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Matthew C. Sullivan

Harvard University, matthew_sullivan@harvard.edu

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Libraries and Fake News: What's the Problem? What's the Plan?

M. Connor Sullivan, Harvard University

Abstract

This article surveys the library and information science (LIS) response to the problems of fake news and misinformation from the 2016 U.S. presidential election to the end of 2018, focusing on how librarians and other information professionals in the United States have articulated the problems and the paths forward for combating them. Additionally, the article attempts to locate the LIS response in a larger interdisciplinary misinformation research program, provide commentary on the response in view of that research program, and lay out both a possible research agenda for the field and practical next steps for educators ahead of the 2020 election.

Keywords: fake news, misinformation, disinformation, information disorder, information literacy

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Introduction

The 2016 U.S. presidential election has had a powerful impact on the library and information science (LIS) community. The depth of concern can be seen in the volume of articles in academic journals or magazines, special edited issues and volumes, conferences, webinars, opinion pieces, newsletters, blog posts, and official statements—all pertaining to fake news, misinformation, post-truth, post-facts, and so on. Also voluminous have been the many resources assembled by libraries across the country that can be found online, with far more doubtless being done offline in the everyday encounters between information professionals and their communities. The concern can also be sensed in the tenor and tone of the response, as when Johnson (2017) laments that an ALA list of library values “reads similarly to a 2016 casualty list” (p. 13).

As disheartening as the political scene has appeared, at home and abroad, librarians have not despaired. Instead, they have used those conferences, publications, and resources to double down on their efforts to fight all forms of information disorder, as Wardle and Derakshan (2017) christen the range of mis-, dis-, and mal-information plaguing the public sphere. This article surveys the LIS response over the past few years, focusing on how librarians and other information professionals have articulated the problems and the paths forward for combating them. For instance, is fake news itself the problem, or is the real concern its causes or consequences? With what skills do librarians propose to fight misinformation, and how can they impart those to others? Additionally, the article attempts to locate the LIS response in a larger interdisciplinary misinformation research program, provide commentary on the response in view of that research program, and lay out a possible research agenda for the field.

So What’s the Problem?

When discussing fake news, or misinformation more generally, librarians are painfully aware that there is a problem to be addressed but have not always been clear about the nature of that problem. Authors have been quick to define the operative terms (e.g., *mis-* vs. *disinformation*) but not to unpack some of the assumptions made about their causes and consequences. A clearer understanding of the problem(s) is necessary, however, not only for designing solutions, but also for matching a given problem with its solution.

For some, the problematic nature of fake news is self-evident, requiring little elaboration. It is simply taken for granted that it is “a major problem” (Musgrove, Powers, Rebar, &

Musgrove, 2018), and that the LIS audience both understands this and agrees. Given that many of the articles have been written in the shadow of the 2016 U.S. presidential election, perhaps some authors assume that the issue was top of mind. (This appears to be the case for most contributions in Agosto [2018].) If not, a few of the more extreme instances of fake news and its consequences, such as Pope Francis endorsing Donald Trump or the Pizzagate conspiracy (Banks, 2016; Branstiter, Orozco, Orth-Alfie, & Younger, 2018; Burkhardt, 2017; Commisso, 2017; Johnson, 2017; Sosulski & Tyckoson, 2018), serve as a refresher.

Others see fake news as the latest iteration of the larger problem of false news online that traditional gatekeepers, such as librarians or journalists, are no longer able to keep in check (Banks, 2016; Berry, 2016; Commisso, 2017; Mackey & Jacobson, 2016; Sosulski & Tyckoson, 2018). Finley, McGowan, and Kluever (2017) define fake news so broadly as to include anything that has not undergone some traditional review process. Essentially, fake news comes to stand in for anything that contrasts with libraries. As the authors proclaim, “We are the fake news nemesis!” (p. 11).

One drawback to seeing fake news as problematic *ipso facto* or as a direct challenge to librarianship is the tendency to dichotomize the information landscape, characterizing it as either true or false, good or bad, verified or biased (Burkhardt, 2017; Finley et al., 2017). Another drawback is that this view affords little insight into the particulars of the political moment, increasing the chances that the solutions offered will be divorced from contemporary circumstances.

For many others, fake news is not so much the problem as it is a symptom of some deeper problem. At the individual level, that problem is a lack of education (Cooke, 2017) or media literacy (Cheby, 2018; Dempsey, 2017; Finley et al., 2017), among other things. More broadly, the problem is thought to lie in our contemporary information environments. Authors decry the use of social media as a source of information, specifically news (Alvarez, 2016; Banks, 2016; Rochlin, 2017; Wade & Hornick, 2018). Johnson (2017) even finds the “social function of online news-sharing” to be antithetical to librarianship insofar as it serves as a demonstration of values, rather than a desire for knowledge. These authors also tend to reference the “filter bubble” or “echo chamber” thesis (Burkhardt, 2017; Cooke, 2017; El Rayess, Chebl, Mhanna, & Hage, 2018; Kizsl & Fodor, 2018; Lor, 2018; Rochlin, 2017; Rose-Wiles, 2018), support for which may not be as extensive as often thought (see Garrett, 2018; Guess, Nyhan, Lyons, & Reifler, 2018).

Other ills of which fake news is a symptom include the loss of trust in expertise (Gibson & Jacobson, 2018; Lor, 2018) or the media (Alvarez, 2016; Rochlin, 2017); the relativism of our supposedly post-truth era (Baer, 2018; Batchelor, 2017; Becker, 2016; Bluemle, 2018; Cooke, 2017; Johnson, 2017; Lor, 2018; Rochlin, 2017); and deepening political polarization (Gibson & Jacobson, 2018; Loertscher 2017). Perhaps underlying all of these are the “pre-existing beliefs, attitudes, and biases” (Baer, 2018, p. 75) to which we are susceptible. Thus, Boden (2017) argues that “the contemporary focus on helping patrons distinguish legitimate news from fake misses the real problem ... cognitive bias.” The bias discussed most so far is confirmation bias (ALA, 2017; Cooke, 2017; Gibson & Jacobson, 2018; Saunders, Gans-Boriskin, & Hinchliffe, 2018), although this tends to be “understood only as a tendency to consciously seek out or avoid information based on prior beliefs, rather than a larger unconscious process whereby we also understand, interpret, favor, and remember information” (Sullivan, 2018).

Whereas some LIS authors see fake news as a symptom of some deeper problem, others define the problem in terms of its apparent consequences. At the individual level, the problem is that people are deceived due to their inability to determine the credibility of information (Burkhardt, 2017; Cooke, 2017; Farkas, 2018). It is no surprise, then, that the findings of the Stanford History Education Group (Wineburg, McGrew, Breakstone, & Ortega, 2016) about the inability of students to assess information sources feature prominently in LIS works (Agosto, 2018; Auberry, 2018; Batchelor, 2017; Becker, 2016; Bluemle, 2018; Burkhardt, 2017; El Rayess et al., 2018; Jeffries, Kroondyk, Paolini, & Radisaukus, 2017; Johnson, 2018; Mackey & Jacobson, 2016; Musgrove et al., 2018; Neely-Sardon & Tignor, 2018; Rush, 2018).

Looking beyond the individual, fake news is thought to present a serious threat to society, even if that threat is at times nebulous (Becker, 2016; Cheby, 2018; Jacobson, 2017). Thus, “harm can be caused” as a result of sharing fake news online (El Rayess et al., 2018, p. 147), and false claims can be “terrifying in their capacity ... to do real harm to real people” (Anderson, 2018, p. 4). When connected to the real-world events such as the near-tragic shooting in Washington, DC (Burkhardt, 2017; Comisso, 2017; Sosulski & Tyckoson, 2018), the threat begins to take shape.

The most common and specific threat of fake news is its potential to interfere with democratic processes or civic participation (Alvarez, 2016; Becker, 2016; Jeffries et al., 2017; Saunders et al., 2018), on the basic assumption that an informed electorate is a prerequisite

for a functioning democracy (Auberry, 2018; Batchelor, 2017; Berry, 2016; Jacobson, 2017). Although the 2016 election provides the immediate background to these works, the connection between libraries and democracy is foundational to the profession. Lenker (2016) discusses various documents connecting librarianship with citizenship outcomes: “The common theme running through each of these documents is that the ability to locate and evaluate information is critical to an individual’s ability to make informed decisions” (p. 512; see also Jaeger, Gorham, Bertot, & Sarin, 2013).

Much of the recent research and writing on fake news in other disciplines shares this assumption. Kuklinski, Quirk, Jerit, Schwieder, and Rich (2000) note that the normative thrust in public opinion research since the 1960s has been that citizens should be factually informed, since facts are supposedly the currency of citizenship. Missing from LIS publications, however, are discussions not only of how exactly fake news undermines this ideal, but also of whether this ideal has ever reflected political reality. As Kuklinski et al. go on to note, a principle conclusion of over 40 years of research is that voters are largely ignorant and uninformed. They write, “If facts are the currency of citizenship, then the American polity is in a chronically impecunious state” (p. 791). Unfortunately, few LIS authors have addressed any of the evidence, historical or experimental, that fake news might be making the problem worse. Levels of political knowledge and participation, which are widely studied, go unmentioned; well-known measures of polarization are noted by only a few; and the extensive literature on the consequences of exposure to misinformation is only beginning to trickle into the literature.

More fundamentally, there has been little reflection on the view of democracy that underlies core LIS assumptions. The belief that democracy requires a well-informed citizenry may be commonplace, but it is far from canonical. There is a range of theories of democracy that make very different epistemic demands of citizens. On one end are the purely procedural theories, according to which democracy involves a set of procedures that we find valuable for their own sake and do not rely on substantive claims about the correctness of individual political judgments; on the other, epistemic theories that tie democracy’s proper functioning to the ability of citizens to generate substantively correct judgments (Kelly, 2012). Across the spectrum, there are disagreements about whether citizens can and should be fully informed, to what level, and to what end. Citizenship in the U.S. has been described as “thin,” on the assumption that liberal democracies can operate effectively with little citizen

input, and the U.S. political system arguably has built-in checks that belie skepticism regarding the capacity of its citizens (Delli Carpini & Keeter, 1996).

There is a pressing need for LIS professionals to engage with theories of democracy as they pertain to how informed citizens ought to be, as well as the relevant evidence about how informed those citizens have been, before catastrophizing about fake news. Otherwise, the diagnoses and remedies offered may be unrealistic. For instance, Kuklinski et al. (2000) argue that the long-standing designation of *informed* vs. *uninformed* leaves out the crucial category of *misinformed*. In the case of the latter, promoting more or better information might not solve the problem by filling an information gap, since no such gap exists. Political scientists are still coming to terms with this conceptual shift (Nyhan & Reifler, 2012), and librarians need to wrestle with the implications as well (Sullivan, 2018). Fortunately, there have been promising discussions in the fake news context (Lor, 2018) and in LIS more generally (Buschman, 2018).

One final reason for LIS to engage with the literature on information and democratic participation concerns issues of justice. In the face of conventional wisdom that the public is ignorant of much of politics, Delli Carpini and Keeter (1996) argue that the problem may not be individual apathy but “biases in the information environment” (p. 17). For the most informed citizens, the system functions as intended, but it operates less democratically as the depth of information decreases and the distribution becomes less equitable. If there is thus a differential cost of being informed, and the depth of one’s information depends on structural factors, then there is an urgent need for librarians to look beyond the problems of Facebook or filter bubbles when championing an informed public.

So What’s the Plan?

Librarians are virtually unanimous in their conviction that they have a central role to play in the fight against fake news. This is particular true for those who set up libraries as the direct antithesis of fake news (Finley et al., 2017) or include fake news among the many things that are anathema to the ethics of librarianship (ALA, 2017). Others portray librarians as already on the front lines (Jacobson, 2017; Neely-Sardon & Tignor, 2018; Wade & Hornick, 2018), even if there is need to adopt fake news as a central concern (Rochlin, 2017).

Without dampening their conviction that librarians have a key role to play, there has been some reservation, even regret, about that role. Whereas Becker (2016) portrays the fight against fake news as the librarian’s longstanding information war, Lowrie and Truslow

(2017), in response to backlash to their fake news research guide (Harvard Library, 2017), write that “academic librarians don’t tend to get into this profession to be on the frontlines of an information war” (p. 12). More generally, Dempsey (2017) suggests that librarians have potential to fight fake news but are not already at the forefront, and Johnson (2017) claims that even if they have been, they failed.

The goal of such naysaying is not to discourage librarians from marshaling against misinformation, but rather to make sure they are fully equipped to do so. Absent an understanding of our all-too-human vulnerability to misinformation, librarians risk characterizing the problem as somehow outside of themselves. At the end of his lament for the death of all that librarians have stood for, Johnson (2017) claims, “[I]f the world ever gets tired of ignorant shouting matches, it will remember us” (p. 15). Other discussions focus on the problem as it relates only to others—students (Auberry, 2018; Burkhardt, 2017), “audiences” (Cooke, 2017), the public (Finley et al., 2017), “even educated people” (Cheby, 2018), or others without the skills that supposedly inoculate librarians against fake news.

A related problem concerns the extent to which librarians, overconfident in their opposition to fake news, present unrealistic views of their work. Some represent libraries as having fully authenticated collections, as if there were no place for partisan or pseudoscientific content (Sosulski & Tyckoson, 2018), or librarians as personally vetting every piece of information (Johnson, 2017). (See Roberts [2019] on the “fine line” on which libraries walk regarding vaccine misinformation.) In reality, librarians are forced to outsource much of the information control that goes into collection building. In a rare but appreciated admission, Rose-Wiles (2018), after discussing how she tries to direct students to authenticated sources, confesses, “I have never sat down and evaluated the content provided by Credo Reference, Gale, and the like for accuracy and inclusiveness” (p. 202). Further, Anderson (2017) argues correctly that falsehoods in the library “are not only there by accident, or because we have failed to detect and exclude them; if we are doing our jobs, they will also be there by design” (p. 7).

Not only do librarians believe they can fight fake news, but they also believe they know how: with some form of the literacy they have traditionally and tirelessly promoted. If librarians “are the fake news nemesis,” then “education is the fundamental antidote” (Finley et al., 2017, p. 11). Some even argue that fake news could be spotted and stopped with even

“basic evaluation skills” (Cooke, 2017, p. 217) or “a handful of simple practices” (Burkhardt, 2017, p. 27). Faith in information literacy is unshaken, even if some seek to expand its scope to be more psychology based (Lenker, 2016), to focus on visuals (Ireland, 2018), or to include the more abstract goals of metaliteracy (Cooke, 2017; Mackey & Jacobson, 2016; Rose-Wiles, 2018), critical thinking (Batchelor, 2017; Eva & Shea, 2018), or a grab bag of critical literacies (Cooke, 2018).

Given that the problem of fake news is thought to arise from a distrust in or deficient understanding of traditional media, it is not surprising to see authors calling for greater media or news literacy (Cheby, 2018; Jacobson, 2017; Jeffries et al., 2017; Neely-Sardon & Tignor, 2018), perhaps combined with information literacy (Alvarez, 2016; Auberry, 2018; Banks, 2016; Burkhardt, 2017; Farkas, 2018; Finley et al., 2017; Ireland, 2018). This important development is already leading to new collaborations (e.g., Saunders et al., 2018). Although the need for this relationship now seems obvious, this perspective may not be widespread. Writing of their experience at conference in early 2017, Lowrie and Truslow (2017) “heard repeatedly from the journalists, both formally and informally, that they had never considered librarians as potential partners in addressing this issue” (p. 6).

Where librarians are confident in their opposition to fake news but vague about the precise nature of the problem, solutions lack specificity. Whatever the problem is, information literacy is the answer. Others are more specific about the goals of this literacy or the skills it should cultivate. In some cases, the goal is basic awareness of the nature of fake news, in hopes that this will guard against its influence (Berry, 2016; Burkhardt, 2017; Cooke, 2017). Another goal is the generic ability to evaluate information or sources (Batchelor, 2017; Farkas, 2018; Ireland, 2018). Some set the unrealistic standard of checking and questioning everything we encounter (Alvarez, 2016; Cooke, 2017; Mackey & Jacobson, 2016).

Most of the specific skills promoted for fighting fake news concern the critical evaluation of information and its sources. For instance, Baer (2018) writes of examining evidence, assessing validity, and identifying expertise. Others discuss distinguishing ads, opinions, and reported news (Jacobson, 2017), or facts and conspiracies (Alvarez, 2016). Another important skill is the ability to recognize bias, whether in a source or within oneself (Baer, 2018; Burkhardt, 2017; Cheby, 2018; Gibson & Jacobson, 2018; Jacobson, 2017). As noted, there is sometimes a tendency here to oversimplify and dichotomize the information landscape, characterizing it as either true or false, verified or biased, and so on.

Other goals of critical information consumption are less skills than dispositions. These include adopting a critical stance toward information (Becker, 2016; Cooke, 2017; Rose-Wiles, 2018), reading and questioning sources before sharing (Burkhardt, 2017; Jeffries et al., 2017), and being open to new perspectives (Baer, 2018; Becker, 2016). To these Farkas (2018) adds the ability to “spend” one’s trust strategically. This is an underdiscussed aspect to literacy, as no one has either the ability or the capacity to assess all the information encountered on a daily basis. She adds, “The solution is not just helping people develop simple, common-sense web evaluation habits. It’s also helping them determine what they are going to trust” (p. 78). This is a far more realistic approach than claiming that people “should be constantly questioning the information being presented to them, even if it is presented by a source they think they trust” (Cooke, 2017, p. 216) or that uses “need to be taught to evaluate, sort, and effectively use the overabundance of information available online” (Cooke, 2018, p. 44).

The move from skills to dispositions reflects the general shift in librarianship from literacy standards to frameworks. Several authors thus look to the ACRL Framework for Information Literacy in the context of fake news (Becker, 2016; Lowrie & Truslow, 2017; Musgrove et al., 2018; Neely-Sardon & Tignor, 2018). As Baer (2018) notes, most commentators use the “Authority Is Constructed and Contextual” frame, which she argues provides a rich conceptual understanding that can help users appreciate the contextual nature of information and challenge post-truth rhetoric. One possible benefit could be the challenge to “the false dichotomy of good/bad and credible/noncredible sources” (p. 73). In an important counterpoint, Bluemle (2018) argues that the frame’s internal contradictions and view of authority do not prepare us adequately for a post-facts world.

Before considering how to develop the skills or dispositions necessary for fighting fake news, it is worth noting the dark side of one particular disposition: skepticism. Adopting a skeptical stance toward information is thought to be necessary for rejecting fake news or assessing content (Baer, 2018; Burkhardt, 2017; El Rayess et al., 2018; Gibson & Jacobson, 2018; Jacobson, 2017). How, then, to encourage such healthy or “informed skepticism” (Baer, 2018; Bluemle, 2018) while avoiding the self-serving skepticism (Batchelor, 2017), or skepticism as an end in itself (Becker, 2016), thought to be part of the problem? Jeffries et al. (2017) have already encountered this problem in a fake news–inspired course, after which one participant claimed that “he no longer trusted anything he saw online” (p. 545). Worse still, Van Duyn and Collier (2019) recently found that exposure to fake news discourse by

political elites "leads to lower levels of trust in media and less accurate identification of real news" (p. 29).

For many librarians, then, the solution to the problem of fake news is clear: some form of critical information literacy. When it comes to discussing specifics of how to implement this literacy, however, there is less clarity. Some write generally of a type critical thinking that must, by definition, eradicate disinformation, insofar as the former is defined as the antithesis of the latter. It is as if, in response to a flooding basement, the solution offered is not a sump pump but dryness. What this means for the fight against fake news remains unclear.

Others imagine a complex, scaffolded program that spans one's entire educational career, building up an incremental set of skills (e.g., Burkhardt, 2017). Others still paint a picture that is vast but vague, as when Gibson and Jacobson (2018) write of "critically reflective learners," "transformative learning," and "communities of inquiry." As ideal as this would be, it is doubtful that many librarians can implement the type of program they imagine. There is little to help librarians in their day-to-day efforts or to answer Auberry's (2018) urgent question, "If evaluation is the solution ... what form should that practice take?" (p. 5).

Perhaps the simplest form on offer is the research guide, which started appearing soon after the 2016 election. As Lowrie and Truslow (2017) tell it, the revelations about fake news that followed the election "were especially painful for librarians," prompting them to produce something "that could help students distinguish between 'real' and 'fake' news stories" (pp. 4–5). One of the reasons for the popularity of their guide may be their "5 Ways to Spot and Stop Fake News" visual. To date, the most popular visual is the International Federation of Library Associations and Institutions' (IFLA, 2017) "How to Spot Fake News." (On the important role such visuals can play, see Ireland [2018].)

An equally familiar form of library instruction is the one-shot session or class. Librarians have addressed fake news or incorporated news literacy into existing library-orientation courses (Jeffries et al., 2017; Pun, 2017), offered optional workshops for students (Neely-Sardon & Tignor, 2018; Rush, 2018; Wade & Hornick, 2018), developed course modules (Auberry, 2018), and more (e.g., Agosto, 2018; Branstiter et al., 2018; Rush, 2018). Although some faculty have reached out to librarians to help address concerns about news literacy (e.g., Wade & Hornick, 2018), others remain "unaware of the connection between news literacy and information literacy, and that librarians could tailor instruction sessions around fake news" (Neely-Sardon & Tignor, 2018, p. 6).

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At the center of many of these approaches, whether online or in class, is the checklist. As noted, the most popular visual is the IFLA guide, which is recommended by many (Auberry, 2018; Eva & Shea, 2018; Finley et al., 2017; Ireland, 2018) and has even been used for instruction (Jeffries et al., 2017; Neely-Sardon & Tignor, 2018). This visual contains eight steps one can take to spot fake news. Other, non-visual checklists that have been recommended for evaluating information include the CRAAP test and RADAR framework (Auberry, 2018; Batchelor, 2017; Johnson, 2018; Neely-Sardon & Tignor, 2018). Even when not recommending a given list, writers frequently list the specific skills they believe are necessary to become “unspun” (Cooke, 2017). Ireland (2018) has promoted other acronyms for assessing information (e.g., ESC Key).

There are numerous objections to such list-based approaches. At the practical level, to the extent that such lists include outdated recommendations that overlook important features of contemporary fake news, they could end up perpetuating the problems they seek to address (Sullivan, 2018). In one startling example, Farkas (2018) shows how the most superficially credible source on the Deferred Action for Childhood Arrivals (DACA) program is from a group that the Southern Poverty Law Center characterizes as a hate group. Even if checklists are typically useful for catching the most egregious examples of fake news (Boden, 2017), they are criticized for their mechanistic approach to evaluation (Gibson & Jacobson, 2018) and their apparent lack of success (Auberry, 2018; Lor, 2018).

Whatever their shortcomings may be, checklists are not likely to go away any time soon. Few librarians are able to implement incremental instruction among students, much less the public at large. It is thus essential to note that both the shortcomings and successes of checklists or other approaches remain theoretical, as there has been little empirical testing of their effectiveness—and none in the context of fake news. This is unfortunate, given the robust misinformation research program in other fields (see Sullivan, 2018). How librarians might contribute to this broader research program is addressed below.

So What’s the Problem with the Plan?

Before looking ahead to a possible LIS misinformation research program, it is worth airing some additional healthy skepticism about some of the solutions currently on offer. Much of this skepticism is rooted in the empirical literature on misinformation, corrections, and debiasing (see Sullivan, 2018). For instance, one aim of critical literacy is to get students to slow down and scrutinize information before absorbing it into their knowledge base

(Jeffries et al., 2017), or for people to take charge of what information they allow into their minds (Cooke, 2017). This goal is complicated by evidence suggesting that to comprehend a statement, we must encode it as true. As Wilson, Centerbar, and Brekke (2002) put it, “There is no such thing as a mental holding pattern” (p. 194).

Moreover, the belief that knowing how something works affords mental protection against it runs afoul of a body of work on biases and critical thinking. As Trout (2009) writes, “Biases are systematic, and the errors they produce are more like perceptual illusions than factual blunders. Knowing that it happens, or how it works, still doesn’t make it go away” (p. 115). In other words, forewarned is not forearmed (Kenyon & Beaulac, 2014). While it is certainly a step in the right direction for LIS authors to address underlying biases and even look to the important debiasing literature (Boden, 2017), it does not appear that these authors have fully reckoned with the implications of that literature. In fact, Trout (2009) refers to the belief that one can learn to eliminate one’s biases through sheer will as a “self-flattering belief” (p. 115), not supported by the relevant literature (see Kenyon & Beaulac, 2014). (See also the literature on “bias blind spots.”)

Another bedrock LIS assumption about information literacy is that the critical thinking that it engenders can be generalized or transferred from one context to another. In other words, it is assumed to be a skill, like riding a bike, that can be learned and extended (Willingham, 2008). Unfortunately, “relatively little research demonstrates that critical-thinking skills generalize beyond the tasks on which they are taught ... Indeed, critical thinking is often exasperatingly domain-specific” (Lilienfeld, Ammirati, & Landfield, 2009, p. 391). There has been some discussion of the limitations of critical thinking in this context (e.g., Mathiesen, 2018), but the limits may be greater still.

Turning away from the doubts raised by external research, an additional problem facing LIS writing on fake news is a disconnect between problems and solutions. At one level, the complexity of the problem can lead to solutions that do not address the issue at hand. For instance, Burkhardt (2017) recommends leaving one’s filter bubble and finding a “middle ground” between Fox and CNN. While this may be helpful for part of the problem (e.g., affective polarization), it does not help us “avoid fake news” since these sites were not the source of the fake news discussed. At another level, solutions miss the problem entirely. Thus, reading an article before sharing it is not a solution when the problem is not a misleading headline, but a misappropriated photo in an entirely false story, as with Burkhardt’s example of U.S. soldiers forced to attend a prayer service.

Perhaps the greatest disconnect occurs when the solutions offered are precluded by the nature of the problem to be solved. If part of the problem is the inability of people to determine the credibility of a source, or the erosion of trust in expertise, then the solution cannot be asking people to find respected sources (Farkas, 2018) or determine the reputation of a source (Cooke, 2017). Similarly, the ACRL Framework's "Authority Is Constructed and Contextual" frame may be less helpful than supposed if the view of authority on which it is built is precisely that which is under assault, as Bluemle (2018) argues.

So What's the Research Plan?

Librarians have had much to say about the role they can play in the fight against fake news, but little has been said about where libraries fit into a larger, interdisciplinary research agenda. They have contributed indirectly to this agenda "by generating a list of the skills required to be a critical consumer of information," but they have not begun "to map them onto specific suggestions for developing supports and future research" (Marsh & Yang 2017, p. 402). There are testable claims within the LIS publications, but these are often presented as statements rather than questions, as when Batchelor (2017) claims that "all methods of promoting critical thinking skills and awareness of fake news have the potential to make an impact" (p. 145). Do LIS methods in fact have an impact? Do different methods have different impacts? How should we measure "impact"? Even when some have sought to measure the impact of fake news, they have demonstrated a need that information literacy is believed to be able to meet, rather than the actual impact of literacy in meeting that need (e.g., El Rayess et al., 2018).

If librarians and allied information professionals are uniquely positioned to teach information and media literacy (Alvarez, 2016), then they are also uniquely positioned to meet one of the most immediate needs of the wider research community: "expand[ing] the study of social and cognitive interventions that minimize the effects of misinformation" (Lazer et al. 2017, p. 3). That community is aware of the limitations to fact checking and corrections, but there are few alternatives. If librarians are confident they know what works and how to teach it, then there is an urgent need to demonstrate that success—and thus the value of libraries for democracy (Jaeger et al., 2013). It is known that corrections are more effective when coming from a co-partisan or someone trusted, but it is unknown whether public trust in libraries functions in the same way. If it does, can this trust in library

institutions be leveraged readily to combat misinformation? Sullivan (2019) recently found that this was not the case for correcting influenza vaccine misperceptions on social media, but there are many more ways in which library trust might be leveraged, and researchers and practitioners need to explore these creatively.

Other questions surrounding information literacy or training include whether improvements persist over time or transfer domains, which, as noted, has not been found for critical thinking in general (e.g., Lilienfeld et al., 2009); whether a greater awareness of the problem, such as the prevalence of bots, leads to healthy skepticism or cynicism; and whether training efforts can “backfire,” insofar as they do not improve the ability of individuals to assess information, but leave them feeling more confident in their biased judgments—as has been found in another context (Hansen, Gerbasi, Todorov, Kruse, & Pronin, 2014).

LIS professionals can also contribute to some of the “action items” identified at an early conference on combating fake news (Lazer et al., 2017). For instance, participants called for stronger collaborations between researchers and members of the media, and the creation of a platform for providing journalists with crowdsourced data on emerging news. One group doing this at a global level is First Draft News, and there may be ways for librarians to contribute to such a platform—if not on the breaking news side, then in terms of providing curated, contextualized information sources for others. Librarians and archivists can also support efforts to archive and preserve fake news sites for researchers (Commisso, 2017). (For other ways to partner with journalists, see Saunders et al. [2018].)

Along with empirical and practical work, there are several bodies of theory from which librarians can benefit and to which they might add. Among those already mentioned (and examples of LIS authors moving or looking in these directions) are the varying epistemic demands made of citizens in different theories of democracy (Buschman, 2018); the role that trust plays in source evaluation and judgment; and the role of motivated reasoning in general (Lenker, 2016). Other topics include debiasing (Boden, 2017) and the social and distributed nature of our knowing (Lor, 2018).

Perhaps the most important short-term need is a greater awareness of the findings of the heuristics and biases literature to understand when we rely on mental shortcuts, why they are necessary, and in what ways they work (or not) in our everyday decision making. Due to the abundance of information online, “our receptivity to information and misinformation depends less than we might expect on rational evaluation and more on ... heuristics and

social processes” (Lazer et al., 2017, p. 6). Far from the traditional model of humans as optimally rational, research has long shown that we are boundedly rational, “where the bounds of our rationality are drawn by cognitive heuristics that, under certain specifiable conditions, result in biases in our decision making” (Kelly, 2012, p. 7). While relying on such shortcuts can certainly get us into trouble, it is important to note that “in many cases, it is the most efficient form of behaving” (Cialdini, 2009, p. 7). The pace of modern life and the amount of information encountered daily is too great to allow “a thorough analysis of all of the information” (p. 8), and we regularly—and reliably—turn to heuristics such as deferring to expertise. (For a recent application in the information literacy context, see Jonson and Ewbank [2018].)

Fortunately, there have been numerous calls for the LIS community to draw more deeply on this and other related psychology research. In the context of fake news and misinformation, these include calls to address the roles that biases, prior beliefs, emotions, and social factors play in processing information and decision making (Baer, 2018; Bluemle, 2018; Boden, 2017; Lor, 2018), as well as the ways in which we process conflicting information (Becker, 2016). Ireland’s (2018) emphasis on visual or meme-based tutorials also anticipates a major change in the misinformation landscape, as seen in the French and UK elections, where visuals were more widely shared and more difficult to debunk than the type of fake news sites seen in the U.S. election (Wardle & Derakshan, 2017).

But What Can Be Done Now?

As argued here and elsewhere (Sullivan, 2018, 2019), LIS researchers and practitioners need to draw on and contribute to a larger body of research pertaining to misinformation, biases, and critical thinking. In the shorter term, however, there are a number of practical steps that can be taken and questions to be answered.

Librarians and other educators should revise their research guides, checklists, and other tools in two ways. First, remove those outdated recommendations that no longer reflect the misinformation landscape. These include evaluating websites based on superficial qualities or expecting users to be able to accurately assess the credibility of a site by digging “deeper” into the *About* pages or verifying the content of a site independently, which almost always requires context or some domain knowledge. A better approach might be teaching users how to read “laterally” (see Wineburg et al., 2016). Instructional tools should also be updated with resources about image and video verification (e.g., Anderson, 2018; Thompson, 2018).

For this, an excellent place to start is with the resources created by First Draft News, or the “Trust and Verification in the Age of Misinformation” course offered by the Knight Center for Journalism in the Americas (<https://journalismcourses.org/TV0312.html>).

On the research front, there are several questions requiring immediate attention. What skills are required to navigate our misinformation landscape successfully? Can librarians successfully teach those skills? If so, are checklist-based approaches effective, or is more in-depth training required? How much training? Does the effect of the training persist over time, or extend into related but novel contexts? For instance, what impact does library-oriented information literacy training have on users when they leave the library and encounter information in their everyday lives?

Underlying all of these questions is the assumption that success or the effect of training can be measured. Here it becomes essential to align an understanding of the nature of the problem with the solutions thought to address that problem. Is the problem really the inability to identify blatantly false news stories in a newsfeed? Or is it somehow more sinister, such as the degree to which hyper-partisan content—of which fake news is only a part—is contributing to affective polarization and undermining trust in traditional gatekeepers, such as journalists and other “experts”? In view of the latter, it becomes urgent to ask how the high degree of public trust in libraries might be leveraged to combat misinformation in general, not just within library walls. (For one recent attempt to test this in the context of social media, see Sullivan [2019].)

Conclusion

Over the past several years, the LIS community has responded vigorously to the challenges of fake news and our supposedly post-truth era. Librarians and allied information professionals, characterizing the challenge as their longstanding information war (Becker, 2016) and locating themselves on the front lines (Neely-Sardon & Tignor, 2018; Wade & Hornick, 2018), have indeed “step[ped] up to the plate” (Jacobson, 2017, p. 24). A review of this response reveals that they have characterized the problem of fake news and misinformation in various ways—as a problem *ipso facto*, as a symptom of some deeper problem, or as the source of other, intractable concerns. In most cases, the solutions on offer have been drawn from the traditional store of information literacy tools, although the perceived crisis has led many to update those tools, and others to look to media and news literacy for support.

Looking ahead to the 2020 election, during which many of these concerns will doubtless resurface, it is essential to consider what else remains to be done, and how else the LIS community can “step up.” Along with offering a dose of “healthy skepticism” about the LIS response to fake news, this article has offered some suggestions for where to go from here. The larger research community that has responded to fake news has started to look to LIS work in information literacy as part of a multipronged approach (e.g., Lewandowsky, Ecker, & Cook, 2017). If librarians indeed have an important role to play in this project, then it is time to show that community what we’ve got.

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