable census of political bots does not exist, but all indications are that they are significant in number globally (Bessi and Ferrara, 2016; Fourelle et al., 2015; Tucker et al., 2018; Woolley, 2017). Howard and Kollanyi (2016) estimate that bots account for a third of tweets about Brexit between 5 June and 12 June 2016. From the experience of multiple elections since 2016, it now appears that post-hoc scrubbing many thousands of deceptive social media accounts is becoming a regular campaign-season activity for Facebook and Twitter who fail to detect deception at the point they offer new accounts (Statt, 2018; Swaine, 2018).

The future of deception about authorship in social media lies beyond simple bots, in the terrain of machine learning with sophisticated capacities to interpret events in the public sphere and to generate novel, adaptive responses that appear to come from human actors. The industry of artificial intelligence (AI) producers selling to other corporations is estimated by one forecaster to grow at 50% a year for the foreseeable future—a diffusion rate reminiscent of the diffusion of social media itself some years ago (Fagella, 2018). AI-driven chatbots have begun to enter the public sphere and will expand greatly. Google and Twitter employed chatbots as far back as 2016 for non-partisan voter registration and get-out-the-vote (GOTV) efforts (Oren, 2017). The same year, the Obama White House deployed a chatbot in Facebook Messenger to help citizens wishing to communicate messages to the president (White House, 2016). *The Guardian* has used chatbots as a way to engage individual audience members about their preferences for news (Good and Wilk, 2016). These are so far transparent and benign uses of these techniques.

A more ominous opportunity for deception about authorship is digitally altered video called “deepfakes,” which might be thought of as the “Photoshopping” of video. Matching a voice impression or synthesized audio to machine-altered video of facial expressions and lip movements of another person produces convincing results, having been used in film-making for some time. The Xinhua news agency has produced an AI-based, synthetic-video news anchor with realistic video, accompanied by audio that is for now recognizably a machine. Convincing synthesis of video of Barack Obama speaking has been demonstrated by computer scientists (Suwajanakorn et al., 2017). Traditionally-doctored video of Speaker Nancy Pelosi of the US House of Representatives circulated widely in 2019, establish proof of concept that public officials will deceive using video techniques. The opportunities for epistemic failures here are of the first

magnitude, because “seeing is believing” is a foundation of everyday belief-formation and reinforcement. In 2018, the *Wall Street Journal* became the first news organization to announce that it viewed the threat of video deception to be great enough that it was creating a forensics unit in its newsroom trained to identify deepfake video (Marconi and Daldrup, 2018). Social media firms are racing to produce detection tools in what looks from early stages like a lopsided contest in favor of deception, since post-hoc correction of disseminated false beliefs is problematic, as we will discuss below.

Manipulation of social signals

Social media do not simply connect networks of people together with one another and with political organizations and news businesses. Use of social media generates public opinion data about what people are thinking and talking about, how they are talking about public affairs, what they want, and what they are doing. That is, social media create signals about agendas, frames, opinion, and behavior that are interpreted by political elites, news business, and publics themselves. An important affordance of social media related to authorship deception is facilitation of purposeful manipulation of these social signals and data.

Publics are notoriously poor at assessing the beliefs of others, and techniques that exploit these vulnerabilities are diffusing. Bot swarms are a simple example of creating false signals about public discourse. Organized teams of human participants are also easily employed to create the impression of organic support for a candidate or issue, the appearance of opposition, and for distraction or agenda change. Until recently a technique primarily associated with the Chinese regime (King et al., 2013), this affordance of social media has been exploited in the Philippines in support of Rodrigo Duterte, in Turkey in support of the Justice and Development Party, in Kenyan opposition groups, and in other countries (Abramowitz, 2018; Benedictus, 2016; Nájjar, 2015).

Venerable democracies are manipulating social signals as well. The British Conservative Party employed social media armies to ward this end manipulate in early 2018 (Malnik, 2018), and in 2019, the New Zealand Ministry of Business, Innovation and Employment hired a consultant reportedly to provide expertise in creating false online persona and other techniques of deception about public opinion (Bennett, 2019). In the future, machine learning systems may pose as members of the public, contributing to the sophistication and nuance of efforts to deceive publics about their collective selves.

The public sphere is not a “truth machine”

In one sense, none of the threats from false beliefs are new qualitatively. Democracy is premised on epistemic challenges of many kinds; people are selectively inattentive, are vulnerable to false beliefs, tend to eschew thoughtfulness in favor of allegiance to popular leadership, and often fail to distinguish opinion from fact, among other shortcomings. Political actors often have incentives to deceive. Even with the best of intentions and the most favorable circumstances, citizens cannot be adequately informed about all issues of the day. These problems all go with the territory of democracy, and the literature on them

is vast. The affordances of social media exacerbate problems long baked into democratic processes.

Here it can be instructive to revisit the Enlightenment of idea of the “marketplace of ideas,” because this is one of the mechanisms classically understood as a remedy for the potentially poor quality of information and ideas held by citizens. John Stewart Mill’s argument in *On Liberty* against silencing the expression of opinion is well-worn:

If the opinion is right, [by suppression of it people] are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error. (Mill, 2010 [1869], n.p.)

As Brazeal (2012) notes, 200 years before Mill, John Milton (2006 [1644], n.p.) made a similar observation in *Areopagitica*: “Let [Truth] and Falsehood grapple; who ever knew Truth put to the worse, in a free and open encounter?”

When this line of thinking was formalized into free-speech jurisprudence in the United States, the concept of truth grappling with falsehood was transformed into contests among “ideas.” Oliver Wendell Holmes employed the phrase “free trade in ideas” in his famous dissent to *Abrams v. US* (1919), and William Brennan introduced the phrase “marketplace of ideas” in his concurring opinion in *Lamont v. Postmaster General* (1965). Individual liberty, namely to speak freely, is intertwined in their thinking with the collective good associated with the improvement of knowledge for purposes of governance, as well as the legitimizing functions of the exchange of political opinions and expressions of interests. The marketplace of ideas, rooted in free speech and a free press, is the place for the free trade in political opinions and viewpoints, and this free trade biases public spheres in a good direction democratically (Asard and Bennett, 1997).

The current epistemic crisis highlights the original formulation of the problem as one of *truth and falsehood*, not richness in *exchange of opinion*. Whether a marketplace of ideas resting on expansive free-speech and free-press guarantees is functional with respect to commerce between true and false claims is more salient now than in the mass media era, when news businesses exerted much stronger gatekeeping and validation functions over the content of information reaching publics.

Wells (2013) draws the key distinction with the observation that “democracy is not a truth machine” in his essay by that title. No marketplace of ideas operating at the scale of a public can exert the same force on differentiating between truth and falsehood as it can exert on the expression and refinement of opinion. Public spheres need the sharing of normative views about such things as whether more immigration is desirable and whether environmental regulations should be strengthened. But publics cannot successfully exchange differing factual claims about how many Syrian refugees are in Bavaria or whether climate science is wrong.

For epistemic problems to be resolved in the marketplace of ideas would require either that citizens have the cognitive capacity to recognize false claims for what they are or that a reliable editing mechanism exists for combatting false claims before they disseminate. Mill (2010 [1869]) himself knew the first of these was improbable. In a less well-known observation in *On Liberty* than the one quoted above, he noted, “It is a piece of idle sentimentality that truth, merely as truth, has any inherent power denied to error . . . Men are not

more zealous for truth than they often are for error” (n.p.). Mill’s observation anticipates contemporary models of political cognition, which in various ways describe limitations on people’s tendency to absorb information accurately. Heuristic thought is not oriented toward the substantive quality of information, motivated reasoning entails affect-driven rather than substantively-driven consideration of information, and selective exposure and acceptance make people resistant to opinion-changing messages (e.g. Petty and Cacioppo, 1986; Tabor and Lodge, 2013; Zaller, 1992). The literature on false beliefs and their correction, which is now the subject of some debate, has shown a backfire effect (De keersmaecker and Roets, 2017; Flynn et al., 2017; Margolin et al., 2018; Nyhan and Reifler, 2010; but see Wood and Porter, 2019). Effective resistance to false beliefs requires that people consume contrasted information and exert some cognitive effort to consider it; this is likely to be aided not by information or fact-checking from neutral experts but by signals from pro-attitudinal authorities that a prior belief is false (Bakker and De Vreese, 2011; Boczkowski et al., 2018). Vosoughi et al. (2018) have shown that false news claims can diffuse faster, farther, and more broadly through social networks than do comparable true news claims. There can be little doubt that the exchange of true and false claims in the “marketplace” does not necessarily produce improved knowledge in the way that free exchange of normative views and interests is believed to improve the quality of aggregate public opinion.

In the marketplace of ideas, a bias toward truth must come from independent epistemic authorities exerting sufficiently strong influence on what circulates in the public sphere. These authorities are of course the press, whose epistemic functions are three-fold: operating a truth-biased filter on claims before they enter the broad public sphere, publicly identifying false claims that escape the filter, and providing signals about the provenance of truth claims such that interested parties can weigh evidence themselves. These constitute *epistemic editing*. During the era in which mass media businesses dominated the content of public spheres, epistemic editing was more or less unproblematic, given dominant journalistic norms and practices.

One of the crucial features of the social media age is that professional journalists enjoy less capacity to filter what enters the public sphere in the first place—the first component of epistemic editing. This reflects another affordance of social media itself. Mass communication on the part of the press generally entails journalistic norms and practices that provide epistemic editing; “mass self-communication” in social media does not. The balance between the influence of the press as mass communicators and citizens as mass self-communicators affects the extent to which public spheres or sub-spheres are vulnerable to epistemic failures.

The press can fail at epistemic editing in the same ways they fail at their other functions in democracy. One way is via state control, for instance, by intimidation or censorship, as in Turkey since the late 2000s. A second way is by abandonment of epistemic functions in favor of commercial or political interests on the part of media businesses. The account by Benkler et al. (2018) of the right-wing media ecosystem in the United States provides an example, as do tabloid news businesses in the United Kingdom, which have long operated with little regard for epistemic responsibility. A third route to epistemic failure is by the reduction of news capacity through resource starvation to the point where insufficient editing influence remains. The growth of “news deserts” at the local

level in the United States, United Kingdom, and elsewhere is an example (Abernathy, 2018).

The future of epistemic failures will depend upon dynamics of press systems in different places and times, as these fare better and worse at the challenges of epistemic editing. It is beyond the scope of the present essay to attempt analysis of the future of news systems in the United States, Germany, Turkey, or elsewhere. Yet it seems clear that the ultimate consequences of social media for the epistemic health of public spheres will be driven at least as much by what happens in press systems as by what happens with social media itself.

Conclusion

We began this essay by considering the problem of epistemic failures, defined in terms of widely held false beliefs related to public affairs. These appear to be occurring across a number of political systems and to be connected to larger problems of democratic communication. Sorting out the causes or influences contributing to epistemic failures is an important next step in research on public spheres, and we noted the theoretical problems associated with the role of social media in these problems. Social media appear connected to epistemic failures, and accounting for their influence theoretically requires addressing the long-standing problem of differentiating the material and the social in explaining outcomes. We employed the affordances framework to highlight how social media use provides opportunities for epistemic failure without serving as a “cause” or as a sufficient condition.


In our view, solutions to epistemic problems will not come from citizens themselves, or from social media itself, though many attractive industry reforms can be imagined. Limitations on political cognition make people vulnerable, and our analysis gives us little optimism about such remedies as civic education or media literacy programs, and only a little more optimism about post-hoc fact checking and deepfake detection. Social media companies might in principle do very much more to prevent deception about authorship by requiring authentication of users when accounts are created and by requiring disclosure of authenticated identities with all communication. Up to a point they may take over some of the epistemic editing functions that they have assiduously avoided historically. But the end of anonymity and pseudonymity in social media is not a realistic goal given the norms of that industry and its customers, as well as the fact that some social media tools are predicated on anonymity, which in turn facilitates deception. On the whole, various affordances of social media will likely continue to facilitate the spread of falsehoods, especially as machine learning tools spread more widely.


In this sense, the current epistemic challenges in public spheres are less a temporary aberration pending remedies than a “new normal” in political communication (Waisbord, 2018). In the context of these challenges, it is not likely to be the “marketplace of ideas” in which truth and falsehood are sorted out, we have argued. This leaves the press, serving as epistemic editors, as the crucial players in the future of problems of truth and as the key actors around whom explanations of differing outcomes in different countries should be developed. The diffusion of social media has shed light on a function of the press—epistemic editing—that was to some extent easy to take for granted during the era of mass media dominance. This is no longer the case.

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