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IS 213: Current Issues in Librarianship
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March 27, 2020

Misinformation & Disinformation: A Review of the Literature

Abstract

Since the end of 2016, the study of misinformation, disinformation, and how it spreads, has exploded in popularity as a subject for scholarly studies as well as journalistic inquiry. This literature review attempts to define key terms in this area, and examines the differences between political and journalistic misinformation, and scientific and health-related misinformation.

I. Introduction

The study of misinformation, disinformation, and the spread of "fake" or "false" news stories is a nascent area of scholarship, having exploded in popularity in the wake of the stunning upset in the 2016 United States Presidential election, in which Donald Trump won the presidency. In the months prior to November 2016, an amalgam of false stories from disreputable outlets spread online. The largest of these was a story, from the website "ETF News," that circulated in September of that year: "Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement." The article was shared or liked 960,000 times on Facebook between when it was released and Election Day--more times than any one article from a reputable news source.[1] What makes this kind of false story so compelling to so many--and why does it prove to be more tenacious and nefarious than we may have ever expected?

Despite the fact that studying misinformation and disinformation has become increasingly widespread since 2016, it behooves us to recognize a few things: first, that misinformation has existed in some form since the advent of the written word; and second, a rich tradition of academic work on propaganda and its spread exists and enriches the current work being done on misinformation and disinformation. To contextualize the current moment, I will offer two historical examples of misinformation, of the two kinds that I will be focusing on in this literature review: political-journalistic, and scientific-medical.[2] The first example is commonly thought to be one of the first examples of fake/ false news: the so-called "Great Moon Hoax." In the summer of 1835, the New York City newspaper *The*

[1] Cailin O'Connor and James Owen Weatherall, The Misinformation Age: How False Beliefs Spread (New Haven, CT: Yale University Press, 2019), 3.
[2] Of course, there is some overlap between these two categories--often, news outlets are the ones who disseminate scientific findings to the wider public.

Sun reported the discovery of life on the moon. This was not a one-time story, however-- the editor drew out descriptions of life found on the moon, ensuring that readers would continue buying his papers for the entirety of the story's six-issue run.[3] By all accounts, a significant proportion of New Yorkers believed what they read. O'Connor and Weatherall open their 2019 monograph *The Misinformation Age* with another salient example: the elusive Vegetable Lamb of Tartary, a nonexistent plant-animal hybrid described by several medieval naturalists and scholars. The legend of the Vegetable Lamb persisted for four hundred years-- it was not until 1683, when a Swedish naturalist performed an in-depth hunt for the organism, ultimately concluding that it existed nowhere.[4]

Although it may be tempting to point to technological developments, such as the prevalence of social media, as the instigating factor in the rapid spread of misinformation in the modern day, it remains important to recognize that misinformation in and of itself is not a new development.

II. Some definitions

In this section, I will be defining several contentious key terms: *misinformation*, *disinformation*, *propaganda*, and *fake news*. Freelon and Wells, in their introduction to a special issue of *Political Communication* devoted to the politics of disinformation, suggest that these related terms are "*the* defining political communication topic of our time."[5]

Habermas, who viewed truth as only possible as a result of consensus, differentiated between misinformation and disinformation by virtue of the creator's intention.[6] This distinction between the two terms is generally accepted among scholars; Benkler, Faris and Roberts define misinformation as "communication of false information without intent to deceive, manipulate, or otherwise obtain an outcome,"[7] and disinformation as "dissemination of explicitly false or misleading information" on purpose.[8] Despite the popularity of this differentiation, scholars disagree somewhat on the productivity of discerning the creator or disseminator's intent. Southwell et. al use *misinformation* to indicate both kinds of problematic information, as false information with no malicious intent behind it can still cause harm.[9]

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[3] Sharon McQueen, "From Yellow Journalism to Tabloids to Clickbait: The Origins of Fake News in the United States," in *Information Literacy and Libraries in the Age of Fake News*, ed. Denise E. Agosto (Santa Barbara, CA: ABC-CLIO, 2018), 13.
[4] *Ibid.,* 2.
[5] Deen Freelon and Chris Wells, "Disinformation as Political Communication," *Political Communication* 0, no. 0 (February 14, 2020): 1–12, https://doi.org/10.1080/10584609.2020.1723755.
[6] Brian G Southwell, Emily A Thorson, and Laura Sheble, "The Persistence and Peril of Misinformation," *American Scientist* 105 (2017): 4.
[7] Yochai Benkler, Robert Faris, and Hal Roberts, *Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics* (Oxford, UK: Oxford University Press, 2018), 37.
[8] *Ibid.,* 33.
[9] Brian G Southwell, Emily A Thorson, and Laura Sheble, eds., *Misinformation and Mass Audiences* (Austin, Texas: University of Texas Press, 2018), 4.

Don Fallis, on the other hand, argues that disinformation "is likely to be especially dangerous" *because* this malicious intent on the behalf of the creator motivates manipulation in a particular way.[10]

Benkler et. al frame misinformation and disinformation through the lens of propaganda, which, "as a field was an application of the modernist commitment to expertise and scientific management, applied to the problem of managing a mass population in the time of crisis" (25). The authors trace the use of the term from purely political to a term used for referring to manipulation of technologically-driven consumerist masses, through to the mid-late twentieth century advertising boom, ultimately arguing that the term is best utilized in the context of public opinion in the political sphere. The authors suggest that the study of propaganda must necessarily be scaled up in today's world. They call this "network propaganda." In their words, the effects of propaganda "...come not from a single story or source but from the fact that a wide range of outlets, some controlled by the propagandist, most not, repeat various versions of the propagandist's communications, adding credibility and improving recall of the false, misleading, or otherwise manipulative narrative in the target population, and disseminating that narrative more widely in that population."[11] Misinformation is thus one tool at the propagandists' fingertips, although the wide-ranging effects of manipulation through misinformation are sometimes difficult to track through the network.

Finally, perhaps the most controversial term of the bunch: fake news. This term references falsified or untrue stories from news media outlets or websites masquerading as such. Freelon and Wells eschew the term, arguing that "...its use by Trump and his followers to delegitimize unfavorable news coverage has stripped it of any analytical value it may have once held."[12] Allcott and Gentzkow examine in-depth the spread of fake news on social media during the 2016 election cycle. They focus on social media because it differs so starkly from other media technologies, like television and newspapers: "Content can be relayed among users with no significant third party filtering, fact checking, or editorial judgement."[13] The authors show that fake news spread easily within the U.S. media market because it was cheaper to produce and disseminate than true news from reputable sources; second, that social media led more readers to fake news sites than mainstream news outlets, and third, that fake news was widely and heavily shared in favor of Donald Trump,[14] but that it likely did not contribute significantly to his

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[10] Don Fallis, "Epistemic Values and Disinformation," in *Virtue Epistemology Naturalized: Bridges Between Virtue Epistemology and Philosophy of Science*, ed. Abrol Fairweather, Synthese Library (Cham: Springer International Publishing, 2014), 159–79, https://doi.org/10.1007/978-3-319-04672-3_10, 159.
[11] Benkler, Faris, and Roberts, *Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics*, 33.
[12] Freelon and Wells, "Disinformation as Political Communication," 2.
[13] Hunt Allcott and Matthew Gentzkow, "Social Media and Fake News in the 2016 Election," Journal of Economic Perspectives 31, no. 2 (May 2017): 211–36, https://doi.org/10.1257/jep.31.2.211, 211.
[14] *Ibid.,* 213.

victory.[15] Other studies have examined fake news from a cognitive science standpoint,[16] asking which psychological factors result in a propensity to believe in false stories;[17] and what the motivating factors are for creators and purveyors of fake news.[18]

The terms described above are often referred to together, using umbrella terms like "problematic information,"[19] "media manipulation,"[20] or simply "misinformation."[21] I will refer to them using the final term in this list.

III. Political & journalistic misinformation

Although the study of misinformation is itself nascent, several scholars have pointed to the need to contextualize misinformation within wider media ecosystems and networked media publics. Trust in news media, particularly among conservatives, has been steadily declining since the 1970s,[22] hitting an all-time low of 32% in 2016.[23]

Marwick and Lewis, in their seminal report on media manipulation and disinformation, look at how far-right groups operationalize aspects of online culture to manipulate and spread falsehoods. In the leadup to the 2016 election, these groups organized and successfully spread pro-Trump messages all over the Internet.[24] The structure and functionality of news media in American society was key to their success. Features of the media ecosystem that left it vulnerable to manipulation by the far-right included, in the authors' words: "low public trust in media, a proclivity for sensationalism; lack of resources for fact-checking and investigative reporting; and corporate consolidation resulting in the replacement of

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[15] *Ibid.,* 232.
[16] Elizabeth J. Marsh and Brenda W. Yang, "Believing Things That Are Not True: A Cognitive Science Perspective on Misinformation," in *Misinformation and Mass Audiences*, ed. Brian G Southwell, Emily A Thorson, and Laura Sheble (Austin, Texas: University of Texas Press, 2018).
[17] Daniel Halpern et al., "From Belief in Conspiracy Theories to Trust in Others: Which Factors Influence Exposure, Believing and Sharing Fake News," in *Social Computing and Social Media. Design, Human Behavior and Analytics*, ed. Gabriele Meiselwitz, Lecture Notes in Computer Science (Cham: Springer International Publishing, 2019), 217–32, https://doi.org/10.1007/978-3-030-21902-4_16.
[18] Alice Marwick and Rebecca Lewis, "Media Manipulation and Disinformation Online" (Data & Society Research Institute, May 15, 2017), https://datasociety.net/output/media-manipulation-and-disinfo-online/, 27.
[19] Fabio Giglietto et al., "'Fake News' Is the Invention of a Liar: How False Information Circulates within the Hybrid News System," Current Sociology 67, no. 4 (July 1, 2019): 625–42, https://doi.org/10.1177/0011392119837536.
[20] Marwick and Lewis, "Media Manipulation and Disinformation Online."
[21] Emily K. Vraga and Leticia Bode, "Defining Misinformation and Understanding Its Bounded Nature: Using Expertise and Evidence for Describing Misinformation," *Political Communication* 37, no. 1 (January 2, 2020): 136–44, https://doi.org/10.1080/10584609.2020.1716500.
[22] Jonathan M. Ladd, *Why Americans Hate the News Media and How It Matters* (Princeton University Press, 2012).
[23] Art Swift, "Americans' Trust in Mass Media Sinks to New Low," September 14, 2016, https://news.gallup.com/poll/195542/americans-trust-mass-media-sinks-new-low.aspx.
[24] Marwick and Lewis, "Media Manipulation and Disinformation Online," 2.

local publications with hegemonic media brands."[25] Benkler et. al discuss how the right wing media ecosystem in particular influenced and set up the context(s) for misinformation to flourish. They posit that this particular media ecosystem was the most influential factor in declining trust in media as a whole,[26] and that it, in their words, "...represents a radicalization of roughly a third of the American media system."[27] Such radicalization is propelled forward by far-right media outlets like Brietbart and Infowars, who do not follow, nor do they claim to follow, any journalistic ethical norms (pursuit of truth, lauding of evidence, etc.). Although far-left websites exist, they tend to keep much more closely to such journalistic imperatives as objectivity and truth-seeking. The asymmetrical nature of this phenomenon makes it particularly difficult to come up with bipartisan policy solutions to the spread of misinformation. In fact, Benklert et. al go as far as to say that "...ignoring the stark partisan asymmetry at the root of our present epistemic crisis will make it impossible to develop solutions that address the actual causes of that crisis."[28]

Reputable news organizations have themselves had to adapt to new revenue models in the current digital landscape, some of which have had wide-ranging effects on perception and misperception of truth. Social media as an information environment lends itself to virality and sensationalism. Marwick and Lewis call this an "attention economy," in which content that causes the largest splash or attracts the most attention is usually the most successful.[29] As a result, media outlets can no longer bundle their stories as they were once able to in subscription-based models. Instead, they must try to attract as much attention as possible--a phenomenon that Kevin Munger calls "Clickbait Media."[30] The pressure is growing on news media outlets to garner clicks, shares, and likes, as a way to produce revenue and keep their operations afloat. At the same time, newspapers have been cutting costs and downsizing since the 1990s, resulting in more and more pressure being put on individual reporters.[31] News outlets are slowly losing their credibility in a number of ways: *native advertising* can be taken as an indication of this. When it works, readers are unaware that it is there, and it can bring in significant revenue. When it does not, and readers are made aware of its existence, they tend to lose faith in the organization.[32] Overall, the context of the social media landscape "incentiviz[es] low-quality but high-performing posts over high-quality

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[25] *Ibid.,* 40.
[26] Benkler, Faris, and Roberts, Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics, 13.
[27] *Ibid.,* 14.
[28] *Ibid.,* 16.
[29] Marwick and Lewis, "Media Manipulation and Disinformation Online," 42.
[30] Kevin Munger, "All the News That's Fit to Click: The Economics of Clickbait Media," Political Communication 0, no. 0 (December 3, 2019): 1–22, https://doi.org/10.1080/10584609.2019.1687626.
[31] Marwick and Lewis, "Media Manipulation and Disinformation Online," 42.
[32] Freelon and Wells, "Disinformation as Political Communication," 3.

journalism...content that is novel, sensational, or emotional is catnip to reporters."[33] These factors create an environment that is ripe for all sorts of problematic information, political and otherwise. Interestingly, though, Munger claims that the journalistic days of yore when truth-telling ethics were held in the highest regard was itself the idiosyncrasy in the history of journalism--and that Clickbait Media is, in some sense, a return to normalcy.[34]

Misperceptions and false beliefs may in fact preclude democratic functionality:[35] The citizenry may form political opinions, and policy makers may pass legislation, according to false information. Even once false information is found and corrected, it may have already taken on a life of its own.[36] This is especially true with respect to ideological mental models: "...in the case of political misinformation, individuals may already have well-developed mental models based on their political party affiliations or ideological beliefs. Information consistent with those existing mental models may be readily accepted and difficult to correct."[37] Benkler et. al ultimately conclude, having conducted and reported a robust and detailed study, that the Internet and social media is not itself--alone--anti-democratic: "There is no echo chamber or filter-bubble effect that will inexorably take a society with a well-functioning public sphere and turn it into a shambles simply because the internet comes to town. The American online public sphere is in shambles because it was grafted onto a television and radio public sphere that was already broken."[38] Like Munger,[39] Benkler et. al argue that the spread of misinformation and its wide-ranging effects on democracy is not a *new* thing, it cannot be attributed entirely to the Internet and social media--it exists and is predicated on existing media ecosystems that have been decades in the making.

One of the most popular, and most talked-about, approaches to fixing the problem of misinformation spread is the tried-and-true journalistic tradition of fact-checking. Indeed, Marwick and Lewis cite fewer resources being allocated for fact-checking as one cause of the misinformation crisis.[40] Fact-checking as a response to misinformation puts the onus of correction on news and information organizations, rather than consumers of information. This makes a certain kind of sense, as expecting

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[33] Marwick and Lewis, "Media Manipulation and Disinformation Online," 43.
[34] Munger, "All the News That's Fit to Click."
[35] Shannon Poulsen and Dannagal G. Young, "A History of Fact Checking in U. S. Politics and Election Contexts.," in Misinformation and Mass Audiences, ed. Brian G Southwell, Emily A Thorson, and Laura Sheble (Austin, Texas: University of Texas Press, 2018).
[36] Melanie C. Green and John K. Donahue, "The Effects of False Information in News Stories," in Misinformation and Mass Audiences, ed. Brian G Southwell, Emily A Thorson, and Laura Sheble (Austin, Texas: University of Texas Press, 2018).
[37] Green and Donahue, "The Effects of False Information in News Stories," 115.
[38] Benkler, Faris, and Roberts, Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics, 386.
[39] Munger, "All the News That's Fit to Click."
[40] Marwick and Lewis, "Media Manipulation and Disinformation Online," 42.

users to independently evaluate each claim they see on social media is an enormous burden.[41] In response to the crisis, news outlets and social media platforms alike have allocated more resources to fact-checking, with news outlets like the Washington Post creating their own internal system of fact-checking,[42] while platforms like Facebook have rolled out several programs of internal *and* third-party fact-checking depending on locality.[43] The details of how fact-checking can be carried out are very important when it comes to misinformation, however: simply retracting false information can in fact result in readers doubling-down on their belief in it.[44] This has been termed the *continued influence effect.*[45] Nyhan and Reifler found that corrective information in news reports had no effect on the misperceptions of ideological subgroups, and in some cases strengthened these misperceptions.[46] Providing factual alternatives can be one effective approach;[47] ideally the alternative "...should have the same explanatory relevance as the misinformation it replaces, and it is important that it be plausible…"[48] However, it is difficult to make this happen effectively in the real world. Furthermore, news sources need to focus on building credibility, which seems to matter more these days than expertise. New outlets that consistently make claims that are based on evidence, and which foreground that evidence clearly and concisely, will build credibility.[49] Fact-checking organizations are expanding, with the possibility of real-time fact-checking--in which public figures would have to confront their claims head-on--on the horizon.[50] Importantly, however, Benkler et. al remind us that members of the ideological right often don't give much credence to fact checking organizations: "They are treated by the media outlets and users of the right-wing media ecosystem as systematically biased, and...are generally not visited, shared, linked

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[41] Briony Swire and Ullrich Ecker, "Misinformation and Its Correction: Cognitive Mechanisms and Recommendations for Mass Communication," in *Misinformation and Mass Audiences*, ed. Brian G Southwell, Emily A Thorson, and Laura Sheble (Austin, Texas: University of Texas Press, 2018), 206.
[42] Benkler, Faris, and Roberts, Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics, 376.
[43] "How Is Facebook Addressing False News through Third-Party Fact-Checkers?," Facebook Help Center, accessed March 26, 2020, https://www.facebook.com/help/1952307158131536.
[44] Andrea N. Eslick, Lisa K. Fazio, and Elizabeth J. Marsh, "Ironic Effects of Drawing Attention to Story Errors," Memory 19, no. 2 (February 1, 2011): 184–91, https://doi.org/10.1080/09658211.2010.543908.
[45] Stephan Lewandowsky et al., "Misinformation and Its Correction: Continued Influence and Successful Debiasing," *Psychological Science in the Public Interest* 13, no. 3 (December 1, 2012): 106–31, https://doi.org/10.1177/1529100612451018.
[46] Brendan Nyhan and Jason Reifler, "When Corrections Fail: The Persistence of Political Misperceptions," Political Behavior 32, no. 2 (June 1, 2010): 303–30, https://doi.org/10.1007/s11109-010-9112-2.
[47] Lewandowsky et al., "Misinformation and Its Correction."
[48] Swire and Ecker, "Misinformation and Its Correction: Cognitive Mechanisms and Recommendations for Mass Communication," 198.
[49] *Ibid.,* 203.
[50] Poulsen and Young, "A History of Fact Checking in U. S. Politics and Election Contexts," 245.

to, or believed by users on the right."[51] So, fact checking could have its advantages, but it is certainly not the only approach to misinformation.

IV. Scientific and Health-Related Misinformation

Scientific and health-related misinformation circulates somewhat similarly to political misinformation, but there are unique aspects to it as well. Scientific and health-related misinformation can stem from poor practices, mistakes, or fraud (as when data is falsified[52]). Even once deception is discovered and retractions are printed, media outlets may continue to cite the falsified reports.[53] Health-related misinformation is particularly insidious, as it can delay or prevent adequate treatment, and even promote spread of a dangerous disease[54]-- for example, the conspiracy theory that the COVID-19 pandemic is not real.[55] It can be easier to identify health or science misinformation via "expert consensus" (that is, whatever a large portion of experts agree to be factual is the closest approximation of truth) than with political misinformation, although things get more complex when public consensus does not agree with expert consensus, as in the case of climate change.[56] Indeed, this may be a problem of context--in Laura Sheble's words, "...science does not operate in a closed system. Though members of a research field may be the primary evaluators of accumulating evidence from studies within a research field, additional research and related efforts are required to translate findings into other contexts."[57] Kahan et. al discuss the disconnect between scientific consensus and public consensus in the case of climate change, arguing that *cultural cognition* plays a significant role in how people take in scientific information: "...cultural cognition strongly motivates individuals – of all worldviews – to recognize such information as sound in a selective pattern that reinforces their cultural predispositions. To overcome this effect, communicators must attend to the cultural meaning as well as the scientific content of information."[58]

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[51] Benkler, Faris, and Roberts, Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics, 377.
[52] Green and Donahue, "The Effects of False Information in News Stories," 113.
[53] *Ibid.*
[54] Yuxi Wang et al., "Systematic Literature Review on the Spread of Health-Related Misinformation on Social Media," *Social Science & Medicine* 240 (November 1, 2019): 112552, https://doi.org/10.1016/j.socscimed.2019.112552.
[55] Kiera Butler, "'A Fake Pandemic': Anti-Vaxxers Are Spreading Coronavirus Conspiracy Theories.," Mother Jones, sec. Politics, accessed March 26, 2020, https://www.motherjones.com/politics/2020/03/a-fake-pandemic-antivaxxers-are-spreading-coronavirus-conspiracy-theories/.
[56] Emily K. Vraga and Leticia Bode, "Defining Misinformation and Understanding Its Bounded Nature: Using Expertise and Evidence for Describing Misinformation," Political Communication 37, no. 1 (January 2, 2020): 136–44, https://doi.org/10.1080/10584609.2020.1716500.
[57] Laura Sheble, "Misinformation and Science: Emergence, Diffusion, and Persistence," in *Misinformation and Mass Audiences*, ed. Brian G Southwell (Austin, Texas: University of Texas Press, 2018), 162-63.
[58] Dan M. Kahan, Hank Jenkins-Smith, and Donald Braman, "Cultural Cognition of Scientific Consensus," *Journal of Risk Research* 14, no. 2 (February 1, 2011): 147–74, https://doi.org/10.1080/13669877.2010.511246.

That is, those who are attempting to disseminate accurate scientific information must take into account the contextual predispositions of those who will take the information in, rather than simply relying on overall accuracy or comprehensibility of evidence. Of course, this poses its own set of challenges.

Another relevant example of the insidiousness of health-related misinformation is the anti-vaccination movement. This movement is particularly dangerous as it poses a threat to the societal safeguard of herd immunity--if even a few children are not vaccinated, the herd immunity of the entire community is compromised. The anti-vaccination movement often cites a now-retracted article, published by *Lancet* in 1998 and written by Andrew Wakefield, which indicated that there was a causal relationship between the MMR vaccine and autism spectrum disorder.[59] The findings of this retracted paper have been disproven and disputed within the scientific community and in the court of law, but, in Samantha Kaplan's words, "...it is possible that these efforts have had a reverse effect and have been misconstrued as evidence that the government and the scientific community collude." [60] Kaplan argues that context is a meaningful aspect of the spread of this false information--comparing physical (libraries) and digital (the Internet in general) information environments, Kaplan concludes that, in both cases, *contextual information interventions* during the process of information seeking are the most useful solution. Rather than barring off access to anti-vaccination websites, for instance, she argues that providing a warning label of some kind is more productive.[61] Many suggestions for curbing science and health-related misinformation point to context as a critical factor, but what does this context-aware approach look like in practice?

Wang et. al's review of the literature on the spread of health-related misinformation on social media revealed that "only a handful of papers proposed specific and tested interventions to reduce misinformation spread."[62] The authors propose that attempts to curb misinformation be approached from both the information-production side and the information-consumption side. Since I have already briefly discussed information production in the previous section, I will be concentrating here on educating individuals to consume information critically. Librarians and other information professionals are indispensable for this project, they "...can play the role of information educators, helping to empower their users, not just to access information but to *understand which information to trust.*"[63] Critical Information Literacy (CIL) approaches the project of information literacy--which can be defined as an

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[59] Samantha Kaplan, "Encouraging Information Search to Counteract Misinformation," in *Misinformation and Mass Audiences* (Austin, Texas: University of Texas Press, 2018), 274–88.
[60] *Ibid.,* 277.
[61] *Ibid.,* 284-5.
[62] Wang et al., "Systematic Literature Review on the Spread of Health-Related Misinformation on Social Media," 8.
[63] Denise R. Agosto, ed., *Information Literacy and Libraries in the Age of Fake News* (Santa Barbara, CA: ABC-CLIO, 2018), 8.

educational framework whose goal is to teach patrons about information, how it is produced and valued within different contexts, and how information can be operationalized in knowledge production practices[64]-- anew. Somewhat difficult to define, CIL asks librarians to situate information literacy within disciplinary structures, but *especially* to teach patrons that information and knowledge are produced and disseminated within structures of power and authority.[65] Cooke suggests that cultural or prejudicial misinformation is particularly prone to spread, and highlights critical media literacy and cultural literacy (that is, cultural competence: the "...ability to understand and respect cultural differences and to address issues of disparity among diverse populations competently…"[66]) as ways to combat it. In Cooke's words, "Becoming multiliterate in a way that is especially effective in the online domain takes practice and diligence, and it begins with learning in the classroom and in libraries. The end goal is to produce critical thinkers and culturally competent users of the Internet."[67] Librarians and other information professionals must think about ways to teach patrons how to recognize the contextual situatedness of information they come across, and to think critically about their own informational environments and contexts.

V. Conclusion

This literature review has been a general overview of the topic of misinformation and disinformation, addressing the spread of misinformation online in terms of type: political-journalistic and scientific-health. This distinction is somewhat arbitrary, and it could have been addressed from a variety of other viewpoints. I did not have space in this iteration to deeply address any philosophical and cognitive-psychological analyses of misinformation, but some relevant work has been done in Information Studies by Don Fallis,[68] who analyzes misinformation epistemologically, and Thomas Froelich,[69] who approaches the problem from an information ethics standpoint. Future iterations of this

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[64] ACRL Board, "Framework for Information Literacy for Higher Education," Text, Association of College & Research Libraries (ACRL), February 9, 2015, http://www.ala.org/acrl/standards/ilframework.
[65] Annie Downey, *Critical Information Literacy: Foundations, Inspiration, and Ideas* (Sacramento, CA: Library Juice Press, 2016).
[66] Patricia Montiel Overall, "Cultural Competence: A Conceptual Framework for Library and Information Science Professionals," The Library Quarterly 79, no. 2 (April 1, 2009): 175–204, https://doi.org/10.1086/597080.
[67] Nicole A. Cooke, "Critical Literacy as an Approach to Combating Cultural Misinformation/ DIsinformation on the Internet," in *Information Literacy and Libraries in the Age of Fake News*, ed. Denise E. Agosto (Sacramento, CA: Library Juice Press, 2018), 36–51.
[68] Don Fallis, "Epistemic Values and Disinformation," in *Virtue Epistemology Naturalized: Bridges Between Virtue Epistemology and Philosophy of Science*, ed. Abrol Fairweather, Synthese Library (Cham: Springer International Publishing, 2014), 159–79, https://doi.org/10.1007/978-3-319-04672-3_10; Don Fallis, "What Is Disinformation?," *Library Trends* 63, no. 3 (2015): 401–26, https://doi.org/10.1353/lib.2015.0014.
[69] Thomas J Froehlich, "A Not-So-Brief Account of Current Information Ethics: The Ethics of Ignorance, Missing Information, Misinformation, Disinformation and Other Forms of Deception or Incompetence," *BiD*, n.d., 14.

project will include perspectives like these, as well as a deeper look at what truth, trust, expertise, and consensus truly mean in the context of the Internet.

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