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The Epistemic Crisis and Intellectual Freedom

Sarah Hartman-Caverly

Penn State Berks // Penn State University Libraries

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Abstract

In reaction to the epistemic crisis, efforts to restrict free expression and access to information have not only failed to preserve the truth, but sometimes also suppressed it. Libraries' commitment to intellectual freedom creates unique opportunities to deliver alternative solutions. By renewing the emphasis on intellectual freedom in core library functions like collections, education, and programming, libraries can provide the epistemic resources that patrons need amidst a broader context of distrust, manipulation, and censorship. This essay examines the epistemic crisis in the USA in light of intellectual freedom and the IFLA Statement on Libraries and Intellectual Freedom. Organized into three parts, this piece explores plurality as normative in the human condition, considers the impact of information and communications technology on free expression and the legitimacy of information institutions, and reconciles the emerging tensions by applying concepts from virtue epistemology to intellectual freedom. The essay concludes with considerations for library practice.

Keywords: intellectual freedom, epistemic crisis, legitimacy crisis, epistemic virtues, communication ethics, epistemic pluralism, truth pluralism, epistemic agency, epistemic community, collective epistemology, library collections, library programming, information literacy, media literacy, long tail, metaphysics

Introduction

This essay examines the epistemic crisis in the USA in light of intellectual freedom and the IFLA Statement on Libraries and Intellectual Freedom (IFLA/FAIFE, 1999). Organized into

three parts, this piece explores plurality as normative in the human condition, considers the impact of information and communications technology (ICT) on free expression and the legitimacy of information institutions, and reconciles the emerging tensions by applying concepts from virtue epistemology to the practice of intellectual freedom. The first section, “Long tail metaphysics,” reviews the web-culture phenomenon of the long tail as a metaphor for broader epistemic and truth pluralism, citing power law distributions from various natural and social phenomena. Contextualized by the IFLA Statement on Libraries and Intellectual Freedom, long tail metaphysics is presented as a metaphor for pluralism in the Information Age. The second section, “Networked ontologies and the epistemic crisis,” considers pathologies of long tail metaphysics that characterize the current information environment. These include the role of ICT in information disorder, the legitimacy crisis, and surveillance and speech suppression. This section critically interrogates the concept of the epistemic crisis and prevailing responses, which have exhibited significant failures in truth-promotion while restricting the freedoms of expression and access to information. The third section, “Intellectual freedom and epistemic virtues,” concludes with virtue epistemology considerations for library practice, including strategies for promoting epistemic agency and collective epistemology in our patron communities, and emphasizing intellectual freedom as relevant to contemporary challenges in the information environment. The metaphor of long tail metaphysics reconciles libraries’ commitment to intellectual freedom with their role as information institutions amidst a broad-spectrum epistemic crisis characterized by / 2 / information disorder. Consideration of long tail metaphysics reveals new opportunities for libraries in promoting epistemic virtues and cultivating individual epistemic agency, shared epistemic community, and collective epistemic well-being.

Long tail metaphysics

Anderson (2004) probably wasn't thinking of Ranganathan's *Five Laws of Library Science* when he first described the long tail, but his depiction of the emerging relevance of niche markets in e-commerce is reminiscent of Law Three: Every book its user (1931: 299; 2004). The long tail refers to a graph of a power law distribution, emphasizing the trailing length of data points representing idiosyncrasies and edge cases rather than the leading "short trunk" of common occurrences (Mossman, 2006; Sonderegger, 2005). What Anderson's long tail analysis revealed is that "there's latent demand for each piece of information you create" (Sonderegger, 2005: S6).

Similar power law distributions describe a variety of natural and social phenomena. Examples range from genetic properties, power system failures, and epidemics to languages spoken and word use within languages, population distribution and social networks, publications and citations, web server log activity and the structure of the World Wide Web (Andriani and McKelvey, 2007; Clingingsmith, 2017; Wichmann, 2005; Cohen and Small, 1998; Sonderegger, 2005). Such power laws describe not only human behaviors, but also the real-world conditions that shape them. This diversity of lived experience poses implications for individuals' sense of reality, or ontology, as well as their search for truth, or epistemology. For example, the long tail of population distribution at altitude means that, for a small minority of the world's population living a kilometer or more above sea level, water does *not* boil at 100 degrees Celsius, but at a slightly lower temperature due to decreased atmospheric pressure, with implications for food safety, cuisine, and cooking methods and equipment (Cohen and Small, 1998; Food Safety and Inspection Service, 2015). Even seemingly objective truths are subject to reconsideration from a long tail view. It does not always stand to reason that one or another party is "wrong" in a

dispute over truth (Reed, 2001: 511). Truth pluralism is the recognition that truth is not uniformly singular – that “truth is a long tail phenomenon” (Hartman-Caverly, 2019: 207; Pederson and Wright, 2018).

In the context of information behaviors, long tail distributions result from “freedom of choice combined with a large number of options” (Sonderegger, 2005: S6). The IFLA Statement on Libraries and Intellectual Freedom asserts that both the right to know and freedom of expression are “necessary conditions for freedom of access to information,” and that “human beings have a fundamental right to access to expressions of knowledge, creative thought and intellectual activity, and to express their views publicly” (IFLA/FAIFE, 1999). Grounded in a commitment to intellectual freedom, “libraries were, in fact, among the first entities to ever serve niche markets” of the long tail (Mossman, 2006: 38).

Truth pluralism also suggests that objective facts alone are insufficient to negotiate agreed-upon truth (Hartman-Caverly, 2019: 207). Epistemic uncertainty about the nature of truth, objectivity, and reason emerged as a mid-twentieth century epistemic crisis in the academy, which has since spread to the general population (Fountain, 2002; Gasparatou, 2018). The “hermeneutical turn” towards interpretation, subjectivity, and relativism generated a “plurality of perspectives that is deeply fragmented” (Fountain, 2002: 20-21) and rendered truth assertions open to contestation. The consequences of such intellectual experimentation manifest as competing truth claims in the public sphere; or worse, truth nihilism, the sense that truth does not exist or no longer matters. In response, scholars across the humanities and social sciences are rallying to defend notions of truth anew, leading Grossberg (2018: 150) to wryly observe that “in recent decades, ironically, the very idea of an objective Truth has been deconstructed by many of the same intellectuals who now want to come to its rescue.”

Obscure academic trends are not the only forces impacting truth-making. New ICTs, including the Internet, social media, and near-ubiquitous mobile connectivity, pose unprecedented affordances for the speed, scale, and scope of information-sharing. In an optimistic keynote lecture delivered at a policy forum hosted by the Europaeum in 2001, Internet pioneer Tim Berners-Lee anticipates the impact of ICT on diversifying culture, ways of knowing, and truth:

“As we have this exchange, we, in fact, build up new concepts. We are not just trying to transmit the old one... This is always a trade-off, a tension, all about ‘culture’ and ‘sub-culture’. ... A homogeneous system is clearly very dangerous. We need people with diverse ways of looking at the world, with different sub-cultures in the world. At the same time, the other fear expressed to me is that now we have the Internet, surely we will get the formation of cults?... I think society should be fractal; the one optimistic thought I have is that when I look / 3 / at people I think that most people do actually put their marbles fairly evenly into all kinds of different pots. There must be something that drives them not to always spend time at one particular scale. There must be something that evolution has given us so that we’re naturally disposed to behave such that society becomes fractal and everything will be alright.” (Berners-Lee, 2001: 17, 21)

Berners-Lee here predicts the long tail of the Web, describing a diverse and decentralized epistemic plurality of fractal sub-cultures. Twenty years on, we know that “self-referentiality” in the long tail means that people can find websites, communities, and spaces that affirm their identities and worldviews (Ramos, 2020: 6). This is certainly a positive development for people belonging to minoritized groups, political dissidents, or those sharing obscure interests - but the same affordances also exploit cognitive biases like in-group preference and motivated reasoning. Power struggles in the long tail of truth present new fronts in the culture wars and find people entrenching into their preferred episteme, or absenting themselves from civic and discursive participation (Fountain, 2002). Whether library workers choose to frame these conditions as primarily an epistemic crisis or epistemic opportunity has significant implications for the core value of intellectual freedom, and for library contributions to the epistemic well-being of society.

Networked ontologies and the epistemic crisis

The early optimism of cyber libertarianism has given way to concerns about the Internet's capacity to exacerbate social divisions and facilitate harms in the two decades since Berners-Lee's address at the Europaeum policy forum. The decentralized, non-hierarchical, and networked "attention backbone" structure of the Web both democratizes expression and access to information, while also reducing costs and barriers for bad-faith actors to degrade the public information sphere (Benkler, 2006, p. 12-13; Benkler et al., 2018, p. 33). Claire Wardle, an influential commentator on information disorder, laments:

"The promise of the digital age encouraged us to believe that only positive changes would come when we lived in hyper-connected communities able to access any information we needed with a click or a swipe. But this idealised vision has been swiftly replaced by a recognition that our information ecosystem is now dangerously polluted and is dividing rather than connecting us." (Wardle, 2019: 6)

Similarly, Lewandowsky et al. (2017) characterize contemporary discourse as a 'post-truth era' featuring "alternative epistemologies that lead to alternative realities" (Habgood-Coote, 2019: 1043), seemingly disregarding the inverse possibility that differential realities may lead to divergent epistemologies.

The characteristics of the epistemic crisis include structural aspects, content considerations, and shifting epistemic norms. Structural aspects refer to interconnected information flows, information asymmetries, instrumentalization of broadcast media and the capacity of the Web's attention backbone to act as propaganda pipelines. Content considerations include 'bullshit' (in the Frankfurian sense)¹, conspiracy theories, disinformation, distraction through attention engineering, 'fake news,' information overload, malinformation, manipulation,

¹ "Since bullshit need not be false, it differs from lies in its misrepresentational intent. The bullshitter may not deceive us, or even intend to do so, either about the facts or about what he takes the facts to be. What he does necessarily attempt to deceive us about is his enterprise" (Frankfurt, 2005, p. 54).

misinformation, polarization, propaganda, and surveillance (Benkler et al., 2018: 29-38; Frau-Meigs, 2019; Levak, 2020; Ramos, 2020; Rowell and Call-Cummings, 2020). Wardle succinctly describes information disorder as comprising misinformation, disinformation, and malinformation (2019).

These structural and content characteristics emerged in a context of shifting epistemic norms, as postmodernist subjectivity and relativism rose to challenge modernist objectivity and rationalism. Grossberg (2018) observes that the epistemic crisis entails a lack of shared basis for critically evaluating information, in which individuals and communities exhibit diverse value hierarchies with respect to information, evidence, and claims to authority. This epistemic diversity, in combination with the ability to entrench into one's epistemic in-group in the long tail, renders people more vulnerable to exploitation of innate cognitive biases. Motivated reasoning and confirmation bias "makes it easy to cleave to the familiar and to disregard or disparage the plurality of perspectives that inevitably accompany complex political issues" (Lenker, 2016: 524; see also Sullivan, 2019). Information disorder further interferes with belief regulation, defined as the process of forming, updating, and changing or abandoning beliefs, as "rational persuasion is being undermined by social-epistemic forces" (Gunn, 2020: 562). The networked ontologies of the long tail have delivered more than the fractal sub-cultures that Berners-Lee presaged; they have also engendered the epistemic pathologies of information disorder, information overload, attention capture, and surveillance.

Sullivan (2019) observes the voluminous response of the library and information science community in the USA to information disorder specifically in the wake of the 2016 presidential election. As Sullivan / 4 / (2019) shows, the library and information science response focused primarily on "fake news," prioritizing the content and structural characteristics of the epistemic

crisis. In some respects, “fake news” may be the least remarkable aspect of the contemporary epistemic crisis, as Waisbord (2018: 1866-87) observes that “deceitful information wrapped in news packages has a longer history than news consciously produced to represent real events.” Scholars have traced the history of political disinformation to at least the 6th century BC (Levak, 2020). What is perhaps a defining characteristic of twenty-first century information disorder is declining trust in elite information institutions, paired with the layperson’s unprecedented capability for real-time mass communication (Benkler et al., 2018; Levak, 2020; Peters, 2000; Rowell and Call-Cummings, 2020). Consequently, solutions to information disorder must transcend the structural and content considerations to also address its epistemic dimensions. Just as the legitimacy crisis presents an opportunity for individual prosumers (producers/consumers) to exert considerable influence in the information sphere, the epistemic crisis presents an opportunity for the library and information science community to explore intellectual freedom and its relationship to epistemic agency - and responsibility.

Legitimacy crisis: Declining trust in information institutions

Concern about declining trust in institutions peaked in the US library and information science community following the 2016 presidential election (Sullivan, 2019), but much of the library response to the legitimacy crisis belies a presumption that broadcast media and other information institutions are *trustworthy*. Little consideration is given to the evolution of broadcast media ethics over the last century, or how the competitive pressures of new ICTs have shaped them. Truthfulness and objectivity in reporting were codified as mass media ethics by the American Society of News Editors in the early twentieth century (Aznar, 2020). The scientific method served as a model to frame the “informative function” of journalism, guiding norms of truthfulness, accuracy, and objectivity; standardizing information gathering, verification, and

attribution techniques; and separating facts from opinions and reporting from advertising or state-sponsored propaganda (Aznar, 2020).

Paralleling developments in mass media, disciplinary and professional organizations were formed to act as institutional gatekeepers for academic inquiry, information institutions, and related professions (Benkler et al., 2018). These trends accelerated after World War II until the late 20th century, when communication ethics evolved in consideration of beneficence and a recognized need for broader participation of those impacted by social and political developments - what might today be referred to as “social justice” (Aznar, 2020). This evolution in media ethics dovetailed with the postmodernist critique of objectivity and rationality in the academy. Nevertheless, a prevailing “hierarchical division of knowledge with elites and scientific experts atop” maintained a controlling stake in the one-to-many broadcast structure of mass media that sustained, at the very least, a pretense of shared reality and truth, while simultaneously enabling the social elite to “manufacture consent” of the public when such need arose (Waisbord, 2018: 1870; Benkler et al., 2018).

The turn of the 21st century witnessed a fundamental disruption to this centralized, hierarchical structure with the introduction of the Web. The network structure of the internet and its affordances for direct many-to-many communications undermined the hierarchical, mediated broadcast structures upon which the top-down information regime relied (Waisbord, 2018; Levak, 2020). “[New] ICTs, it was felt, could provide channels of social communication to complement those of traditional journalism, which had become too close to social, political, and economic power” (Aznar, 2020: 278). The technologies of the participatory Web meant that users could not only read the long tail - they would also write it, as described in the neologism “prosumer” (Levak, 2020). As a result, the participatory Web not only manifested significant

gains for freedom of expression and access to information, but also provided an outlet for the pathologies of information disorder (Aznar, 2020; Di Pietro et al., 2021). The specific affordances of ICTs – including automation; disintermediation; discoverability, persistence, and ubiquity; unclear or obscured information provenance; anonymity and the potential for deception in authorship; the manipulation of content; and coordination and manipulation of communication (Frau-Meigs, 2019; Bimber & Gil de Zúñiga, 2020) – demand renewed consideration of epistemic ethics, as it is no longer primarily professional journalists who influence the public sphere of opinion, but potentially anyone with a social media account.

Rather than seek to differentiate itself from social media, scholars observe that broadcast media has come to reflect its conventions, including leveraging the structural capabilities of ICT, co-opting audience-generated content, and commodifying the “micro-macro politics of audience action” (Cabañes, / 5 / 2020, p. 444; see also Lenker, 2016;). At the same time that people rely increasingly on social media and search engines for news discovery, these platforms are using algorithms and human moderators to select, rank, and display content, often in partnership with broadcast media companies and related professional organizations (Levak, 2020; Ramos, 2020). Recommender systems and other algorithms which leverage users’ behavioral surplus to inform content display and to manipulate social signals for purposes of sentiment shaping result in platforms that can artificially truncate the long tail of public opinion on behalf of establishment information institutions and the social and political elite (Bimber & Gil de Zúñiga, 2020; Levak, 2020; Ramos, 2020; Zuboff, 2019). Many scholars reference the Cambridge Analytica influence campaign as an example (Levak, 2020; Ramos, 2020), while Frau-Meigs (2019) stands apart by pinpointing the spring 2012 Obama re-election campaign’s use of voter microtargeting,

coinciding with Facebook's initial public offering (IPO), as the contemporary origins of "fake news" (see also History.com, 2020; Pilkington and Michel, 2012).

In addition to its epistemic effects, the "information overload" precipitated by ICT rendered media users' attention a scarce commodity (Dahlgren, 2018; Grossberg, 2018). Members of the public have an unprecedented degree of choice in information outlets, and can at times navigate upstream to hear directly from first-hand witnesses and other primary sources where institutional intermediaries were once necessary to transmit information. In some regards, this has a flattening effect on information asymmetries, and individuals are able to supplement the "vertical trust" placed in institutions and affiliated experts with the "horizontal trust" they invest in fellow citizens and independent agents (Frau-Meigs, 2019; Dahlgren, 2018). This competition with prosumers in the attention economy is one driving factor that has led broadcast media to adapt its practices to the norms of social media and digital clickbait.

Epistemic policing: Censorship, surveillance, and suppression of the right to know

Solutions to the epistemic crisis center on public education and the information supply chain. Public education approaches include digital literacy, information literacy, and media literacy programming, and further research on the interrelated epistemic and legitimacy crises (Aznar, 2020; Levak, 2020; Mayorga et al., 2020). Redress in the information supply chain includes both human-mediated endeavors and automated interventions. People-driven interventions – including revitalizing traditional journalistic ethics of objectivity and truth in reporting, reducing reliance on aggregate journalism and investing in original and investigative reporting, fact-checking, buttressing information gate-keepers, media self-regulation, state regulation, and accountability measures for sources of misinformation – have been proposed

(Aznar, 2020; Levak, 2020; Mayorga, et al., 2020). Bimber and Gil de Zúñiga (2020: 710) call for the press to resume its role of “epistemic editing” by filtering truth from falsehood and managing information provenance.

Steensen (2019) claims that professional journalists are largely epistemically unprepared for the challenges and demands of the new information environment, which impairs their legitimacy. Emergent disinformation techniques, such as deepfakes, increasing reliance on data analysis, and automated processes underpinning aggregate journalism, require new techniques and criteria for evaluating the credibility of sources, strain the statistical literacy of many media contributors, and exceed journalists’ ability to critically analyze (often proprietary) code, imbuing journalistic claims with “more or less invisible layers of uncertainty” (Steensen, 2019: 186). In the USA and UK, recent political polling data, election predictions, and overly alarmist pandemic modeling provide ready examples of data that led journalists - and therefore policymakers and the public - astray (Silver, 2017a; Arrieta-Kenna, 2016; McDonald, 2020). Steensen (2019: 188) advocates that journalists practice the epistemic technique of source criticism – that is, “critical and systematic investigation by the journalist into all sources used in different phases of the journalistic production process.”

A wide range of automated solutions are also operational, particularly on social media platforms, implicating an often unwitting public in what amounts to massive epistemic field experiments. Many of these solutions pose challenges for freedom of access to information as described in the IFLA Statement on Libraries and Intellectual Freedom (IFLA/FAIFE, 1999), including both freedom of expression and the right to know. Some automated solutions are designed to amplify the distribution of what is perceived to be high-quality information, while many others restrict the flow of what is perceived to be information disorder (De Pietro et al.,

2021). Social media platforms became more proactive in curating, or manipulating, user feeds following the 2016 US presidential election, including automatically censoring or deranking certain content based on models of “fake news” (Glisson, 2019; Mayorga et al., 2020). Artificial / 6 / intelligence and machine learning applications are actively used to assist human moderation, and to automatically curate information and detect, label, suppress, or censor misinformation, disinformation, and malinformation (Levak, 2020; Mayorga et al., 2020; Di Pietro et al., 2021). Some of these automated solutions are trained by crowdsourced evaluations of information veracity (Chambers, 2021), while others rely on linguistic, visual, user, post, and network-based features rather than an actual evaluation of information credibility (Di Pietro et al., 2021). Habgood-Coote (2019: 1041) dubs these techniques “epistemic policing,” noting that arbitrary standards for declaring content “fake news” are exploitable by bad-faith state and non-state actors as propaganda to justify censorship, and broadcast media personalities are themselves directly involved in speech suppression and censorship campaigns (Greenwald, 2021a, 2021b). It should also be noted that any solution that affects an individual’s ability to access or express information necessarily relies on the active or automated monitoring of that individual’s expressive activities - in other words, surveillance of their speech.

Reactionary responses to the epistemic crisis are not without their critics, who admonish that the cure should not be worse than the disease. In Glisson’s (2019: 474) words, “big tech companies have the tendency to solve dysfunction with tech-driven solutions that compound the problem.” Surveillance- and censorship- based responses to information disorder infringe freedom of speech and right to know, “with inhibiting damages on democratic processes” (Frau-Meigs, 2019: 18). Content-moderation practices may also constitute epistemic and hermeneutical injustice, resulting in incomplete information, inhibited ways of knowing, and weakened

interpretive heuristics that are “structurally prejudiced” against members of oppressed and marginalized communities (Fricker, 2008: 69). According to Fricker (2008), censorship also commits an ethical harm in that the testifier is wronged in their capacity as a knower.

Interventions that restrict the freedoms of expression and access to information are often politicized, and characterized as a crack-down on dissenting views (Staub, 2021), consideration of which is necessary to critical thinking (Hare, 2002).

Fact-checking, curation of social media feeds to surface opposing viewpoints, media literacy campaigns, and other ideological “exposure therapy” efforts can also trigger an unintended “backfire effect” (Bimber & Gil de Zúñiga, 2020: 710; Stasavage, 2007). Empirical studies have found that exposing media users to opposing political views or even editorial corrections can be counterproductive, strengthening their preexisting beliefs or trust in the original faulty reporting (Bail et al., 2018; Lenker, 2016). As it is also known that “fake news” travels faster, further, and deeper through social networks, the very possibility that correcting a news story can inspire ideologically predisposed readers to trust the original reporting poses doubly perverse incentives for systematic reporting errors that align with existing media biases (Atkisson, 2021; Greenwald, 2019; Vosoughi et al., 2018).

While reforms that emphasize fact-checking and public education do not pose such direct challenges to the right to know, they are based in a deficit model that does not account for the full spectrum of media consumers’ epistemic activities (Waisbord, 2018). Cabañes (2020: 436) characterizes post-2016 US presidential election reactions to “fake news” as a moral panic, asserting they “tend to overinflate the manipulative power of technologies and assume that dumbed-down social media users are unable to recognize truth and lies” while ignoring the performative “cultural, emotional, and narrational roots” of expressive activities. Fact-checking is

found to be ineffective at mitigating the spread of presumed “fake news,” and Frau-Meigs (2019: 20) criticizes the approach as creating “an echo chamber for journalists” (see also Cabañes, 2020). Further, errors made by fact-checkers make them vulnerable to criticism from so-called “conspiracy communities” (Frau-Meigs, 2019: 20), such as when Politifact walked back their claim that severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) could not have resulted from laboratory manipulation (Funke, 2021). Moreover, media and information literacy has been co-opted by commercial actors with conflicts of interest, including major advertising technology companies like Facebook and Google (Frau-Meigs, 2019). The co-dependency of broadcast media, social media, and society’s elite raises significant implications for fact-checking collaborations and content moderation practices (Steensen, 2019), and the legitimacy crisis undermines the efficacy of education efforts led by establishment information institutions.

Epistemic crisis - for whom?

To date, interventions in the epistemic crisis have sought to buttress established information institutions against declines in trust and competition for users’ attention from new entrants into the information marketplace. Many of these interventions, ranging from proposed media regulations and accountability measures to coordinated and automated fact-checking efforts that manipulate, suppress, or censor information, pose clear and present dangers for the freedoms of expression and right to know. Furthermore, these interventions are oriented to a deficit model which presumes the lay public is incapable of seeking, interpreting, applying, and crafting information to advance individual and collective interests. This analysis begs the question: to whom, exactly, does the epistemic crisis pose its threat?

Before attributing the declining trust in information institutions which characterizes the legitimacy crisis to a deficiency in the lay public, it is worth considering the extent to which

information institutions serve the public's interest in a manner deserving of trust. Gallup's (2020) nearly 50-year tracking of confidence in various social and political institutions shows consistent declines over that period. Other measures show declining trends in trust in media, experts, and government worldwide, with differences observed across political, educational, and socioeconomic demographics (Bimber and Gil de Zúñiga, 2020; Brenan, 2020; Edelman, 2021; Jaschik, 2018; Rainie et al., 2019). Bimber and Gil de Zúñiga observe that "decaying trust in media and institutions" is a global phenomenon (2020, p. 702). Summarizing twenty years of public trust tracking, Edelman (2020) writes, "Trust suffers too when hard truths have been exposed."

The past five years in the USA have witnessed a crescendo of concern about the epistemic crisis, generating such truth exposés as the broadcast media's role in laundering the equal parts salacious and fallacious Steele dossier (Bovard, 2019; Taibbi, 2019a; Meier, 2021); reliance on said dossier to pursue secret Foreign Intelligence Surveillance (FISA) surveillance on a political candidate and his network of communications, implicating state and intelligence agency actors in the creation of disinformation (Bovard, 2019; Waisbord, 2018); the implosion of the Trump-Russia collusion allegations (Greenwald, 2019, 2021c; Taibbi, 2019b, 2019c); media *mea culpas* on cultural flashpoints like the Nick Sandmann and Jussie Smollett incidents (Soave, 2020; Varma, 2019); censorship of the Hunter Biden laptop disclosures as "fake news" and "foreign disinformation," but which turned out to be authentic (Greenwald, 2020a, 2020b, 2021d; Nelson, 2021; Post Editorial Board, 2020; Taibbi, 2020e, 2020f, 2020g; Turley, 2020); flip-flopping on pandemic public health measures and suppression of the coronavirus laboratory origin hypothesis as a xenophobic conspiracy theory (Jingnan, 2020; Taibbi, 2020a; Funke, 2021; Miller, 2021) - to name a few. In August 2016, Jim Rutenberg, a writer at large for the

New York Times, famously advocated to “throw out the textbook that American journalism has been using for the past half-century” in the media’s coverage of Trump’s candidacy (Rutenberg, 2016a), only to wonder how the media’s 2016 presidential election predictions proved so profoundly wrong three months later (Rutenberg, 2016b; see also Gurri, 2021; Taibbi, 2020b, 2020c; 2020d). Other media analysts came to recognize the potential existence of politicized groupthink in the media (Patterson, 2017; Shafer and Doherty, 2017; Silver, 2017b; Weiss, 2020), and two-thirds of US adults polled observe bias in their own preferred news sources (Shearer, 2020). Such errors are not incidental, but systemic; not inconsequential, but concerning major issues of the time. It is no wonder, then, that many speak of declining trust in institutions (Schudson, 2019; Mounck, 2020; Taibbi, 2021a, 2021b).

When broadcast media has demonstrably botched such pivotal public interest stories as Trump-Russia collusion, Biden corruption, and the coronavirus pandemic in the USA by abandoning long held epistemic norms of accuracy, sourcing, and objectivity - and done so in a consistent ideological trajectory - it is no longer convincing to lay the epistemic crisis at the public’s feet as a “trend toward increased occurrence of widely held false beliefs by citizens about public matters” (Bimber and Gil de Zúñiga, 2020: 704). Analyses of the epistemic crisis frequently pit the lay masses against the elite information establishment, characterizing the many-to-many communication capabilities of ICT as enabling a usurpation of the authority of gate-keeping information institutions (Mayorga et al., 2020). Peters (2000: 4) confesses that when authority is ignored, “*we, the long-empowered, do not know what to do*” (my emphasis). Benkler et al. (2018: 3) blame “technological processes *beyond the control* of any one person or county” for the current epistemic crisis (my emphasis). Waisbord (2018: 1867) observes that ICT has made “information *unvetted by conventional news organizations*” accessible and influential

(my emphasis). Levak (2020: 43-44, 48) comments that prosumers have bypassed the gatekeeping role of “*persons who decide what and which kind of information will be placed in the public,*” such as editors and journalists, and that decentralized communication means that “*the source of information is now usually incontrollable [sic] and unverifiable*” (my emphasis). Di Pietro et al. (2021: 10) warn that “the producers of information themselves, *publicly deprived of the role of information gatekeepers, are forced to compete against every individual* to obtain public attention” (my emphasis). Bimber and Gil de Zúñiga (2020: 709) mark the end of the mass media era, “when news businesses exerted / 8 / much stronger gatekeeping and validation functions over the content of information reaching publics” (my emphasis).

While experts mourn the legacy broadcast model as moribund (Dotto et al., 2020), they nevertheless find a world in which the truth is agreed upon through open access to information and public discourse rather than imposed through a hierarchy of expertise to be intolerable (Lewandowsky et al., 2017; Mayorga et al., 2020). The reactionary deployment of “post-truth” rhetoric and the interventions it justifies serve to insulate established information institutions from legitimate critiques (Habgood-Coote, 2019: 1056). The epistemic crisis is declared on behalf of the “elite consensus” (Waisbord, 2018: 1869) and its loss of control over what constitutes public knowledge and shared truth. Habgood-Coote provides this biting analysis:

“I would suggest that historically speaking, the most salient feature of contemporary epistemic problems is their target. The only novelty is that it is white middle class liberals rather than members of oppressed groups who are struggling to get purchase in public discourse.” (Habgood-Coote, 2019: 1056-57)

Writing in 2000, Peters (2000: 18) predicted that “the information wars that will shape our time are not about what information is electronically vulnerable, but about what information is culturally permissible.” This prescient observation is reflected in attempts by established information institutions to resecure their position in the epistemic hierarchy. Some warn that

democratic institutions cannot survive “differences in perceived reality” (Miller and Kirwan, 2019), forgetting that democratic institutions evolved specifically to reconcile and synthesize such differences into a common, shared reality. These anxieties are reflected in Berners-Lee’s Contract for the Web, released nearly twenty years after his cheery address to the Europaeum policy forum in 2001. In an op-ed announcing the Contract for the Web, Berners-Lee asserts:

“The web needs radical intervention from all those who have power over its future: governments that can legislate and regulate; companies that design products; civil society groups and activists who hold the powerful to account; and every single web user who interacts with others online.” (Berners-Lee, 2019)

The Contract for the Web proposes a more centralized and top-down Internet governance structure, marking a stark departure from the semi-independent fractal sub-cultures that Berners Lee extolled in 2001. While many of the commitments in the contract are laudable, it also calls for government regulation on content moderation, “including with the aim of limiting the impacts of misinformation and disinformation,” and for companies to report regularly on accountability measures implemented to mitigate information disorder (World Wide Web Foundation, 2021: 4, 8). Despite numerous references to protection for human rights, it is unclear how such top-down measures could be implemented without hindering the right to know.

The challenge of the epistemic crisis is not so much a selective straying from the objective truth as it is a predictable disruption in the reigning “hegemony of the ‘regime of truth’” precipitated by the sudden transition from information scarcity to information abundance and from hierarchical one-to-many broadcasts to networked many-to-many communications (Waisbord, 2018: 1869). With new forms of ICT come expanded freedoms of expression and access to information. The resulting social networks both reveal and enable the creation of “identity communities with different epistemologies in their engagement with news and information” (Waisbord, 2018: 1869) through which “citizens could establish new foundations of

epistemic as well as social trust” (Dahlgren, 2018: 24). Interestingly, empirical studies find that ICT has not meaningfully increased the number of people with whom users routinely interact, and provides little support for social epistemology at scale (Gonçalves et al., 2011). Countering concerns for the stability of democracies, some refer to this collective epistemic shift as a move toward knowledge democracy, in which citizens “disrupt and delegitimize dominant and hegemonic epistemologies and work toward a privileging of community-centered ones” (Rowell and Call-Cummings, 2020: 73). The epistemic crisis is a reassertion of long tail metaphysics.

Libraries are among the information institutions exhibiting an existential crisis amidst the diminishment of their gatekeeping role. Sullivan observes that, in some library and information science literature, “fake news comes to stand in for anything that contrasts with libraries” (2019: 93). This has led to a damaging tendency to dichotomize the information landscape in library and information science research and practice, categorizing sources, methods, and claims into oversimplified true/false or good/bad groupings, and over-relying on critiques of filter bubble and echo chamber phenomena (Sullivan, 2019). For example, a popular trade article published early in the pandemic characterized the virus laboratory origin hypothesis and potential for state mandated lockdowns as misinformation, recommending that librarians refer patrons to trusted information / 9 / authorities like the World Health Organization and the Centers for Disease Control and Prevention, and fact-checking organizations like PolitiFact (Ostman, 2020). In hindsight, the laboratory origin hypothesis is now under serious consideration for understanding the emergence of SARS-COV-2 (Farhi and Barr, 2021); numerous states in the USA and localities and countries abroad restricted the activities of citizens under a public health policy referred to as “lockdown” (Ladha, 2020), and the World Health Organization, Centers for Disease Control and Prevention, and PolitiFact (not to mention academic journals) have all been

forced to retract prior claims about the pandemic (Funke, 2021; Jingnan, 2020; Miller, 2021; Retraction Watch, 2020). Sullivan (2019, p. 97) warns that such overconfidence in the face of library workers' own epistemic fallibility risks positioning the problem of information disorder as "somehow outside of themselves."

Though libraries are exceptional among information institutions in sustaining a high level of public trust, it is imprudent to assume that libraries are insulated from the same legitimacy crisis (Geiger, 2017; Frau-Meigs, 2019). More importantly, dichotomizing the information landscape, and failure to "oppose any form of censorship," implicates libraries in epistemic injustices and contradicts the general duty to uphold principles of right to know, freedom of expression, and freedom of access to information (IFLA/FAIFE, 1999). It is time for libraries to contend with a more complex reality: that "when expression blooms, truth inevitably becomes contested" (Waisbord, 2018: 1871). This doesn't mean that libraries, and the patrons they serve, should settle for untruths or truth nihilism, but rather that they should recognize the inevitability of epistemic risk (Reed, 2013), and invest in practices that facilitate epistemic risk management.

Intellectual freedom and epistemic virtues

Libraries serve patrons whose epistemic realities are increasingly shaped by long tail experiences rather than mainstay information sources (Dahlgren, 2018). On serving patrons in the long tail, Mossman advises that libraries "embrace the paradox that the internet is both our competitor and not our competitor" in advancing the right to know (2006:40). Instead of focusing on fact-checking and literacy efforts that rely on true/false information evaluation and good/bad source credibility - approaches which have demonstrably short shelf lives and may alienate patrons with diverse ways of knowing - libraries can distinguish themselves by resisting information disorder through engagement with evergreen epistemic virtues, including the

motivation to seek out “counter-belief information” and the analytic skills to evaluate it, which contribute to the ability to update beliefs in light of new evidence (Grossberg, 2018; Mayorga et al., 2020: 203). This suggests that libraries should shift the trust paradigm beyond information authorities onto patrons and their communities, recognizing that “the average citizen makes highly effective economic, moral, and cultural calculations on a daily basis” (Peters, 2000: 8).

An epistemic virtue orientation also aligns better with libraries’ commitment to intellectual freedom and the freedoms of expression and access to information. Because virtues are properties of agents (Riggs, 2010), the primary focus of epistemic virtue work is centered on the individual patron and their community, borne of respect for their “inner world” and the intellectual autonomy that springs from it, defined as “the right or idea of self-direction in the acquisition and maintenance of beliefs” (Zagzebski, 2013: 259). Moreover, if the average person can play a more active role in the epistemic lives of others through their use of ICTs, it is reasonable to expect them to exercise this power ethically (Waisbord, 2018; Aznar, 2020). Epistemic virtues answer this need. These approaches are directly in line with IFLA/FAIFE’s (Freedom of Access to Information and Freedom of Expression Advisory Committee’s) call for libraries to act in support of “lifelong learning, independent decision-making and cultural development for both individuals and groups” (1999).

Virtues are the combined capacity and motivation to do well (Elgin, 2013). Epistemic virtues are those techniques and motivations involved in the formation of accurate and reliable beliefs about the world (Reed, 2011; Olson, 2015). Such virtues are “truth conducive” in that exercising them is more likely to lead to true belief, knowledge, or understanding than doing otherwise (Elgin, 2013: 137). Responsibilist virtue epistemology, which concerns techniques and motivations that justify commitment to a belief, provides opportunities for libraries to work with

patrons on their strategies for seeking and integrating information into their worldviews and decision-making frameworks. Responsibilist epistemic virtues include practices like appropriate skepticism, attentiveness to evidence, awareness of fallibility, conscientiousness, curiosity, disinterestedness, fair-mindedness, impartiality, knowledgeableness, objectivity, open-mindedness, patience, and rigor, which manifest in behaviors like / 10 / conscious reflection, deliberation, and justified belief endorsement within a community (Elgin, 2013; Eriksson and Lindberg, 2016; Fairweather and Montemayor, 2018; Fountain, 2002; Hare, 2009; Olson, 2015; Riggs, 2010; Taylor, 2016; Zagzebski, 2013). These practices are considered virtuous because they require effort or come at a cost to the knower - including the risk of having to abandon or update one's preexisting beliefs (Chambers, 2021; Hare, 2002).

Reorienting the library focus from information and source evaluation to epistemic virtues also creates space for epistemic diversity - the recognition that “there are a group of people who reason and form beliefs in ways that are significantly different from the way we do” (Brown, 2013: 326). Patrons and the communities to which they belong are neither homogeneous nor irrational (Cabañes, 2020). The fundamental diversity of personal values as described by the Schwartz theory of basic human values and moral foundations theory influence and manifest in information-seeking behaviors (Schwartz, 2012; Graham et al., 2013; Dogtuyol et al., 2019; Kalimeri et al., 2019). Riggs espouses the value of exposure to diverse ideas and worldviews for epistemic development, saying:

“Closed-mindedness can be the result of taking one's own assumptions to be obvious and universal, hence incontrovertible. To discover that those assumptions are not shared by people across time, place, and culture can help one see that one's assumptions are controvertible after all.” (Riggs, 2010: 183-84)

Rather than framing questions and topics to achieve “ideological closure,” libraries should provide spaces for “groups of people who can bring to bear diverse and even divergent

understandings of the same world” (Cabañes, 2020: 437). The core library value of intellectual freedom has long acknowledged the realities of epistemic and truth pluralism. The IFLA/FAIFE (1999) statement calls on libraries to provide equal access to “materials, facilities and services” to all users free from exclusion, including on the basis of “creed.” It is critical that libraries recognize the long tail of epistemic experience while also providing opportunities for those with divergent worldviews to engage with each other and recognize their epistemic interdependencies, and to enable the possibility of achieving shared truths through dialogic listening (Cabañes, 2020; Chambers, 2021; Ramos, 2020; Rowell and Call-Cummings, 2020; Waisbord, 2018). Core library functions like collections, education, and programming can support such epistemic agency at both the individual patron and patron community levels.

Epistemic agency

Epistemic agency refers to the conscious control one can exert over one’s habits of belief-formation, and allows knowers to take responsibility, and be held accountable, for their beliefs (Fernandez, 2013; Olson, 2015; Gunn, 2020; Heikkilä et al., 2020). While the concept of epistemic agency is not without its critics (e.g. Kornblith, 2012), many recognize that people are capable of higher order thinking and reasoning, attentiveness, self-monitoring and self-reflection, and applying some criteria to knowledge acquisition, understanding, and belief justification (Olson, 2015; Heikkilä et al., 2020; Reed, 2001; Riggs, 2010; Sosa, 2014; Sosa, 2015; Tollefson, 2006; Zagzebski, 2013). Epistemic agency involves “epistemic deliberation,” the consideration of evidence, methods, and interpretive heuristics, which themselves rely on information behaviors (Fernandez, 2013; Heikkilä et al., 2020; Sullivan, 2019;). The selection of and participation in information-seeking and epistemic deliberation activities confer attributability and responsibility on the epistemic agent (Fernandez, 2013). Rather than pursue a specific belief

as a goal, epistemically responsible knowers “form, sustain, and revise their beliefs, methods, and standards” under the direction of evidence and reasoning, and maintain awareness of factors influencing their epistemic deliberation (Elgin, 2013: 139; Olson, 2015; Tollefson, 2006).

Despite their ability to take responsibility for their beliefs, epistemic agents are not fully independent, but are subject to epistemic dependencies: in other words, one can’t know everything there is to be known (Markauskaite and Goodyear, 2016; Sullivan et al., 2020). One of the functions of an epistemic agent is to decide when to recognize and revoke the epistemic authority of those perceived as experts (Elgin, 2013; Fricker, 2008; Zagzebski, 2013). Likewise, epistemic agents recognize the influence they have on others who are epistemically dependent on them, and are prepared to offer reasoned justifications for what they think - especially when their beliefs contradict mainstream views (Elgin, 2013; Gunn, 2020). The practice of epistemic virtues can enable epistemic agents to mitigate cognitive biases, making them “more likely to contribute to epistemic life in productive ways” (Gunn, 2020: 574; see also Sosa, 2011). / 11 /

Epistemic community

Beyond the notion of epistemic dependence, it is recognized that “groups, themselves, can be epistemic agents” (Sosa, 2014; Tollefson, 2006: 310). Attending to epistemic community is critical to the pursuit of consensus truths and shared reality (Ramos, 2020; Waisbord, 2018). Epistemic norms, including both virtues and duties to others, are “norm[s] of social cooperation” that arise from “collective efforts to explain and predict the world around us” (Brown, 2013: 337; see also Elgin, 2013; Eriksson and Lindberg, 2016; Gunn, 2020; Olson, 2015; Tollefson, 2006: 312). As communities are more or less vulnerable to the cost of false beliefs, they exhibit different degrees of epistemic risk and risk aversion, which influence the duties of participating epistemic agents and what they ought and ought not to believe (Brown, 2013; Olson, 2015).

Thus, when an objective and consensus truth is not attainable, either generally or with the time and resources available, the collective epistemic imperative might shift to “trying to reduce the chance of error to a level we can live with” (Reed, 2013: 63; see also Elgin, 2013; Sosa, 2014; Zagzebski, 2013).

Epistemic communities are constituted through the reciprocity of participating epistemic agents, which have a mutual duty to either satisfy the community’s norms and standards for knowledge, or offer justification for altering or defying them (Elgin, 2013; Eriksson and Lindberg, 2016; Gunn, 2020). Open dialogue and attentive listening are necessary to sustain deliberative epistemic communities (Tollefson, 2006; Elgin, 2013; Chambers, 2021). Deliberations within, and between, epistemic communities can surface errors, new information, and alternative possibilities that refine and enrich members’ worldviews (Brown, 2013; Tollefson, 2006). Healthy epistemic communities manifest the core features of democratic “mini-publics” - “open and free debate, equal status of citizens,.. the circulation of information, and pluralism” - which are necessary for collective sense-making and achieving shared truths (Chambers, 2021: 153-54; see also Waisbord, 2018). These conditions promote epistemic trust, “the glue that holds epistemic life together” (Gunn, 2020: 569).

Libraries as epistemic community members

Sullivan (2019) suggests leveraging persistent public trust in libraries to intervene in the legitimacy crisis on behalf of other information institutions and experts. Rather than buttress the authority of these institutions for their own sake - often in alignment with epistemic interventions that run counter to intellectual freedom values, including surveillance-backed content moderation and speech suppression - libraries should reciprocate the public’s trust as a partner in the epistemic community (Eriksson and Lindberg, 2016; Gunn, 2020). Through the core library

functions of collection curation, education, and community programming, libraries can provide resources for patrons to critically evaluate their epistemic (in)security, challenge their own thinking, seek out more diverse information, and meaningfully enhance their epistemic resources and networks (Eriksson and Lindberg, 2016; Markauskaite and Goodyear, 2016; Sullivan et al., 2020). With collections, libraries can distinguish themselves from information institutions suffering the legitimacy crisis by fulfilling IFLA/FAIFE's (1999) call to "acquire, preserve and make available the widest variety of materials, reflecting the plurality and diversity of society... governed by professional considerations and not by political, moral and religious views." Epistemic security is enhanced to a large degree simply through access to a wide range of information sources and perspectives, and robust, diverse collections provide materials for patrons to repair the epistemic damages of censorship, suppression, and curiosity-shaming (Fernandez, 2013).

Library education and programming featuring opportunities to activate epistemological frames, such as curiosity, inquiry, wonderment, discussion, and evidence and argumentation, are optimized to "not only avoid indoctrination in every form but also help [patrons] to learn how to recognize and resist indoctrination and to develop their own independent judgment" (Hare, 2009: 39; see also Gunn, 2020; Lenker, 2016; Markauskaite and Goodyear, 2016). Information and media literacy efforts should evolve from the linear information timeline of broadcast media production to include a "cyberist view of the participatory web" with its complex, networked, long tail ontologies (Frau-Meigs, 2019). Patrons should also learn how the design, algorithms, business models, and regulatory contexts of the platforms where they seek out news and information can impact their thinking (Frau-Meigs, 2019; Head et al., 2020; Zagzebski, 2013). Passive programming, including resource displays, can be designed to feature a spectrum of

viewpoints on a topic and to place media claims of breakthrough findings into a broader context, with takeaway (or digital) guides that explain the designer's selection criteria and provide metacognitive reflection questions to expand patrons' knowledge, prompt self-awareness, and situate themselves within a broader epistemic community (Grossberg, 2018; Lenker, 2016; Reed, 2013; Vydiswaran et al., /12/ 2015). Notably, Habgood-Coote (2019: 1054) cautions against use of terms like 'fake news,' 'post-truth,' and other "epistemic slurs" used for "epistemic policing" which have been politicized and weaponized by bad-faith actors, calling the phrases a "pretty clear example of interfering with others' beliefs by manipulating their emotions and dispositions to trust."

Library responses to the epistemic crisis will fall short if they focus solely on individual patrons as epistemic agents without investing in the collective epistemic community (Gunn, 2020). Acting as a third space, libraries can promote healthy epistemic communities by hosting structured community forums that optimize participation, attentive listening, nuance, and respect for viewpoint diversity, such as those facilitated by Braver Angels (Braver Angels, 2020; Fountain, 2002; Glisson, 2019; Gunn, 2020; Habgood-Coote, 2019; Hare, 2009; Lenker, 2020; Rowell and Call-Cummings, 2020). Where real-time events are impractical, or to preserve the privacy and anonymity of participants, digital and physical engagement boards can be made available where patrons respond to prompts and engage with each other's contributions, cooperatively generating a topical community mind-map. Cultivating individual and collective epistemic virtues are fundamental to civic functioning and well-being in a complex information society, offering a kind of preventive or complementary therapy for the epistemic crisis (Eriksson and Lindberg, 2016; Hare, 2006; Heikkilä et al., 2020; Riggs, 2010).

Intellectual freedom and epistemic opportunity

In reaction to the epistemic crisis, coordinated efforts among established information institutions to restrict the freedoms of expression and access to information have not only failed to preserve the truth, but, in many cases, evidently also distorted or suppressed it. Given their exceptional commitment to intellectual freedom and continued legitimacy in the public eye, libraries have a unique opportunity to deliver alternative solutions to the epistemic crisis. By renewing the emphasis on intellectual freedom in core library functions like collections, education, and programming, libraries can provide the epistemic resources that patrons and communities need amidst a broader epistemic context of doubt, distrust, manipulation, suppression, and censorship. Creating opportunities for the activation of epistemic frames that nurture epistemic virtues (such as considering alternative viewpoints, attending to new information, and critically examining and updating assumptions) is a way that libraries can contribute to the best of all possible worlds - one in which Berners-Lee's (2001) fractal subcultures recognize, respect, and take responsibility for their epistemic dependence upon each other (see also Hare, 2006). Through the practice of intellectual freedom, libraries have long acknowledged, and served, the long tail metaphysics of their patrons and patron communities. The epistemic crisis is an opportunity to redouble these efforts.

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Author biography

Sarah Hartman-Caverly is an assistant professor and reference and instruction librarian liaising with Engineering, Business and Computing division programs at Penn State Berks. Her research examines the compatibility of human and machine autonomy from the perspective of intellectual freedom, with recent publications on privacy, conspiracy theories, and information warfare. She holds a BA Anthropology (Haverford College), MS(LIS) and MS Information Systems (Drexel University).