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EDITORIAL

Revitalizing the Graduate Program of the UP SLIS

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It has been an eventful year for the University of the Philippines School of Library and Information Studies (UP SLIS). The year 2021 started with an optimism to overcome the pandemic and finally go back to normal—or rather, to courageously face the "new normal" with hope and eagerness. This year also marks the 60th founding anniversary of the UP SLIS as a degree-granting academic unit. Since its establishment, UP SLIS has been recognized as the premier higher education institution in the Philippines that offers courses on library and information science, archival studies, records management, information systems, and other areas related to library and information work. The UP SLIS has been awarded the Center of Excellence in Library and Information Science by the Philippine Commission on Higher Education (CHED) because of its faculty and student profile, research productivity, and major contributions to the field. The UP SLIS is also an active member of the iSchool Consortium and Southeast Asia Pacific Audiovisual Archives Association (SEAPAVAA), and has been consistently participating in various international conferences and research activities facilitated by different academic and professional organizations.

Due to the pandemic, we have faced many challenges in providing educational, administrative and emotional support to our students, faculty and staff, as well as extension services and assistance to our colleagues in the profession. But the UP SLIS continues to thrive and devise ways and ideas to uphold honor and excellence, and fulfill its vital role in educating and training more librarians and information professionals who fully recognize their responsibilities as "laybraryan ng bayan, para sa bayan." With our mandate as an educational institution, the UP SLIS faculty members constantly revisit our pedagogical approaches to keep up with the times and the shifting demands of the field. Just recently, the Master of Library and Information Science (MLIS) program of UP SLIS has been revised and approved by the university effective academic year 2022-2023. The revised MLIS program is in line with the vision statement of the UP SLIS and the International Federation of Library Associations and Institutions' foundational knowledge areas in LIS education programs. New courses, particularly Critical Theory for Librarianship and Information Science, Project Management for Library and Information Professionals, Special Topics in Library and Information Science, and Qualitative Methods in Library and Information Science have been instituted to further enrich theory, specialization, and research components of the degree program. The LIS elective and cognate courses were reclassified as electives to provide wider options for students to acquire graduate courses as applicable to their chosen field of specialization or simply for enrichment. Also, in compliance with CHED Memorandum Order No. 15, series of 2019, as instructed by the UP Office of the Vice President for Academic Affairs, the name of the MLIS program for its the thesis option has been changed to Master of Science in Library and Information Science (MSLIS).

Part of the vision of the UP SLIS is to reach out to our neighboring countries for further collaborations in terms of education, research, and practice. To fulfill that vision, the UP SLIS continuously improves its curricular offerings and research

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activities to broaden its direction and address the needs of the profession. One of the major and most recent accomplishments of the UP SLIS is the university's approval of the Master in Archives and Records Management (MARM) program. MARM, the first of its kind in the Philippines and in the region, is a two-year graduate program that provides students with the knowledge and skills required to work in and develop archives, special collections, record centers, and other memory and collecting institutions. Commencing this coming academic year 2022-2023, this program addresses the need for formal education on archives and recordkeeping in the country and in the region. The plan of having a graduate program on archives and records management separate from MLIS already started decades ago with the former deans and archives lecturers of UP SLIS. The "rebirth" of the proposal took place around three to four years ago, when the faculty complement of the UP SLIS was deemed sufficient in terms of number, experience, and academic degrees to offer a new graduate program specific to archival studies and records management. The main proponents of the MARM program are Iyra Buenrostro-Cabbab, Mary Grace Golfo-Barcelona (current UP SLIS Dean), Jonathan Isip, Benedict Olgado, and with the assistance of Kathleen Lourdes Obille (former UP SLIS Dean). Prior to the writing of the actual proposal to be submitted to the curriculum committee of the university for a series of deliberations, the main proponents conducted a demand survey in 2019 to find out the nature of potential enrollees and their expectations. The proponents made sure that the topics, learning outcomes and activities per course, and summative assessments to be done are in line with the survey results, national and regional contexts, international models and practices in archival studies and records management education, and the standards used by the university and CHED.

A formal education on archiving and recordkeeping will help institutionalize the importance of records and archives, as well as in obtaining support from various sectors to enrich activities associated with these essential resources. Alongside the pragmatic, business and functional aspects of records management, the MARM program also covers topics and issues that are central to archival studies and community engagement such as preservation and promotion of our cultural heritage, collective memory, and identity. As this program will provide students with strong theoretical and practical foundations on the effective, efficient, and ethical management of records and archival materials, the students will have a more balanced perspective that will help them come up with informed decisions as to the use and management of archives and records.

With the new and revised graduate programs to be offered starting academic year 2022-2023 (i.e., MLIS, MSLIS, MARM), the UP SLIS maintains its mission to deliver outstanding graduate LIS education in the country and in the Southeast Asian region. It is also hoped by the UP SLIS that, for the next years to come, it remains as a significant contributor in meeting the demands of the discipline and industry through its well-rounded graduates who are prepared to conceptualize and provide solutions for information-related concerns and who can be leaders and innovators in the field.

Information Literacy: Importance and Consequences*

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Abstract

The brief for this lecture in honour of Prof. Gabriel A. Bernardo, the doyen of Philippine librarianship, was twofold — to explore what promotes informed societies and responsible citizenry, and to examine the supposition that there is a role for libraries in a democratic society. The paper takes the position that such an endeavour in the digital age must extend to all information professionals and informed individuals, since librarians are part of the information profession, and each is an individual, a citizen, an educator, and an information practitioner. It also proposes that discussion about informed societies and responsible citizenry is based on the proposition that societies and individuals have agency, that they can and do make informed decisions concerning governments and governance, that they must be informationally literate, a concept that includes the many literacies that emerge and overlap in the current, dynamic information environment.

The paper raises important issues of trust, ethics, allegations and responsibilities concerning the technology giants, in particularly search engines and social media. The intention of this paper was not to be partisan in these issues and debates, or to provide answers. Rather it was to persuade the readers that media and digital literacy mandate an awareness of these issues. Importantly, it was my objective to argue that not being literate in these matters has dire consequences for informed societies and responsible citizenry; and to argue that information professionals, in all their roles, have a critical part to play in this endeavour.

Keywords: Gabriel A. Bernardo memorial lecture, digital literacy, media literacy, information professions

INTRODUCTION

I would like to thank the University of the Philippines School of Library and Information Studies for the honour of presenting the 41st Gabriel A. Bernardo Memorial Lecture on informed societies and responsible citizenry, and the role of libraries in a democratic society. Gabriel Bernardo was "the thinker who plans, organises and administers the proper utilisation of materials and human resources of his library" (Verzosa, 1963, p. 527) but that was many years ago, and I am quite sure that he would approve of my extending the role of libraries in such an endeavour to all information professionals and informed individuals.

Any discussion about informed societies and responsible citizenry is based on the proposition that societies and individuals have agency, that they can and do make informed decisions concerning governments and governance. Such agency is built on the premise that societies and their citizens are informationally literate. In this paper, I will examine what information literacy entails in the first quarter of the 21st century and beyond in any civil society, including the Philippines. The paper explores some of the many issues, discussions and debates surrounding the myriad ways of finding information in the digital age. Through these lenses, I contend there are serious consequences of not being informationally literate. Finally, I will offer some strategies that those in the information professions, as individuals, citizens, educators, and information practitioners can employ to further such literacies.

WHAT IS INFORMATION LITERACY IN THE 21ST CENTURY?

According to a framework developed by the Association of College Research Libraries (ARCL, 2016), information literacy is a complex and dynamic concept. It expands the traditional Big6 model (see Eisenberg,

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2003; Eisenberg et al., 2010, p. E5420) that emphasises an understanding of literacy based on *problem-solving*, a research process that defines the information problem, determining and locating sources (including technology competencies and digital sources), using and engaging with the information, synthesising, and evaluating information. The ARCL framework incorporates notions of collaborative production and the sharing of information in participatory digital environments. It also contains fundamental keywords suggesting information literacy is a *reflective* discovery of information, an understanding how information is *produced* and *valued*, that its use *creates new knowledge*, enables *ethical* participation in *communities* of learning, and that information *authority* is *constructed* and *contextual* (p. 8). This is a similar position to that taken by Annemaree Lloyd (2019) who offered the definition that information literacy is "a practice that is enacted in a social setting ...a suite of activities and skills that reference structured and embodied knowledges and ways of knowing relevant to the context" (p. 1475).

However, no single definition can adequately show the full complexity and nuances of the knowledge, requirements, and competencies for responsible citizenship in the digital age, nor for the implications for information professionals as practitioners and instructors. Historically, information literacy was, and still is, often incorrectly conflated with "library instruction" (Head et al., 2020, p. 8). However, as early as 2002 institutions such as the European Union and the United Nations (specifically UNESCO) were concerned with a broader remit of education in information technologies in the developing digital environment (Tornero, 2004; WSIS Executive Secretariat, 2004). In fact, UNESCO from the last decades of the 20th century, was concerned with education about the media, asking the question "how can anyone become a fully functioning citizen in a democratic society if he/she is manipulated by commercial media?" (Thoman, 1990). Thus, any discussion of such information literacy must include myriad other literacies—including digital literacy, media literacy, visual literacy, civic literacy, and what has been called metaliteracy.

EMERGENT DIGITAL LITERACIES
According to UNESCO (Law et al., 2018), digital literacy is:

> ...*the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy. (p. 7)*

However, this definition does not provide any indication of how the concept developed with the emergence of the information or knowledge age or society in the last decades of the 20th century (Bell, 1973; Machlup, 1962, 1980). Since then, with each technological development new terms appeared, for example *computer literacy, internet literacy, network literacy* and *hyper-literacy* (Bawden, 2001; Castells, 1996; Fillmore, 1995; McClure, 1994). Mackey and Jacobson (2011) put forward a new term that integrates new and emerging technologies with various other literacies; that "[i]nformation literacy is the metaliteracy for a digital age because it provides the higher order thinking required to engage with multiple document types through various media formats in collaborative environments" (p. 70).

Such collaborative formats were driven by the development and subsequent exponential growth and influence of social media platforms or network services (SNS) in the first decade of this century. Social media obviously includes the notion of digital literacy, and just as obviously, it must include visual literacy which "involves the ability to understand, produce, and use culturally significant images, objects, and visible actions" (Felten, 2008, p. 60). As Ely noted as early as 1984, "visual literacy is part of the media world, conflating visual literacy, media literacy and visual communication" (Ely, 1984, p. 104).

MEDIA LITERACY AND ITS CONTEXT
The most ubiquitous of information communications overtime has been the media, that is, the notion of mass communication, whether in print or by broadcasting, and including journalism, propaganda, opinions, etcetera. Any type of communication consists of the message and its method of delivery, that is, the media and medium.[1] In the 21st century the medium, the conduit or vehicle of mass communication, is now primarily through the Internet, its websites, apps and social media platforms. And the media is the content (the message) is communicated through text, sound, data and images. The *media* is thus both.

The Information Society as it emerged in the later 20th century, based as it was on a *technological revolution* and its current shorthand ICTs (information and communication technologies), had enormous impact on media. We now speak of the 21st century as one of

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[1] *Here, a nod to Marshall McLuhan and his not uncontroversial contribution to modern communication theories.*

a media culture (Tornero & Varis, 2010). As already noted, countries and institutions have been concerned about the need for education about media (Morsy, 1984) and by the early 1990s it was generally realized that media education should be restated as media literacy (Altun, 2011).

In 2008, UNESCO, noting that it had "become apparent that the concepts underlying [both] media and information literacy are inextricably intertwined" (Moore, 2008, p. 4), introduced a media and information literacy (MIL) initiative. It described MIL as:

> ...*a composite set of knowledge, skills, attitudes, competences and practices that allow effectively access, analyze, critically evaluate, interpret, use, create and disseminate information and media products with the use of existing means and tools on a creative, legal and ethical basis (UNESCO, 2021).*

I would argue that the separation of *information* from *media* products, as in the MIL definition, is not tenable; they cannot be separated in a media culture, media is information and information is media. Nevertheless, it is reasonable to say that whatever the particular permutation of media/information literacy, it is an overarching concept that is the starting point in many professional practices and academic disciplines. One can provide a long list of such professional literacies, particularly within an educational environment, for example agriculture (Vallera & Bodzin, 2016), science (National Academies of Sciences Engineering and Medicine, 2016) and law (Schimmel & Militello, 2007) literacies. Certainly, health literacy is immensely important for decision-making in public health, not least of which among ordinary citizens (see for example, Baker, 2006; Nutbeam, 2008), and particularly with high levels of misinformation concerning the COVID pandemic (Paakkari & Okan, 2020).

CULTURAL LITERACY
No matter what the definitions, information/digital literacy cannot be understood in isolation from its context; as Lankshear and Knoble (2006) have said "literacies are bound up with social, institutional and cultural relationships, and can only be understood when they are situated within their social, cultural and historical contexts" (p. 12). It requires 'meaning-making' in particular social worlds, involving social relationships (Hoechsmann & Poyntz, 2012, p. 140), that is, to take into consideration the social norms embedded in the culture and its social relationships.

By way of example, Kathleen Obille (2018) speaks of the values or characteristics identified with Filipinos; social norms such as "*utang na loob* (indebtedness or being grateful), *hiya* (to feel shame or shyness), *delicadeza* (to be cautious), *pagtitiis* (to endure), *pakikisama* (to get along with) and *pagkakaibigan* (friendship)" (p. 552). Obille argues that these traits which ensure smooth interpersonal relations, are reflected in their behaviour online, particularly in their use of social media. Social media is extensively used in the Philippines, and Obille suggests that such values may be reflected in "liking" of posts and validation of opinions. However, the rise of political trolling (deliberatively provocative posting) in the Philippines (Cabañes & Cornelio, 2017) has led Renee Karunungan (2017) to plead "it's time we re-evaluate ourselves, check our values [my emphasis], and start becoming human again." This is possibly a plea for the use of non-confrontational language—the Filipino trait of *delicadeza*, to be cautious and to use non-confrontational language.

Finally, there one other type of literacy that is essential if citizens are to be informed and responsible members of civil society—civic literacy.

CIVIC LITERACY

> ...*the knowledge and skills to participate effectively in civic life through knowing how to stay informed, understanding governmental processes, and knowing how to exercise the rights and obligations of citizenship at local, state, national, and global levels (Partnership for 21st Century Skills, 2019)*

I will return to the question that Elizabeth Thoman (1990) asked about manipulative commercial practices in her discussion concerning media literacy, but first, there is another important set of skills embodied in notions of civic and political literacies, which are not necessarily identical. Milner (2010) for example, believes that to be politically engaged, all citizens—the Internet generation in particular—have a need for "informed political participation", a phrase he suggests is synonymous with civic literacy, "since being politically informed and putting that information into practice are closely associated" (p. 17). However, the basis for both civic and political literacies is to be *informed*. This was pointed out by Crick and Porter (1978) when they stated that political literacy "involve[s] having notions of policy, of policy objectives, and an ability to recognise how well policy objectives had been achieved as well as being able to comprehend those of others ...[and] respond to them

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morally" (p. 96). Milner (2010) also contends that to achieve political participation, education about political decision-making institutions and political issues is needed. This question of being informed includes how and where citizens find news concerning these issues.

According to the latest *Reuters Institute Digital News Report* (2021), the majority of respondents across all countries (74%) said they still prefer news that reflects a range of views and lets them decide what to think. However, the report notes that social media as a news source continues to be strong, especially with younger people and those with lower levels of education (p. 9). Indeed, only 25% of all people surveyed began looking for news on a website, and 18–24-year-olds (Generation Z) were twice as likely to use social media and apps (p. 10). The report also noted a "continuing move to closed messaging apps and more visual social media, as well as the continued widespread public concern over false or misleading information— especially Facebook and Facebook-owned messaging applications including WhatsApp" (p. 4). Of course, this stated concern does not denigrate the advantage of these apps for the immediacy of disseminating news concerning disasters and emergencies. In the Reuters' sample of Filipinos (2,029 interviewees), only 16% said they used print sources in the last week of the years 2016-2021, and across all ages, the use of social media and apps for getting news is extensive (see Table 1).[2]

It should be noted that there is a digital literacy standard for the Philippines (Republic of the Philippines. Department of Education, 2017) which mandates competencies in "navigating the digital global system to search for information and resources and communicate with others in everyday life" (Performance Standard D); "demonstrating ethical practices and values in using technology" including securing and protecting information privacy; and "digital higher order thinking—critically evaluate, share, utilize, and create digital content" (Performance Standard F). However, when asked about difficulties in popularizing, implementing and effectively disseminating this methodological standard, Filipino citizens noted several difficulties, including that of "contextualization, generalization from or lack of awareness of use cases[3]...[that there was a] need for training and development organization ...[and that there were] negative attitudes"[4] (Law et al., 2018, p. 109).

Table 1
Social Media Platforms as Sources of News in the Philippines

Platform	Percentage of population
Facebook	73%
YouTube	53%
Facebook Messenger	36%
Twitter	19%
TikTok	6%

Source: Reuters Institute Digital News Report 2021.

Of course, any type of information literacy not only stresses the selecting of sources, but also the ability to critically evaluate those sources. With so much information being delivered digitally via search engines, social media and other online applications, information literacy must include an understanding of the algorithms that select, curate and deliver that information. Indeed, Abigal Bakke suggests that all curricula should include algorithmic literacy. If as Lloyd (2019) suggests information literacy includes "how we understand and express our agency and our capacity to reflexively understand how information and knowledge is shaped" (p. 1476), then there is an enormous problem when algorithms deliver information, and we have no idea of how this is done and by whom. One needs therefore to question if in a digital, algorithmic world we really do have agency, that is the ability to act independently and to make our own free choices.

ALGORITHMS: FILTER BUBBLES, BIAS AND TRUST

> *The algorithms—useful and impressive as they are—have left us with a tangle of complications to unpick (Fry, 2018, p. 235)*

Algorithms are a finite sequence of well-defined, computer-implementable instructions, typically to solve a class of problems or to perform a computation. They are neither inherently good nor evil, but they have consequences—ethical, philosophical, psychological, and of responsibilities. Those who develop and use them within systems have enormous power and authority.

It has been long known that algorithmic systems harvest and store data about their users. In 2011, Larry Page, one of the founders of Google musing about adding personalized features to make Google more useful, said

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[2]*The annual Reuters Institute Digital News Reports cover many countries; in the 2021 report analysis was for 46 markets, with an increased emphasis on the Global South.*
[3]*Among other countries making the same comment were Australia and China.*
[4]*Although an Australia interviewed in this survey noted "while attitudes are important and should be a part of digital competence assessment, what constitutes an attitude can be confusing and attitude shouldn't be merged with knowledge and skills as competence". See the discussion in this paper about cultural literacy.*

...people need to trust us with their personal information, because we have a huge amount of data now and will have much more soon...Sensors are really cheap and getting cheaper. Storage is cheap. Cameras are cheap. People will generate enormous amounts of data. Everything you've ever heard, seen, or experienced will become searchable. Your whole life will be searchable (quoted in Edwards, 2011, p. 291)

In the digital world of information algorithms have the ability to prioritise information for you (e.g., search engine ranking website results; YouTube suggesting what next to watch); they classify you in order to deliver selected content and associated links (and annoying ads); and they filter out or in, information based on data stored about you and your perceived interests. Such personalisation in effect, leads to gatekeeping, a role once played by journalism (Bruns, 2008; Pariser, 2011b). There is the additional complication that in this environment published material is often disaggregated and its delivery through social media, based on personal data trails for example, makes evaluation difficult (Head et al., 2020; Pariser, 2011b). All these factors raise the question is this a problem? And if it is, what are the implications for informed societies and responsible citizenry? And what can citizens and information professionals do about it?

By the 2000s, scholars began asking questions about the effects of algorithmic personalisation in both search engines and social media (Bozdag, 2013; Bruns, 2008; Pariser, 2011b; Sunstein, 2001, 2018). In 2001, building on Nicholas Negroponte's vision (1995), the legal scholar Cass Sunstein imaged The Daily Me in which people, "through technology are able to design their own newspapers and magazines ...containing exactly what they want and excluding what they do not want ...sort[ing] themselves into echo chambers of their own design". He argued that this supposedly utopian vision of complete 'personalization' would undermine democratic ideals" (Sunstein, 2001, pp. 1-6).[5]

Over ten years ago, Eli Pariser (2011a) galvanized his TED talk audiences by suggesting search engines and social media were doing "invisible algorithmic editing of the Web", in effect creating a "filter bubble" or "echo chamber", terms that according to Bruns (2019), have not been adequately defined. The notion of an algorithmic-driven information filter bubble has generated a great deal of attention and debate, from dire warnings of the detrimental consequences of users not knowing what content has been left out (Pariser, 2011b),

to others who argued that the optimisation of content is beneficial for their users (Bruns, 2019; Goldman, 2005). Indeed, Bruns (2019, pp. 8–9) argues that there is little empirical evidence filter bubbles actually exist, speculating that moral panics around the "filter bubble" meme often also serve as part of a rear-guard defence of the old elites like mainstream media, that stand to lose the most from any change to the status quo.

This paper does not argue for or against either side of these debates. Its concern is if societies, their citizens, and their information professionals are to be informed and to have agency, they cannot be inert. They need to be aware of the existence of these questions about bias, manipulation and trust surrounding sources of information within the technology giants of search and social media. Commenting on their experiments on search engines ranking manipulations in at the time of elections, Epstein and Robertson (2015), concluded that of greater concern was the fact that when "people are unaware they are being manipulated, they tend to believe they have adopted their new thinking voluntarily" (p. E4520). Kosinski et al. (2013) contends that "liking" on Facebook can be used to "automatically and accurately predict a range of highly sensitive personal attributes including: sexual orientation, ethnicity, religious and political views, personality traits, intelligence, happiness, use of addictive substances, parental separation, age, and gender" (p. 5802).

And of trust? As noted above, Google needs "people need to trust us with their personal information" (quoted in Edwards, 2011, p. 291). When search and social media platforms use the powerful technologies of artificial intelligence (AI) and biotechnology to harvest personal data through sensors and eye-tracking front-facing cameras on your devices (Tsukayama & Romm, 2018), trust becomes both an issue and an imperative.

The historian and public intellectual Yuval Harari, in an interview said of the power and authority of the technology giants:

...liberal democracy trusts in the feelings of human beings, and that worked as long as nobody could understand your feelings better than yourself—or your mother. But if there is an algorithm that understands you better than your mother and you don't even understand that this is happening, then liberal democracy will become an emotional puppet show. (Thompson, 2018)

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[5]*For an interesting discussion about filter bubbles and democratic theories, Bozdag, E., & Van Den Hoven, J. (2015). Breaking the filter bubble: democracy and design. Ethics and information technology, 17(4), 249-265. 10.1007/s10676-015-9380-y*

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As users of the search and social media platforms one needs to heed the warning of Hannah Fry (2018, p. 26) not to blindly follow wherever technology leads you to go. There are considerations concerning the implications for privacy (see for example, Sætra, 2019; Zwitter, 2014), and for democracy as suggested by Harari and others (for example, Helbing et al., 2019).

THE ASYMMETRIC POWER OF TECHNOLOGY: A FRAMEWORK OF CONSEQUENCES

> *...the real problem of humanity is the following: we have paleolithic emotions, medieval institutions, and God-like technology. (Wilson, 2009)*

If we take seriously the statement of Larry Page, "your whole life will be searchable" (quoted in Edwards, 2011, p. 291), we need to consider the implications and consequences of the power of the search and social media platforms becoming technology giants in what van Dijck et al. (2018) call "the platform society". Helbing et al. (2019) noted that "the trend goes from programming computers to programming people" (p. 28). David Schultz, when considering search engine bias (see Epstein & Robertson, 2015), alarmingly commented "what we're talking about here is a means of mind control on a massive scale that there is no precedent for in human history" (para. 1).

The "emergent logic of accumulation in the networked sphere" is the concept of surveillance capitalism (Zuboff, 2015), in which people are the product that the technology giants are selling. Within the social media space, it is "the attention economy", that is, tracking the users' mental engagement on a particular item of information (Harris, 2017). Zuboff and others writing about surveillance capitalism, suggest there is a new economic order which claims human experience as free raw material for hidden commercial extraction, prediction, and sales.[6] Furthermore, they contend that it is a parasitic economic logic in which the production of goods and services is subordinated to a new global architecture of behavioural modification. Tristan Harris, a former ethicist with Google, has said

> *...a business model that is infused in the social communications infrastructure that 3 billion people live by, and are dependent on, is*

> *misaligned with the fabric of society and specifically poses a kind of existential threat to democracy and a functioning society. (Harris, 2020)*

Whether one considers these notions to be credible or exaggerated, the reality is that the current business model of technological giants is based on advertising. One has only to examine the 2020 advertising revenues of Google (USD 146.92 billion) and Facebook (approx. USD 84,2 billion) to consider the possibility of this proposition.[7]

It is these concepts which give the technology giants of the search and social media platforms great power.

WHOSE RESPONSIBILITY

It has been said that where there is great power there comes great responsibility.[8] We therefore ask, who is responsible? Should it be governments, through communications laws and regulations or should the search and social media platform companies be self-regulatory? Scholars and commentators are concerned that the search and social media platforms do not consider that they have an ethical duty of care (Harris, 2017; Zuboff, 2015). Axel Bruns (2019) writes of the social media platforms "at present there is an acute need to compel them (through regulatory or other means) to do more to remove extremist accounts, prevent the circulation of disinformation, and open themselves to independent scholarly scrutiny" (p. 9). The extraordinary allegations of the Facebook whistle blower, Frances Haugen (2021) who detailed how the company was "deliberate in its efforts to keep people, including children, hooked to its service" is one of many calling for regulation. Harris (2020) in his testimony to the U.S. Senate argued that "we are moving from a lawful society to an unlawful virtual internet society, and that is what we have to change; if nations have physical borders protection, then why not digital borders protection?"

While the world waits for either the technology giants act responsibly in the interests of civil society or for national or international governments to regulate against any egregious overreach of power, it remains the responsibility of the digital citizens. I would argue that the first step is to be digitally literate. This implies an understanding of privacy issues in the digital sphere, and within this environment to develop an understanding of and an ability to apply all the other literacies discussed in this paper. It also implies taking

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[6]*One of the more infamous incidents of social media data harvesting is the 2010 Cambridge Analytica scandal; see Isaak, J., & Hanna, M. J. (2018). User data privacy: Facebook, Cambridge Analytica, and privacy protection. Computer, 51(8), 56-59. 10.1109/MC.2018.3191268*
[7]*Source: Statista.com*
[8]*Winston Churchill, among many*

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responsibility for individual information practices, such as making critical evaluations of online tools and to constantly updating knowledge of the digital landscape, and to follow ethical discussions and the regulatory aspects of technologically-delivered information.

CONSEQUENCES OF NOT BEING LITERATE: IMPLICATIONS FOR INFORMATION PROFESSIONALS

The issues and questions that have been addressed in this paper raise many questions and concerns for information professionals as practitioners, educators and as individual citizens. It is obvious that in all three roles, we need to be highly digitally literate. As an individual, constantly updating your knowledge of the digital landscapes seems a daunting challenge, which at one level, can fall under conventional continuing professional development through both formal and informal methods (Julien, 2018). Formal methods can be international cooperative initiatives like the Training Centre Network for Librarianship and Information Science (Robinson & Glosiene, 2007), and many national and international professional associations and consortia. However, many of the formal methods may not meet individual development needs (Greenhow et al., 2019), and in an environment where the use of social media is ubiquitous, many scholars have suggested that the use of social media platforms can be used to build communities for sharing knowledge and resources (Corcoran & McGuinness, 2014; Luo & Hostetler, 2020) and for establishing mentoring relationships (Krutka et al., 2017).

In one's role as an information professional, it is important to forge key trusted partnerships with community-based organisations (Detlor et al., 2020), such as with public libraries "as part of the educational ecosystem and as resources for promoting digital and information literacy" (Horrigan, 2015, p. 5). In matters of local, national, and cultural information, partnering with local newspapers (print or digital) that maybe considered trusted sources and therefore can extend literacies for responsible and informed citizenship. This could include, for example, the provision of factual information to counterbalance mis- or disinformation concerning public health (Henrich & Holmes, 2011); as a way to increase social inclusion among ethnic populations (Katz et al., 2012); or citizen participation in local heritage planning and implementation (Swensen et al., 2012).

Finally, reaching out to community groups and non-government organisations, local businesses, and industries in particular fields of study, and to professional associations such as health and legal professions, all of which have specialised knowledge and expertise that can be passed on. The development

of strategic partnerships with these organisations, could not only deliver aspects of continuing professional information, but also collaborate in workshops, projects or internships (Hobbs & Coiro, 2016).

CONCLUSIONS

The brief for this lecture in honour of Prof. Gabriel A. Bernardo, the doyen of Philippine librarianship, was twofold. To explore what promotes informed societies and responsible citizenry, and to examine the supposition that there is a role for libraries in a democratic society. I have taken position that in the 21st century—the digital age—such an endeavour must extend to all information professionals and informed individuals, since librarians are part of the information profession, and each is an individual, a citizen, an educator, and an information practitioner. The paper assumes that to be informed is to be informationally literate, a concept that includes the many literacies that emerge and overlap in the current, dynamic information environment.

In this paper, I have raised what I consider to be some of the important issues within this digital environment. These include a discussion of the algorithms that drive the information world of search and social media platforms, their filtering of content based on personal preferences, and their perceived biases. I have also introduced issues of trust, ethics and allegations that have been raised by scholars and commentators that these technology giants work on business models that are detrimental to individuals and society, and ipso facto, to democratic principles. These questions hopefully have raised the reader's awareness of the power and responsibilities of the technology companies that deliver information content, and leads them to ask if there is a problem, and if the answer is yes, what should be done about it?

The intention of this paper was not to be partisan in these issues and debates, or to provide answers. Rather it was to persuade the readers that media and digital literacy mandate an awareness of these issues. Importantly, it was my objective to argue that not being literate in these matters has dire consequences for informed societies and responsible citizenry; and to argue that information professionals, in all their roles, have a critical part to play in this endeavour.

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Dr. Maureen Henninger was in the forefront of research and practice in the digital environment, and specifically with the advent of the Internet, published and consulted widely on digital literacy for industry, government and non-government organizations, both in Australia and internationally. As an information professional, she has worked with government and international organisations to deliver digital literacy and projects for the preservation of information artefacts in many Asian and Pacific countries. In her academic career, her research and teaching has been in the field of digital and data literacies and is currently a visiting professor at the University of the Philippines and a visiting fellow at the University of Technology Sydney. Her longstanding interest in political science and democratic processes led to her current research and publishing, focussing on digital literacy requirements for accessing government information and datasets. Her current concern is with governmental mechanisms and practices that enable and constrain democratic processes and active citizenship.

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Critical Librarianship in a Global Context*

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Abstract

Critical librarianship involves the study of structures that undergird the selection, acquisition, description, circulation, and preservation of information. These library structures are embedded in other systems, including capitalism, colonialism, and other circuits of power. Critical librarianship that acknowledges global contexts must include a critique of the dynamics of American empire.

Keywords: Cataloging and classification; Knowledge organization; Critical librarianship; Colonialism; Imperialism

Critical librarianship involves the study of structures that undergird the selection, acquisition, description, circulation, and preservation of information (Drabinski, 2019). We ask how the systems we use to complete these core library functions came to be and how they enable—and don't—access to some forms of knowledge and not others. We interrogate their origins, the ways they work in the present, and how we might change them to facilitate equity and justice for readers, writers, and researchers from all socioeconomic and cultural locations. These library structures are embedded in other systems, including capitalism, colonialism, and other circuits of power. Critical librarianship that acknowledges global contexts must interrogate these structures as well. If we want to critique library structures and functions, we must also critique the dynamics that have produced them as they are.

Critical work in library and information studies explores libraries as institutions shaped by logics of racism, capitalism, patriarchy, and other systems of oppression. Libraries are critiqued for trying to be everything to everyone regardless of the impact on library workers, or for perpetuating inequalities through collection development and outreach strategies that center dominant white, male, western perspectives in the United States and elsewhere. Too often, solutions are located at the scale of the library:

library directors should resist an expansion of their mission, for example, or collection development librarians should select from alternative presses and underground publishers. Such interventions are important but should also account for the larger social forces that put librarians in these kinds of binds. Why are libraries the only place in many cities where a person can use a bathroom, get a drink of water, sit down without buying anything? Critical librarianship should engage these broader questions too. And while there are surely issues internal to librarianship—a commitment to intellectual freedom above material harm to communities, for example, or a professional managerial workforce that serves state and capital rather than the needs of communities—these larger forces determine much about the problems and opportunities facing library workers. Libraries are not a space of total freedom. Critical librarianship needs to account for systems and structures that produce us as we are.

We can see these kinds of dynamics at work in a brief sketch of the history of libraries in the Philippines as shaped by the United States' involvement in the nation. This sketch touches on colonial violence and national resistance, the perils of war, and legislative processes in the United States and in the Philippines that shape the ways librarians in both countries participate in the field. These

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forces shape the terrain of possibility for all of us, libraries included.

In 1901, the United States took control of the Philippines at the end of the Spanish-American War, quickly and violently quashing a nascent independence movement that had initially sided with the Americans against Spain, a colonial power in the archipelago for nearly 400 years. In the wake of this war and the 200,000 Filipino lives it cost, the United States moved swiftly to erect colonial structures of all kinds. These institutions included schools and hospitals built in the American image and a state military and police apparatus that continues to be mobilized by the state. Among these institutions we find the library.

The initial circulating collection was built from a Congressionally directed gift of books gathered by Georgie Greenleaf, the wife of a U.S. Army doctor who arrived in the archipelago following the Battle of Manila ("Philippines," n.d.). While her husband worked to establish more than 600 military outposts in a country that was fighting against this occupation ("Brigadier General Charles R. Greenleaf," 1911), she built a leisure reading collection as a tribute to fallen American servicemen. In 1901, the U.S. Congress passed a law establishing the first circulating library in the Philippines for American readers. Four years later, that body decided that Filipinos would be allowed to use the collection too (Hatch, 1972). Accompanying this initial deposit of books was a push to train Filipino librarians to build and maintain libraries according to U.S. standards. In 1918, Gabriel Bernardo and three other *pensionados* left the islands for library school in frigid Madison, Wisconsin. When they returned, Bernardo took the position of University Librarian at the University of the Philippines, Diliman (Verzosa, 1963). In 1923, he and five others founded the Philippine Library Association, the oldest professional library organization in Asia (Philippine Librarians Association, Inc., n.d.). In 1945, Filipino libraries were one of many social infrastructures laid waste by the war. In the decades that followed, libraries were rebuilt, and library schools in the country trained professional librarians across the public, school, academic, and special library sectors. In 1990, the Philippines established national licensing standards that institutionalized the profession at the highest levels of the state (Santos, 1993).

An analysis that takes international contexts seriously might attend to the ways library structures—from the training programs offered in Wisconsin to the donations of American books that shaped collections in 1901 and again in 1946 (Morallos, 1998)—served and continue to serve as an extension of the American empire. Where do U.S. classification and cataloging structures, library school curricula, standards for information literacy and outreach, and more come from? How did they spread around the world, to U.S. colonial holdings and beyond? How do library workers across the planet engage and resist these systems as they serve the needs of local communities? Rather than asking only how library structures reify American ideology for Americans, critical library scholars might ask how these systems are used in other contexts where library workers and patrons access information through distinctly American paradigms. Why do so many Latin American libraries use the Dewey Decimal Classification (Arellano & Garrido, 2009)? Why is everyone, the International Federation of Library Associations and Institutions included, worried about "fake news" (International Federation of Library Associations and Institutions, 2016), a distinctly American phrasing?

These questions may be asked and answered outside of U.S. borders, where grappling with the logics of the American empire is a part of daily life. But I write from and largely for American librarians. For the many librarians in the United States who are not immigrants or refugees, who are not people of color from colonized places, American empire is barely legible. Despite its long history as a U.S. colony, then commonwealth, then independent state scarred by an ongoing U.S. military occupation, many Americans will tell you they never knew the archipelago was a U.S. colonial holding. Many Americans are not aware that Puerto Rico still is, that Hawai'i and Alaska are former colonies incorporated into the U.S. state, that the "sea to shining sea" is itself a vast space of dispossession of American Indians who hold land claims to this day. The implications of this for a U.S. critical librarianship are such that those of us who practice what we call #CritLib often lack a critique of the U.S. border or of what U.S. exports like Library of Congress Classification, WorldCat, and the Cebu scanning centers of the Internet Archive (Hachette, 2020) mean for the formation and circulation of knowledge that originates in the Philippines and elsewhere.

The implications of all this forgetting are that U.S. librarians fight over library structures in ways that are necessarily parochial. We struggle over the use of the phrase "Illegal Aliens" as a subject heading

but leave the classification structure intact. We do not eliminate borders, just shift how we describe them. This is not to say that these changes are not important, just that they are not structural and are therefore quite limited in terms of the change they can produce in libraries and beyond. The controlled vocabulary changes, but the fact that U.S. policy produces the migrant flows that it then violently crushes is still nearly impossible to see in the library catalog.

Of course, the problem of classification only presents itself to those who sit outside hegemonic modes of knowledge production and dissemination. If classified order and controlled vocabularies reflect one's own experience of the world, those tools will seem timeless, natural, and neutral to you. For U.S. library workers from dominant social groups, that common sense can't help but be an imperial one. Critical library work from the United States should take the rest of the world seriously. We should address the relationship of our country to the rest of the world, something I am beginning to do in my own work in this essay.

One place to begin this work is in those same classification and cataloging structures that have been the focus on much critical work in U.S. libraries. Class D in the Library of Congress Classification is ripe for such critique. The classification for *World History and History of Europe, Asia, Africa, Australia, New Zealand, Etc.*, Class D demonstrates quite clearly demonstrates the imperial roots and shoots of library organization. There are 21 subclasses in Class D. DA is reserved for works about *Great Britain*, DE the *Greco-Roman World,* DG contains *Italy-Malta*, DH the *Low Countries*, DR the *Balkan Peninsula*, and so on. *Asia*, 30% of the world's land mass and 60% of the world's population, is contained in DS. The degree of specificity in the classification tells us something about what matters to those who classify.

Reading further into DS, the imperial gaze intensifies. *The Philippines* does not stand alone as a country but instead sits underneath the broader grouping, *Southeast Asia*. Cambodia, Laos, and Vietnam are listed as parts of Indochina and the Dutch are named in the history of Indonesia. The United States as a colonial power is invisible. Vietnam and Indonesia are not represented on their own terms. The history of the Philippines includes neither Spain nor the United States. What matters is *Ethnography*, *History*, and *Local History and Description*. What is relevant is what Americans see

when they look at the Philippines, not how Filipinos understand and narrate their own history.

None of what I have written here will be new to librarians working outside of the United States and Europe who daily navigate imperial circuits of knowledge organization, dissemination, and control. But for librarians in the United States, broadening our sense of what counts as critical is crucial. The relentless floods and fires of unchecked climate change and the ongoing COVID-19 pandemic should tell all of us that national borders are a political fiction that serves power while leaving the rest of us at the mercy of the plundering classes. No wall or fence or airport restriction can produce equity in knowledge production and dissemination. While tempting, these sorts of borders are not what the moment calls for from us. These are not structures we need to be building right now. Critical librarianship in a global context must instead reckon with the ways that U.S. systems and structures continue to limit what and how we can know things in the rest of the world. The borders and boundaries of our classification and cataloging systems are one place that library workers might begin.

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Propaganda, Folk Beliefs, and Health Information: Insights from the Cholera Outbreaks in the Philippines

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Abstract

This brief historical paper presents the case of the cholera outbreak in the Philippines during the early 20th century. The health situation and response during this period provide valuable insights into the implications of propaganda and folk beliefs to the people's decision-making and information use and dissemination regarding their health conditions. Having a deeper understanding of the indigenous and local contexts and integrating these information into governance and policymaking are crucial in establishing health literacy campaigns, particularly at the grassroots level.

Keywords: cholera outbreak, health information, misinformation, propaganda

INTRODUCTION

Cholera was a global concern throughout the 19th until the early 20th century. In the Philippines, this disease swept the archipelago and claimed the lives of thousands of Filipinos (Montero y Vidal, 1894). Cholera is a communicable disease caused by the bacterium known as *Vibrio cholera* (World Health Organization, 2010). It can be acquired when a person consumes food or drinks from contaminated sources (Dunkin, 2021). Communities with poor sewage and sanitation usually get infected by this disease (Centers for Disease Control and Prevention, 2021). During the Spanish period, conditions turned from bad to worse, especially in the Philippines, because of propaganda and misinformation. Misinformation has always been a part of the media history, long before the term itself seeped through the people's common consciousness at the height of social media's popularity.

Misinformation is defined as incorrect or misleading information presented as fact. When deliberately spread with the intent to mislead or deceive the public, misinformation becomes disinformation (Posetti & Matthews, 2018). A good example is the 1820 cholera outbreak in Manila and Cavite. According to the accounts of French doctor Paul Proust de la Gironiere (1854), the Catholic clergy and Spanish merchants fanned the rumors that the non-Spanish foreigners were out to poison the wells and, thus, killed the natives. Believing what was told them were true, the angry locals took their bolos and attacked the foreigners. Gironiere vividly recalled the onslaught as he himself was barely spared from the atrocity. When investigations were conducted, witnesses brought a botanist's sketchbook as an evidence of the foreigner's evil plans. It contained illustrations of native flora and fauna. The natives conjectured the specimens of frogs and insects were items used by sorcerers to murder their victims (Gironiere, 1854).

This incident is an example of how misinformation could easily spread chaos. Aside from the lackadaisical approach done by colonial officials, their refusal and passivity to create an educated Filipino society prevented the locals from making sensible health-related decisions (de Bevoise, 2002). To blame

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poverty alone should not be the case. In fact, epidemics and pandemics reflect a complicated socio-economic, cultural, and political confluence, to include natural disasters, locust infestations, crop failure, war, and transcontinental movements of diseases. All these resulted in deadly afflictions that hit the vulnerable communities.

In this paper, I will share insights drawn from our history on how propaganda, misinformation, and even folk beliefs somewhat hindered the containment of health outbreaks, such as cholera. Lessons from the past ring some truth now that the Philippines has sunk deep in the COVID-19 outbreak. The implications of the current pandemic, for example, in terms of how governments address the spread of the pandemic, like observance of safety protocols, quarantine measures, disinfection, hygiene practices, and vaccination, among others, were measures that have been practiced before. On the other hand, it could be said that pandemics are ripe opportunities for misinformation to breed (Larson, 2018). While it is true that those who fall for the wrong information were the poor and uneducated (Heiser, 1907), the failure of colonial officials to understand and Filipino culture and practices in their first attempts to contain cholera outbreaks in the country only worsened the debacle. Severe measures, like burning the homes of the patients, cremating bodies, and sending patients to concentration camps only earned the rage of the natives. As such, rather than cooperate, the natives fled and spreading cholera wherever they went. Only later when they realized that educating the Filipinos about health and hygiene and improving the health system did they succeeded in preventing the disease from spreading further.

FOLK BELIEFS AND STATE OF PUBLIC HEALTH IN COLONIAL PHILIPPINES
The late 19th century Filipino society, which was heavily influenced by religious and superstitious beliefs, thought that chaos, pestilence and maladies were punishments and, thus, were signs of the end of times (de Bevoise, 2002). Without access to information and resistance to colonial authorities out of fear, disgust or both, the natives held tightly on folk beliefs and religion to obtain relief, healing or salvation from the disease. Even in public health crisis, Catholic priests had a central role to play. This included allaying fears of impending outbreaks and seeking healing and retribution amidst longsuffering to blessing and burying the dead. The residents painted the cross in front of their houses and doors, wore a wooden cross on their neck or kept one on the pocket as protection when living their home. The

blessings of San Roque was called upon to deliver the natives and the Spaniards from the deathly grip (Worcester, 1909). A novena for the saint would be read for nine days or longer starting at the 16th of every month followed by eight days' indulgence by the cholera patient. These practices, however, met the dissatisfaction of health officials during the American period, who thought of these gatherings as disease super-spreaders (de Bevoise, 2002).

Deep religious devotion mingled well with superstitious beliefs and natives strongly subscribed to these beliefs in desperation for salvation, healing or both. The people of Capiz attributed the cholera to the three evil spirits which poison the people (Barza, 1927), while the Sulud people of Panay believed that cholera and other epidemics were caused by spirits called *ibabawnon* (Jocano, 1966). In the town of Sibalom in Antique province, cholera was thought of as caused by black magic that engulfed the locals after a priest and his servant visited the community. Others alleged that people in the community vomit, endured loose bowel, and suddenly died after being touched by a man on the loose. Rumors also spread that powders were spread on the streets and anyone who stepped on it met their death right there and then. Fearful locals abandoned the pueblo, burned their houses and fled to the mountains, further spreading the disease wherever they go (Worcester, 1909).

The superstitious also warned against drinking of boiled water, lest one suffers from hair fall; that a black dog which runs around spreads the virus. In the province of Basilan, the natives believed that the spirits were against them, thus, they dumped boatloads of food to the sea to appease the spirits and allow them to live in peace (Worcester, 1909; de Bevoise, 2002).

An alleged cure for cholera was alcohol and opiate, although they did little to alleviate the conditions of the victims. Filipinos continued to resort to other options that they believed would help cure the patients. For instance, in Capiz, patients who gave up hope on medical remedies turned to folk healers who gave them poultices and some sorts of plasters, which, according to a Spanish doctor, seemed infallible for the Filipinos, but did not totally eradicate the spread of the disease (Boncan, 2016). In Spanish-era Manila, authorities ordered the burning of lemongrass and tar to counter infectious miasma. Medical officers further advised the locals to apply camphor-filled quills on their mouth. They also avoided any other food except for rice, which was deemed the safest food (de Bevoise, 2002).

PROPAGANDA DURING PANDEMIC

Cholera ravaged the archipelago in varying intensities during 1821 to 1823, in 1830, 1854, from 1863 to 1865, in 1882, 1883, and 1888 (Worcester, 1909). The last case of the 19th century was officially terminated in 1889. Collating the official figures by the Spanish authorities would show that there were 16,666 deaths for the 1888–1889 outbreak, but the Americans later figured out that the Spaniards deflated the figure.

The spread of a disease may be partly due to the failure, reluctance or disinterest of those in authority to keep a well-informed public and quickly act upon to prevent cases from escalating. Take the case of the 1888–1899 cholera outbreak in the Philippines. In 1888, news reached Manila that cholera has undermined Hong Kong, although this could not be confirmed since the officials in the British colony were mum about the outbreak. However, press outlets in Hong Kong confirmed cholera-related deaths, prompting authorities in Manila to place vessels and travelers from Hong Kong under quarantine (Worcester, 1909).

Meanwhile, in the Philippines, Governor-General Valeriano Weyler ordered that after a certain date, no more case of cholera should be reported and that they should be recorded as cases of enterocolitis, gastroenteritis, or *cholera nostras*. Records later revealed that death by cholera for the 1888–1889 period reached 67,612. Such was the extent of concealment that the governor-general refused to believe that cholera existed in Manila. With no support from the governor-general, the doctors took it upon themselves to handle the case. Only when the cases burst that the presence of cholera was announced and the poor chief health officer was blamed for not doing anything to contain the outbreak (Worcester, 1909).

It is interesting as well to look at the cholera outbreak and the cases of pro- and anti-American propaganda that did little to allay fears of the public of the spreading disease. It was initially believed that cholera reached Manila after the cabbage dumped by angry Chinese ship captains refused entry in the port and were gathered and consumed by the bay-area settlers without properly cleaning the vegetables (Sta. Maria, 2006). However, de Bevoise (2002) argued that the cabbage may not actually be the culprit since it was possible that *Vibrio cholerae* could not have survived either the voyage from mainland China or getting soaked in the saltwater. De Bevoise theorized further that since the district was a busy area resided by fishermen, stevedores and smugglers, it was possible that these people might have contact with someone who came from the mainland and had contracted cholera.

The task of civilizing Uncle Sam's "little brown brothers," as the colonizers called the Filipinos, was further justified by the natives' need to be trained with cleanliness and proper hygiene. In fact, when the brutal measures to curb cholera cases failed, they slapped back the Filipinos' poor sanitation and filthy surroundings as factors that exacerbated cholera cases. There may be some truth to this unhygienic practice of the Filipinos, but it is wrong to completely put the blame on them. Had education been used as tool to improve their lives, they could have done better. Another cause explicated by the Americans that ushered to the spread of diseases is the lack of clean source of drinking water, an aspect of community life rooted on poverty and prolonged by the ill-intent or lack of money on the side of the colonizers to establish at least artesian wells (Ileto, 1988; Torres, 2011). It was also burdensome for the locals to haul water from clean water sources, thus, they rely on the closest available sources, whether they were potable or not.

Despite these intentions of the Americans to suppress the spread of the disease, the manner of implementing their measures shocked and scared the natives. Their zealousness bordered to abuse, to include forcible administration of medicines in detention camps (Ileto, 1988; Peckham, 2016). The worst was when Farola district was burned and residents had to be turned to the San Lazaro concentration camp, earning the colonizers the seething rage of the natives. Rather than cooperate, the natives resisted American interventions, the latter fleeing the camps at night, thus, hastening the spread of cholera in nearby towns. The first case of cholera outside Manila occurred after a cook smuggled food to a fiesta and a victim died of the disease shortly thereafter (Worcester, 1909).

Overcrowded and food-scarce concentration camps actually made the locals more susceptible to other diseases, such as malaria and dysentery. This only further weakened their immunity and made them prone to cholera as well. These draconian policies eventually backfired and rather than detaining direct contacts in concentration camps, they were allowed to stay home while the victim was hauled to the hospitals. The American authority's decision to burn the victims' body outraged the Filipinos and Spaniards in the islands who abhorred the idea of cremating their loved ones. These cultural insensitivities proved an obstacle in their health campaigns as every step of the way was met by suspicion and resistance to the point

that they decided to dump their dead relatives on the river or bury them beneath their houses, which spread the disease easily. Some decided to leave dead bodies and fled their houses, bringing the disease with them wherever they go (Worcester, 1909; Ileto, 1988).

A strong wave of anti-American propaganda ensued. The Spanish residents and the natives reacted by refusing to believe the presence of cholera while rumors started circulating that those with cholera would be interred in detention camps or murdered in cholera hospitals. Another propaganda accused the Americans of dropping poisonous powders into wells for the purpose of killing the villagers (Fee, 1912). As such, at the start of the campaign against cholera, Heiser (1907) agreed that these misconceptions and superstitions, which facilitated the spread of cholera, would have been addressed by ardent and science-backed educational campaigns. In this context, implementing culturally-sensitive health education campaigns, which considered the local beliefs and practices, and at the same time incorporated the teaching of health and hygiene in the primary and intermediate curriculum, could have helped in allaying fears of the natives and proactively fighting the spread of communicable diseases (Bewley, 1927). After realizing that early, draconian measures against cholera outbreaks did more harm than good, the colonial government shifted to the more humane, subtle, yet far-reaching measures of using education as a means to fighting diseases.

FROM DRACONIAN MEASURES TO HEALTH LITERACY CAMPAIGN

With the iron-hand clutch proving ineffective in cholera cases, the government pursued health promotion and education as a course against disease. Health circulars and bulletins, to include simple directions for avoiding cholera, were published and circulated. Filipino health officers were trained in controlling epidemics and implementing hygiene and sanitary work in the community. The Board of Health prolifically issued resolutions and bulletins that guided the community on how to prevent the disease from spreading through proper hygiene and cleanliness (Heiser, 1907). The Bureau of Health and Bureau of Education hired a medical inspector for the city schools while local health officers scheduled periodic visits to the schools in the different municipalities (Heiser, 1907). Health and hygiene became part of the curriculum. Intermediate science instruction involved the teaching of physiology and hygiene. Studies of epidemic diseases were taught using the bulletins of the Board of Health. Girls were trained to care for and prepare diet for the sick, as well

as to maintain sanitation. Agriculture and housekeeping subjects became avenues to emphasize the importance of cleanliness in disease prevention (Barrows, 1904). During outbreaks, teachers came to the rescue and served as contact tracers and helped care for the sick. Health bulletins translated into various languages were circulated to teachers as part of their readings. The education and health sectors also involved parents, educating them as well on the role of a clean and hygienic surrounding in ensuring a safe and disease-free home and community (Carter, 1904). The Philippine Legislature, likewise, passed a law, which banned the use of night soil and urine as well as any human excrement collected at night using cesspools and buckets as fertilizer (Heiser, 1907). Unlike the initial government measures against cholera and other communicable diseases, centering the health campaigns on education seemed to have produced far-reaching effects. The introduction of vaccines and the institutionalization of health and hygiene as part of the curriculum by the 1910s have also ensured the decline of cholera cases by the second and third decade of the 20th century.

CONCLUSION

The colonial officials later realized that their failure to understand the Filipino culture could prove more harm than good in addressing health concerns like the cholera outbreak. Upon this realization, the impact of health literacy in disease control and prevention had been truly evident. To counter propaganda and misinformation, relevant information drive was trickled down to the grassroots. The Bureau of Education integrated health and sanitation in the curriculum that by the 1920s, these two subjects became vital components of instruction. Nurses were employed to teach schoolchildren and visit homes to teach parents about health and hygiene. Instructional materials, such as *School News Review*, and other supplemental publications for science and health readers were circulated. Sanitary toilets and handwashing stations were established in schools, while sports, athletics and gardening became part of school-based activities (Bewley, 1927). With strengthened immunity, advances in medical science, and the vigorous campaigns to promote health and hygiene literacy, massive cholera outbreaks had drawn to their close.

The case of the cholera outbreak in the early 20th century provides a stark reminder that history could repeat itself. One may surmise that the situation that the Philippines and the entire world plunged in during the height of the COVID-19 outbreak is not new. Likewise,

health measures such as community quarantines, disinfection and health education campaigns are not new. It cannot be denied that ensuring a health-literate and well-informed public is as important as finding the cure or containing the spread of disease. The dissemination of basic information (such as how disease is transmitted, protective and preventive measures, and proper hygiene) could be said to be a time-tested strategy to prevent or decelerate the spread of the disease (Madhav et al., 2017). The aim is to build a community that recognizes and addresses misinformation, rumors, superstitions, and urban legends that could get in the way of health reforms (Greenhill & Oppenheim, 2017). This is possible through fact-based and empathetic initiatives that value community experiences, histories, and cultures in designing and implementing effective and holistic actions towards an infection-free community.

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The Need for Collaboration to Preserve Southeast Asian Manuscripts

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VIEWPOINT

Abstract

This paper emphasizes the preservation of palm leaf manuscripts with regard to digitization and collaboration of related institutions. While many institutions focus on digitization, some issues have been raised to spread awareness of strategies and patrons. Therefore, the concept of collaboration among institutions at all levels— local, national, and international—is proposed. The idea of digitization suggested in this paper is considered as a part of preservation. Moreover, the concept of collaboration is highlighted as a key to unlocking the limitation of manuscript preservation in Southeast Asia.

Keywords: preservation, digitization, Southeast Asian manuscripts, collaboration, DREAMSEA

INTRODUCTION

Before the invention of the printing press, early documents were produced by hand. Most manuscripts in Southeast Asia used palm leaves (*Corypha umbraculifera, Borassus flabellifer,* and *Corypha utan*), mulberry tree (*Broussonetia papyrifera*), and khòi tree (*Streblus asper*) as writing media. The palm-leaf manuscripts in Southeast Asia represent the first paper-based printed material in the region. The format of palm leaf manuscripts is long narrow strips that use a rope to bind things together and are protected by wooden covers or cloth wrapping. Though there was no clue about using palm leaves for the first time, the evidence of the oldest palm leaf manuscripts was found in Central Asia in the 2nd century AD. In South Asia, there are still surviving manuscripts from the pre-16th century. In Southeast Asia, the idea of using palm leaf as a material to record was derived from India and Sri Lanka around the 16th century (Gaur, 1979). These materials are used for religious and meritorious acts. Normally, the manuscripts are kept in the national library, monastery, mosque, temple, and the private residence of the owners. The content of the manuscripts mainly contains religious aspects. Therefore, most actions regarding the manuscripts connect with translation, explanation, application, interpretation, and critical edition (Bodhiprasiddhinand, 2021). Aside from religious features, there are also information regarding herbs medicine, literature, folktale, astrology, and laws contained in the manuscripts that are waiting, like a time capsule, for the next generation to discover and study. At this moment, physical and digital preservations are two vital procedures to answer how these valuable heritage manuscripts could survive sustainably. Many countries in Southeast Asia have continued preserving actual artifacts, microfilming, and digitizing documents for over 40 years. Also, Western institutions play an important role to help and provide funding and the know-how for the local units to support manuscript preservation. However, there are massive manuscripts hidden in many communities around Southeast Asia. While these manuscripts are not always known to many, technological advancements have effectively connected everyone and have opened doors for many opportunities to link different local institutions that keep and preserve their manuscripts. Due to the value of these manuscripts locally and regionally and the imminent danger of losing them forever, the author argues that collaborations, both locally and internationally, are highly needed.

PRIMARY INSTITUTIONS THAT PERFORM MANUSCRIPT PRESERVATION

There are a few well-known institutions that have had strong roles in manuscript preservation since the beginning of 1972. These organizations have been continuously working to protect and preserve the wisdom and knowledge contained in the original artifacts. The Pali Text Society in London, established by T.W. Rhys Davids in 1881, was the first institute that

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focused on the translation and preservation of Pali text or known as the palm-leaf manuscript. He pioneered the concept of "textual criticism" since many palm leaf manuscripts from various ancient languages, for example, Pali, Sinhalese, or Singhala, Burma, and Tham scripts, were revised. Another institute that has been very well-known as the primary institution for palm leaf manuscripts is the Centre for the Study of Manuscript Cultures and the University of Hamburg in Germany (Bodhiprasiddhinand, 2021).

COLLABORATION IN BUILDING A DIGITAL MANUSCRIPT REPOSITORY

As stated by Huges and Prescott (2018), the main reason for digitization is to improve accessibility, particularly to support remote access. Southeast Asia is one of the regions that are rich in religion, culture, and diversity. As mentioned previously, the palm leaf manuscripts are the first printed materials containing a lot of valuable information that could reveal the truth in and about the past, as well as treasured wisdom and knowledge that constitute the heritage that is worthy of preservation. In 2017, the DREAMSEA project was launched and funded by two famous institutions in palm-leaf manuscript studies—the Centre for the Study of Manuscript Cultures (CSMC) of the University of Hamburg in Germany, and the Arcadia Foundation in the United Kingdom (DREAMSEA Programme, 2021). This program aims to preserve the endangered manuscripts and their contents in Southeast Asian countries as well as to disclose the immense cultural treasures to the world (DREAMSEA Programme, 2021). With this attempt, the ancient manuscripts and their contents would be protected from threatening situations such as inappropriate storage, the depreciation of local people, and language difficulty. This program has been collaborating with many local institutions to digitize the manuscripts, save the literary heritage and safeguard cultural diversity. As members of the program, the author and the team, who have well understanding and experience with palm-leaf manuscripts in the northern part of Thailand, have been working alongside local people under the DREAMSEA Programme. The main purpose of this initiative is to digitize the content and implement standard metadata that would be compatible with information searching in the future. As a result, the valuable contents contained in the manuscript could be preserved and easily accessed. Likewise, both the local heritage and harmonious culture of Southeast Asia are introduced to the world.

Another good example that demonstrates networking collaboration wherein many institutions are involved is the Digital Library of Northern Thai Manuscripts Project (PNTMP). This project, which started in 2013, focused on digitization to bring all manuscripts collection available online containing 3,914 manuscripts and 159,564 images. This project was initiated from 1983 to 1992, by Harald Hundius, a German scholar and a guest lecturer in the Thai Department of Chiang Mai University. Funded by the German Federal Foreign Office, it was carried out by the Center for the Promotion of Arts and Culture, Chiang Mai University. The project was also co-founded by the Henry Luce Foundation, the Andrew W. Mellon Foundation, the University of Pennsylvania Libraries, and the School of Arts and Science at the University of Pennsylvania. As a result, the manuscripts in the Northern part of Thailand were digitized by a number of institutes including the University of Pennsylvania, Chiang Mai University, the National Library of Laos, and the Berlin State Library, and Herrmann und Kraemer GmbH (Digital Library of Northern Thai Manuscript, n.d.).

PRESERVING LANGUAGE AND CULTURAL DIVERSITY THROUGH DIGITIZATION

Rooted from their rich history and culture, one of the strengths of Southeast Asian people is having high performance in literacy as evidenced by their writing traditions. The high degree of diversity of ethnic groups, religion, language and culture shows the rich cultural heritage in Southeast Asia such as Indonesia, the Philippines, Malaysia, Thailand, and Laos. This diversity, therefore, attracts many scholars to visit and stay to study the diversity of writing traditions (DREAMSEA Manuscripts, 2021).

To preserve cultural heritage, scholars at the national and international levels continuously build networks and work together. The scholars have rescued the physical manuscripts as well as their contents. For physical manuscripts, the local institutions involved such as universities and local administrative organizations would step in to help clean actual manuscripts. In Lanna tradition, this tradition is called *Tak Tham* - the ancient Lanna tradition that people bring out the palm leaf manuscripts to clean and dry in the sunlight. There will be a big celebration among the Buddhists before bringing the palm leaf manuscripts back to where they are kept (Jarusawat, 2020). Regarding this, the community could not only maintain rituals of manuscripts but also raise awareness of respect and value among the community. Moreover, another good example of preserving knowledge recorded from ancestors both in a physical and spiritual way is how the local community in Indonesia brings manuscripts out while Balinese women worship (with flowers and incense) and chant. Palm leaf manuscripts are considered very sacred because these are the means that the Goddess Dewi Saraswati uses to disseminate knowledge. In Thailand

and Laos, some monasteries bring manuscripts out for cleaning and praying by monks as they dedicate merits to the owners. These actions show the highest respect for the manuscripts as holy objects.

For the preservation and dissemination of contents, the manuscripts are firstly rescued for further study in research, teaching, and learning specifically for areas of orthography, paleography, culture, transliteration and critical, herbal wisdom, ancient law, and literature (DREAMSEA, 2021). To confirm the importance of studying these manuscripts at the global level, there are some Ph.D. theses published recently such as *Relationship between Anisong Manuscripts and Rituals: A Comparative study of the Lan Na and Lao Traditions* by Silpsupa Jaengsawand in 2019; *An Exploration of the Potential for Collaborative Management of Palm Leaf Manuscripts as Lanna Cultural Material in Northern Thailand* by Piyapat Jarusawat in 2018; and *The Stab-Stitched Binding of Tai Manuscripts: A Survey of the History, Technique, and Function* by Agnieszka Helman-Wazny, Direk Injan, Khamvone Boulyaphonh, and Volker Grabowsky in 2021. Second, the manuscripts are aimed to be published and translated in both local languages and in English for worldwide access and dissemination. The third target is to digitize the manuscripts for preservation. Fourth, the database is aimed to provide open access for users to increase the use of the manuscripts. Having a repository helps to store the contents for faster retrieval, access, and effective services for all the people. Some of the manuscripts in English and local versions can now be found in websites such as the Digital Library of Northern Thai Manuscripts, and the Digital Library of Lao Manuscripts. Also, other manuscripts that come from different parts of Southeast Asia can be found in the DREAMSEA Repository.

Starting in the 20th century, digitization has appeared to be the best solution to copy and convert printed materials such as books in general, rare books, special collections, and manuscripts to digital. Digitization is also done to protect and maintain the materials by creating digital products worthy of long-term preservation (Conway, 2000). The benefits of digitization are to increase access, create new types of research, new users and new uses, and preservation (Hirtle, 2002; Lee, 2001). Consequently, the digitization of manuscripts was chosen and done because: 1) the use of manuscripts is replaced by digital version and from digital access; 2) the digital copies are widely accepted, and the number tends to increase; and 3) the use of physical manuscripts will decrease (Hirtle, 2002).

However, Huges and Prescott (2018) addressed that "the use of digital tools is simply another (and very

fascinating) aspect of a long-term investigation of manuscripts, but they are just one approach among many: they are part of a continuum of copying manuscripts and using them in novel ways" (para. 35). There are some main issues about cost, time, and quality to concern. For the cost, digitization is expensive (Huges & Prescott, 2018). Some digitization projects in Southeast Asia were granted and happily continued with stable financial support. On the other hand, a lack of financial support could result in the project being stopped. According to Lee (2001), the sample costs for 19 photocopies digitization would be USD 5.70. For a small manuscript (around 200 folios), the expenses of digitization would be around USD 964.00. Though there are still many manuscripts to be digitized, and dreams of capturing human knowledge by digitizing everything have perhaps been too dominant in recent years, the question was raised if digitization is the most useful way for the readers (Huges & Prescott, 2018). According to Conway (2010), the dilemma of the cost was also pointed that large institutions like libraries, archives, and museums took great efforts to maintain the proper environment such as light and humidity. Therefore, the organic particles in the manuscripts are not destroyed for long-term preservation. Regarding this, why do they do that if digitization could be fully substituted for the actual artifacts? Undoubtedly, scholars would like to preserve the actual artifact as it is considered a world cultural heritage object. For digitization, the scholar must determine the manuscript as case-by-case whether digitizing projects are worth the cost (Lee, 2001).

Time is another issue of concern because there are massive amount of manuscripts that need to be digitized. Additionally, these initiatives require support from scholars or institutes to do proper digitization. Also, in terms of image quality, the principle of quality for preservation applied in digitization is another concern (Conway, 2010; Huges & Prescott, 2018). There are also specific technical issues that arise regarding good quality of image resolution, use of color calibration to set color consistency and exacting, and the process of creating watermarks and the file names (Fadlan, 2019). There are also other types of digital images used such as 3D, reflectance transformation imaging (RTI), and hyperspectral imaging. These types of digital images have high resolutions that enable a number of ways to show different perspectives of manuscripts (Huges & Prescott, 2018).

ISSUES AND CONCERNS IN DOING COLLABORATION
As mentioned earlier, there are diverse institutions that work on digitization preservation at the local, national, and international levels. This is because there are

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massive cultural manuscripts spread in individuals' residences, monasteries, and mosques all over Southeast Asia. Therefore, one institution cannot do or provide digitization and build one database for these valuable objects. At this stage, the disruption in terms of management should be a concern since all rare and ancient manuscripts are priceless in terms of history, culture, information studies, etc. For over 40 years, there are various public and private institutions including independent scholars who dedicated their time, budget, and other resources to preserve manuscripts and these ancient artifacts.

Concerning the uniqueness of the digital preservation for manuscripts, the universal standard is a major concern for the collaborating institutions. Thus, the standard of metadata for manuscripts and guidelines for the image is strongly recommended.

As suggested by Huges and Prescott (2018), libraries and scholars should work together to develop a better critical framework for the potential of digital delivery. Moreover, the insufficiency of the critical framework for the digitization and dissemination of manuscripts is a good explanation of why much digitization does not draw on the evidence of use (and re-use) of digital images to inform future initiatives. Therefore, the library, archives, and museum should participate more in the preservation area. At the moment, some institutions focusing on preservation exist, such as 1) the Special Collections Working Groups of the Association of Research Libraries (ARL) (founded in 2007); 2) the Rare Books and Manuscripts Section (RBMS) of the American Library Association; 3) the Council on Library and Information Resources (CLIR) (supported by the Andrew W. Mellon Foundation); and 4) the Society of American Archivists (SAA) (Elings & Brandt, 2013).

Besides, one of the good examples of collaborative works in manuscripts preservation is the DREAMSEA project. Funded by the Andrew W. Mellon Foundation, the local institutions working on various fields of library, archives, and museums in Southeast Asia, that are working on manuscripts, are gathered to work together. In Thailand, the Digital Library of Northern Thai Manuscripts is invited to work on this project and its main objective is to preserve the ancient document and manuscripts that are scattered in the northern part of Thailand. Therefore, the local institutions, who not only are able to access those hidden artifacts but also understand the contexts of local communities, should be included. Consequently, not only the objective of manuscript preservation is efficiently achieved but the standard of metadata for manuscripts and guidelines could also be applied.

With regard to cultural diversity, the various languages manifest the nature of culture in Southeast Asia. The contents in the manuscripts found in this region were written in many languages such as Pali, Sinhalese, Burma, and LannaTham scripts. As a matter of content, the language family tree, thesaurus, or ontology of these languages should be created. Therefore, the relationship could be linked from another manuscript to one another without language's limitation.

THE FUTURE OF MANUSCRIPT PRESERVATION: RECOMMENDATIONS

For the Council on Library and Information Resources (CLIR), the issues on the digital collection that need to be addressed include digital curation and the development of new relationships with users (Prochaska, 2009). Moreover, the institutions should work closely with the local users to descript the collections as well as mirror traditional functions with the Open Archival Information Systems (OAIS) model. Additionally, the volume and scale should be well managed. It is also important to identify partners and be prepared to wait for new technology that helps achieve more satisfactory curation.

Furthermore, the Special Collections Working Group has proposed that the institutions with collections should be more conscientious with and aware of the cost of maintenance and its availability (Prochaska, 2009). This would help the institutions decide whether their collection should be in digital or in other formats. Also, the accessibility for digital format should not be restricted, and there should be transparency in terms of provenance wherein the source of acquisition is provided. Moreover, good practices in records management should be developed to ensure the discoverability and accessibility of records. Likewise, the problems of hidden collections (the manuscripts that are still locked and kept in many monasteries) should be addressed and discussed so that the digital challenge could be overcome. Scholars have to continuously raise awareness among the owners of the manuscripts, such as community members and monks, about the importance of the ancient manuscripts they are holding and keeping, as well as the need for these manuscripts to be revealed and be translated in other languages to increase their readability and accessibility. Digitization would therefore be a tool to make the manuscripts accessible so that the public would have the opportunity to learn more from and about the manuscripts.

Based on the author's engagement in the manuscript preservation project, there are several points that were learned and could be used as models for existing and future preservation initiatives. In terms of *technical service*, manuscripts were generally recorded in the

information sheet by language and history scholars in the past. Though the main elements such as format, language, scripts, and content were listed, the standardization of bibliographic elements in the information sheet or metadata sheet was not done. For the library catalog, descriptive standards for cataloging rare materials such as the Descriptive Cataloging of Rare Materials (DCRM) and the Resource Description and Access (RDA) can be utilized to implement a uniform set of metadata for the bibliographic records of manuscripts in Southeast Asia. Also, the aim to link and preserve data inaccessible manuscripts could be more possibly achieved.

For the *database*, the author would like to recommend that libraries should be more engaged in cultural heritage, specifically manuscript preservation. Union catalogs such as OCLC's WorldCat should include more information on manuscripts and make them available online. In these ways, various users, specifically students and scholars, could use and access them worldwide.

For the *ethical issues*, the issues concerning privacy, autonomy, safety and security, the balance of power, human dignity, and justice (Royakkers et al., 2018) should be seriously taken.

With regard to enhancing the user experience, the *exhibition* would be another option for curated manuscripts. It would create the feeling of cultivation and discovery in public displays. The exhibition curator could engage more in manuscripts and help promote or discover the manuscripts collection. Moreover, the exhibition plays an important role in the students' informative outreach and learning as well as to create a platform of communication among scholars. Also, tablet technology is recommended to create attractive and user-friendly touch table experiences (Dysert et al., 2018).

In this paper, it is recommended that collaboration at all levels is important. It is undeniable that the palm leaf manuscripts preservation correlates with many units—the community, the local organizations, the scholars, and international institutes. Each unit has different capacities and ideas that fulfill the missing piece of palm leaf manuscript preservation. To clarify more, the community would not be able to preserve the palm leaf manuscripts correctly without the techniques and knowledge from the scholars. At the same time, scholars would not be able to work without the support from local and international organizations. Additionally, the hidden information contained in the palm leaf manuscripts would never be shown to the world without awareness and permission from the locals who own these valuable artifacts. At this stage,

the community members are the key since they are the closest unit to the manuscripts. Hence, the locals are the priority, as what has been done in the DREAMSEA project, since the locals best understand these manuscripts in terms of culture, language, and social context. Therefore, strong collaboration is highly required for further preservation and the sustainability of the Southeast Asian palm leaf manuscripts.

CONCLUSION

In conclusion, this paper would like to point out the need for more collaborations among various concerned individuals and institutions to tackle the challenging situation of the ancient manuscripts that are diverse in terms of form, culture, social context, and language. It is necessary for those who are working in this field specifically for historians and librarians to be aware and have a deeper understanding of the manuscripts. In response to this, a database for digitized manuscripts that is openly accessible should be developed. The people from the institutions at all levels—local, national, and international—should be involved. It is hard to believe that the limited accessibility of manuscripts is not only the vulnerable point but also makes them even more charming than other materials. Librarians should be involved in physical or digital preservation and should connect the small databases with a larger digital network that everyone can access. Moreover, the metadata elements should be properly determined to enhance compatibility when one repository database is ready. The importance of the cultural aspect and local context should be highly considered in digitizing the manuscripts since culture is separate from nationalism. The knowledge to correctly preserve the manuscripts should be provided because these ancient artifacts are priceless world heritage. Likewise, more learning spaces for manuscripts at local, national, and international levels should be established so that everyone could access or learn the contents of the manuscripts. More importantly, the key to successfully developing these works is a collaboration of all involved parties. Lastly, all knowledge and interests gained from the manuscripts must be returned to the people in the communities since it would be the best way to preserve and sustain the manuscripts.

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Dr. Piyapat Jarusawat is currently a lecturer of Library and Information Science at Chiang Mai University, Thailand. She successfully obtained her PhD in Information Studies in 2018 from the School of Information, the University of Sheffield, UK. She received "the Most Interesting Preliminary Results Paper Nomination" in recognition of the paper *"Community Involvement in the Management of Palm Leaf Manuscripts as Lanna Cultural Material in Thailand"* from iConference 2017. Moreover, her paper *on "Community and Social Participation in Preserving Lanna Traditional Palm Leaf Manuscripts"* was awarded "The Excellence Presentation Award" from the International Conference on Culture Technology 2019. Her research interests focus on information management, local information management, record and archive management and community participation. Her expertise is further shown as she was recently invited to deliver a talk on "Comparative Librarianship" at a graduate course of the School of library and Information Studies, University of Philippines, and on "Traditional and Digital Preservation of Manuscripts" at the Faculty of Vocational Studies, Universitas Airlangga, Indonesia in 2021.

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Humans and Machines on Social Media and Fake News: A Review of Two Books

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RESOURCE REVIEW

Book review of

Bail, C. (2021). *Breaking the social media prism: How to make our platforms less polarizing.* Princeton University Press.

Giansiracusa, N. (2021). *How algorithms create and prevent fake news: Exploring the impacts of social media, deepfakes, GPT-3, and more.* Apress

> *"Fake news is fundamentally an informational problem, and hence it should be a core concern for LIS."* — *Brendan Luyt (2021)*

During the 10th Asia-Pacific Library and Information Education and Practice (A-LIEP) Conference, Brendan Luyt, one of the invited speakers for the LIS Pedagogy Panel, discussed the link of fake news with human rights, social justice, and equality and why it should be front and center in library and information science (LIS) education and research. Unfortunately, as Luyt has further discussed, the LIS field is not doing enough. As an LIS educator, I have encountered many LIS students who have expressed their interest in studying misinformation and disinformation. I have told them that they are in the right place to do so. However, as Luyt has mentioned, I, too, felt that the LIS field still has a lot to catch up on in studying and researching fake news. Thus, I offer this review of two books, written by professors from sociology and mathematics examining humans and machines on social media platforms to LIS students and researchers of misinformation and disinformation. This review will provide some of the major talking points of the books and argue that the LIS field has a unique opportunity to address the problems discussed in the two resources.

Another reason for people, not just in LIS, to read the two books is that fake news and social media usage are the most significant issues facing society now. Especially for the Philippines, where it is the ground zero for fake news in social media (Ong & Cabañes, 2018).

ABOUT THE AUTHORS

Christopher Bail is a professor of sociology and public policy and founder of the Polarization Lab at Duke University. He is well-known for researching issues on political polarization in the United States, especially on matters of race, religion, and immigration. His most cited article on Google Scholar, written with his colleagues, is a 2018 article that examines what happens when people are exposed to views different from their own (Bail et al., 2018), which has become the basis of his book.

Noah Giansiracusa, on the other hand, teaches mathematics and data science at Bentley University in Waltham, Massachusetts. He has been quoted multiple times in Forbes articles on artificial intelligence (AI) and deepfakes and has taught a course entitled *Seeking Truth with Data. How Algorithms Create and Prevent Fake News* is his first book. Although Giansiracusa comes from a highly technical field of mathematics and data science, his work was praised by many, including a Nobel laureate in economics, for explaining machine learning and AI in simple terms, which is one of the reasons this book was reviewed.

SOCIAL MEDIA AS A PRISM

Perhaps the most notable contribution of *Breaking the Social Media Prism* is the critique of our notion of social media as echo chambers and the argument for a new metaphor which is *social media as a prism*. These

ideas were carefully explained in chapters one to six, which are the most of the book.

According to Bail, the normative assumption about social media users is that they come in and, in time, follow people and ideas similar to and validate their own. Eventually, they become trapped in a feedback loop that reinforces their ideas, known as the echo chamber. This assumption leads to attempts to "break" the echo chamber, such as exposing people to views that are different from their own, hoping that doing so will allow users to reevaluate their beliefs in light of new information. However, as this book has pointed out, the reverse is more likely to happen. Exposing people to ideas that are different from their own pushes them to cling to their beliefs more.

As an alternative, Bail offers that instead of seeing social media as an echo chamber, we can look at it as a prism that distorts reality. In particular, it amplifies the voice of a few users with extreme views on issues while silencing the points of view of the many with moderate and similar opinions. This distortion of reality, or social media prism, is what causes polarization on social media.

These claims were drawn from research conducted by Bail and the Polarization Lab through carefully designed experiments and ethnography of real people using social media. The stories and quotes from their subjects provide a face on an otherwise unhuman platform that we see on social media.

So how do we break the prism? The remaining chapters of the book provided steps on how to do this. Chapter 7 explores the question of what happens when we delete our social media accounts and whether it is genuinely possible to divorce our daily lives from big tech platforms. Chapter 8 starts discussing how we can start seeing ourselves in the prism and break them. Finally, the last chapter offers tools developed by the Polarization Lab that ordinary citizens can use to break the social media prism.

One obvious criticism of Bail's work is that it is American-centric, which is understandable given that one of their missions is to understand American society. The Philippines is unique given that there is evidence pointing to troll farms, social media users deliberately operated by mechanisms to sow misinformation and disinformation (Ong & Cabañes, 2018). Personal communication with the author confirmed that they only focused on human users of the platform and not troll farms.

Nevertheless, the work of Bail and his Polarization Lab offers many insights on how human behaves when confronted with polarizing views and fake news on social media. Moreover, the book provides an appendix of research methods detailing the experiments done through social media, which is very useful for students and researchers.

ECONOMICS OF FAKE NEWS AND ITS RELATION TO AI

In *How Algorithms Create and Prevent Fake News*, Giansiracusa started the book with a chapter on the economics and history of news production and how news content is propagated horizontally and vertically by small and big news organizations. This chapter serves as a foundation in analyzing the incentives of various organizations and corporations to create and share fake news in the following chapters.

Chapters 2 and 3 serve as a crash course on Machine Learning, specifically on methods and algorithms that generate texts, images, and videos. Giansiracusa showed expertise in explaining how the algorithms like Generative Pre-trained Transformer 3 (GPT-3) and Generative Adversarial Network (GAN) work. The author also provided the historical and social contexts of the algorithms. In these chapters, the recurring theme of a race between producing and detecting fake news starts. Some algorithms are tasked to produce texts, images, and videos, while others are created to detect these AI-produced content. One example given in the book is that early deepfake videos feature human beings that blink less. This information was added to algorithms trying to detect deepfake videos, and thus, were able to adjust, making the detection harder.

Chapters 4 to 8 are a closer examination of how the algorithms are deployed in various online platforms. YouTube algorithms for video recommendations were discussed in Chapter 4. Chapter 5 is an interesting chapter with fun trivia on the relationship between Wonder Woman and lie detectors or polygraphs and the not-so-fun reality of attempting to automate lie detection tests. Chapter 6 is perhaps the longest as it discusses the different Google products and the ways in which fake news may propagate through them—from maps, news, images, and search. Chapter 7 continues the discussion with Google but focuses on advertisements with some discussion on Facebook political ads. While Chapter 8 is dedicated to the spread of fake news on social media platforms like Facebook and Twitter, along with the challenges in content moderation. All of the chapters showed that big tech companies had used algorithms to maximize user engagement.

Interestingly, even though Giansiracusa's book came out before the Facebook Whistleblowers (Hao, 2021; Paul & Anguiano, 2021), the points raised, especially in Chapter 8, support the claims that Facebook algorithms amplify hateful content. The bottom line of big tech companies is their profits for their shareholders. As Bail mentioned in *Breaking the Social Media Prism*:

> *Suppose we could identify a small tweak to Facebook's platform that would reduce the number of uncivil exchanges ... by 7.5 percent, though it would also decrease ad clicks by 5 percent. Would the company's leadership and board members go for it? (p. 97)*

The last chapter of Giansiracusa's work provides tools for detecting and minimizing the spread of fake news.

WHY SHOULD LIS STUDENTS AND PROFESSIONALS READ THESE BOOKS?
LIS students and researchers interested in social media, fake news, and AI will benefit from these two books. Not only have they provided a foundational introduction to these concepts, but they have also listed some of the latest studies done in the field. Both resources also showed technical tools that can be used to detect fake news, create network visualization from Twitter data, and identify bot-like accounts.

Perhaps the most important thing that both resources have in common is that both point toward the insufficiency of current AI and machine learning solutions in detecting and preventing fake news. This aspect of social media platforms remains human (Roberts, 2021), especially content moderation (Roberts, 2014). Even if AI and/or machine learning advances in solving fake news, most of this only applies in English-speaking countries, as shown in Chapter 8 of Giansiracusa's work. Misinformation detected in English can still propagate unchecked in the Spanish language; what more for the languages of the developing countries?

Thus, when algorithms fail in identifying truthful and trustworthy information, the role of LIS professionals has never been more needed. Roberts (2014) mentioned that,

> *As the internet has ceded its space to more and more sites of corporatized control and models of information*

> *sharing that are fundamentally driven by profit motive before all other values, libraries have remained largely more transparent, more open, and more responsible to the public. (p. 217)*

There is an opportunity for LIS professionals to lead communities in navigating the social media infosphere. This, of course, will require funding, support, and leadership.

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