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Table of Contents

***#ISOJ** Volume 11, Number 1, Spring 2021*

About the Journal

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Co-Editors-in-Chief

About Us

#ISOJ The Journal of the International Symposium on Online Journalism is an international journal devoted to advancing the scholarship in the area of journalism and innovative technologies. The editors invite manuscripts reporting original research, methodologies relevant to the study of journalism and innovative technologies (online, tablets, mobile platforms, etc.), critical syntheses of research and theoretical perspectives on journalism today. The journal maintains a social scientific and broad behavioral focus. We encourage submissions from scholars outside and within the journalism and mass communication discipline.

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#ISOJ Volume 11, Number 1, Spring 2021

Editors' Note

Amy Schmitz Weiss
Rosental Calmon Alves

Welcome to this 11th volume of the #ISOJ Journal! This issue takes a special look into the evolution of online journalism today: from algorithms to zombie news sites. The six articles included in this issue were selected from the blind-reviewed 2021 ISOJ paper competition. These six articles will also be presented at the 2021 International Symposium on Online Journalism conference in late April.

The first article, "The language of online news: How science and health reporting in English impacts Latinx audiences," by Ryan Wallace, explores how U.S. science and health news coverage is limiting in the audiences it aims to reach. Wallace conducted a discourse analysis of four prominent U.S. newspapers and three popular science magazines. Wallace's research showed that most of the science and health news coverage analyzed reflected an "English first" ideology. Furthermore, Wallace notes that while the publications examined do translate their content in other languages and do aim to adapt to many socio-linguistic and cultural approaches, issues remain. According to Wallace, "This study illustrated that while many publications do have congruent content that is translated between languages, the salient topics of these publications differ between language editions. In addition, the 'English first' ideology seen across many publications had practical implications on the timeliness of news being communicated to different audiences. In spite of Latinx communities having a greater burden of illnesses and disproportionate susceptibility to infectious diseases, science and health-related news in Spanish often lagged days behind congruent content in English. And even more concerning was the abandonment of existing resources for communicating to Latinx audiences, particularly in a moment of global crisis." This article points out an important gap of the lack of attention to and engagement with Latinx audiences with science and health news coverage that warrants further research in the academy and reflection about news practices in science and health news.

Another study featured in this journal looks at another aspect of Latinx media. Jessica Retis and Lourdes M. Cueva Chacón provide a comprehensive look at the growing Latinx news industry in the U.S. in their article, "Mapping digital-native U.S. Latinx news: Beyond geographical boundaries, language barriers, and hyper-fragmentation of audiences." Their digital ethnographic work identified 103 Latinx digital-native news outlets in the U.S. Their research showed that most of the outlets offer their content in Spanish, are concentrated in a few states, are privately-funded, and have fairly small operations (15 or fewer on staff). There are many other key findings in the piece that help distinguish the evolution of Latinx media. Retis' and Cueva Chacón's research provides important documentation of an under-reported area of journalism scholarship. Their work provides an exciting step forward in assessing the role of Latinx media that can provide many pathways for more research in the academy and significant insights for the overall online journalism industry.

Mark Poepsel's article, "Thematic analysis of journalism engagement in practice," provides a theoretical examination into what journalism engagement means in today's digital era. He dives into specific case studies from the Gather database to explore how journalism engagement is being conceptualized today. His analysis showed that engagement was identified through three key themes: content collaboration, random acts of empowerment, and facilitating conversations. As the news industry faces many challenges, reflecting on how news organizations are engaging and connecting with their communities provides important insights for the sustainability of journalism in the long-term. Poepsel's research provides an important look at how journalism engagement is being shaped and the long path the news industry still needs to go in connecting with the publics they serve.

Our next article, "Cued up: How audience demographics influence reliance on news cues, confirmation bias and confidence in identifying misinformation," by Amber Hinsley, examines how demographic factors like age, race and gender may impact how the public assesses potential misinformation through the lens of social identity theory. The survey results showed that aspects of age, education and political ideology can factor into how people assess misinformation from visuals and headlines. Hinsley identifies that education in particular plays a crucial element. "The sustained influence of education in the regression analyses suggests it could be one of the most important factors in bridging partisan ideologies as individuals assess news. Education was the only demographic variable to have a significant influence on two key news cues: evaluating objectivity and conducting personal research." Hinsley's research offers new insights for newsrooms in the ongoing battle of misinformation and how news literacy efforts can be further developed when taking into consideration these additional demographic layers.

Another evolving area in online journalism today is the impact of artificial intelligence, specifically algorithms on the news practice. Silvia DalBen and Amanda Chevtchouk Jurno explore how algorithms are contributing to a new evolution in Brazilian journalism in their article, "More than code: The complex network that involves journalism production in five Brazilian robot initiatives.” DalBen and Chevtchouk Jurno explore how five AI robots in Brazil were created by crowdsourced or digital-native teams. Based on semi-structured interviews with the developers of the five AI robots, the authors note the following: the complexity of the creation of these bots, the continual developments with adjusting the programming of the bots, and the bots’ overall contribution to journalism production. They note that this form of automated journalism is not without human intervention when considering the developers and other professionals behind the bot production. Furthermore, they note that this creates new ideas about the bot’s role in journalism today. The authors state, “The Brazilian case studies described above demonstrate a plurality of applications of NLG software in journalism, which are shaped by the social, political and cultural context where they belong. By helping journalists automate repetitive everyday tasks, these five robots also manage networks (Van Dijck, Poell, & de Waal, 2018) and they are not mere tools journalists use in daily work. As technical objects, they ‘discover’ important facts, process information and act by posting it on Twitter, drawing attention to certain topics that could go unnoticed by journalists and other actors in the social debate.” This research helps to provide insight on the ongoing evolution of algorithms used in online journalism today.

And last, “What’s on your page, on your pa-a-a-ge: Zombie content and paywall policies in American community newspapers, 2015-2020,” by Burton Speakman and Marcus Funk, takes an important look at the recent past to see how community news sites and their paywall policies have endured (or haven’t) among a group of U.S. community newspapers. In their analysis of 400 community news websites, they discovered a substantial number of the news sites were no longer publishing in 2020 (thus the zombie metaphor) and many of the news websites that didn’t have a paywall in 2015 now do. Speakman and Funk present the question of how do these zombie news sites impact the local news ecosystem when a zombie news site is all that remains? Their content analysis provides context into the current state of community journalism and the significant challenges for the news industry when local news is needed more than ever.

Lastly, we would like to give a special thank you to Filipa Rodrigues and Ian Tennant for their journal production assistance in making this journal volume and issue possible!

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The language of online news: How science and health reporting in English impacts Latinx audiences

By Ryan Wallace

Although American news audiences are increasingly more diverse, contemporary journalism across the United States continues to be constructed primarily for an English-language audience. Focusing in particular on science and health reporting for Latinx audiences, this study seeks to understand to what degree publications are developing content for diverse sociocultural and multilingual audiences and how limitations in this coverage may impact the news minority audiences consume. To obtain a better understanding of the complex forms of science communication in digital news media, this study relied on a multimodal discourse analysis of four prominent intermedia agenda-setting newspapers and three popular science magazines. The results of this study indicate that science and health coverage across these publications reflect an "English first" ideology—not only limiting content in alternative languages, but also impacting the timeliness in which Latinx audiences receive important scientific information.

From the Spanish influenza of 1918 to the H1N1 outbreak more than a decade ago, evidence suggests individuals without the literacy to obtain important public health information during a pandemic are more likely to transmit the disease, whatever that may be (Velasquez et al., 2020). While the importance of news media's storytelling has been highlighted amongst public health efforts, traditional campaigns and legacy media often fail to reach populations at highest risk (Wilkin & Ball-Rokeach, 2006). This year, with the rise of the COVID-19 pandemic, research suggests that language barriers may again be exacerbating historical social inequities amongst the nation's most diverse populations (Sukumaran, 2020). While the importance of language may often be taken for granted, particularly in the United States' primarily English-dominated media system, formulating health messages in vernacular languages can impact media consumption and help facilitate greater trust in reliable sources of scientific information (Clayman et al., 2010). Still, legacy media across the United States remains primarily constructed for an English-language audience and neglects the sociocultural and linguistic needs of its minority audiences (Wallace, 2020). With more than 50.5 million Americans identifying themselves as Hispanics, Latinx have become the largest minority in the United States and continue to contribute to a majority of the nation's growth (Pew Research Center, 2011). This diverse community not only represents an important and growing part of the American electorate, but also an often underserved and underrepresented audience for news media. Brought together by a common language, this population of individuals share unique sociocultural identities in addition to unique symbol systems—that are largely absent from today's news media (Rodriguez, 1999). Co-evolving alongside the nation itself, American journalism is largely influenced by an Anglo-Saxon identity (Chalaby, 1996). This is most clearly illustrated in the hegemonic and almost universal use of English as the primary language of American news media (Wallace, 2020).

The shortage of Spanish-language science and health journalism across the United States illustrates growing concerns about the nation's hegemonic media system and a schism between traditional news media and the audiences it seeks to inform (Wallace, 2020). This is particularly concerning not only because of the fact that this population of individuals face health disparities like many other minority groups across the United States, but also because they may be disproportionately impacted by environmental and health issues. While media scholars like Yu and Matsaganis (2018) have sought to better understand the nuances of ethnic media and Latino journalism in particular, to help explain both its importance in the current media ecosystem and the importance of its coverage on issues like science and the environment, little consideration has been given to how some of the nation's most important and widely-circulated publications are (not) effectively using the Spanish language to communicate with a growing part of their audience (Takahashi et al., 2015; Wallace, 2020). Building on past comparisons of science journalism across different language groups, this study seeks to better understand how the linguistic dominance of English impacts an important segment of American news audiences—Latinx Americans (Thompson, 2014; Villar & Olson, 2013).

Literature Review

To better understand the linguistic characteristics of science and health reporting online, as well as the implications of existing journalistic practices in the construction of world news, this study bridges three strands of theoretical inquiry—that of media logics, globalization and postcolonial theories. Although not often studied together, these strands of research not only provide an opportunity to understand the construction of online news, but also for critical inquiry into how globalizing forces are shaping these logics.

From a journalistic perspective, this research has the potential to inform practical knowledge about the composition of science and health reporting, what biases may exist, and how future reporting could be better improved with a deeper understanding of what audiences are excluded from these conversations. From a scholarly perspective, in addition to thick descriptions, this research has the potential to inform critical understandings of popular science publications, existing media logics, and the ways in which colonial histories and forces of globalization continue to actively shape the construction of social realities. In light of recent events such as the COVID-19 global pandemic, this research is particularly relevant for its ability to help better understand the dimensions of science and health reporting in online news, as well as how linguistic barriers may be precluding the most vulnerable communities from receiving the vital information they need.

At the intersection of postcolonial and media studies, scholars like Shome (2016) have sought to address and make legible the “dominant (and unmarked) West-centric logics that inform the received history of media as well as the functioning of media” (Shome, 2016, para. 3). By complicating understandings of media logics and their modern histories, postcolonial scholars have challenged the centrality of Western theories and the politics of knowledge production (Shome, 2019; Willems, 2014). Extending beyond media studies, these lines of theoretical inquiry have also led to deeper understandings of knowledge production in science, technology, and medicine—challenging romanticized notions of globalization and illustrating how particular forms of knowledge are privileged within and across cultures (Anderson, 2009).

Western Journalism and the Anglo-American Imaginary

Conceived of as an Anglo-American invention, contemporary journalism in the Western context is driven by a dominant hegemony—where Anglo-Saxon identity and the English language are imbricated not only into the means of news production, but also what stories are represented (Chalaby, 1996; Wallace, 2020). Journalism’s Anglo-American imaginary permeates throughout the institution’s beliefs and practices, guiding its ideals and shaping how and why American journalism is constructed (Zelizer, 2019). As journalists tend to perceive the world through the lens and ideologies of the dominant culture, their practices and the news often reflect the cultural patterns and hegemonies of their society (Hanusch, 2009). While comprehensive news coverage requires an understanding of the complex multicultural reality and the diverse groups that contribute to and consume the news, the linguistic barrier between these groups remains one of the most significant challenges (Gutiérrez, 2006).

Recent critiques of mainstream journalism in the United States have sought to draw attention to a significant gap between the audiences that journalists are writing for and the diverse communities that their audiences actually represent (Arana, 2018; Wallace, 2020). Acknowledging that often minority communities are excluded from the construction of the news, media scholars have begun to look at the importance of forms of ethnic media in the United States, but few studies like those of Ramasubramanian et al. (2017) have focused on characterizing the dimensions of this gap—who journalists are writing for, what audiences are often ignored, and how existing journalistic practices contribute to or reinforce this gap. With regards to Latinx in particular, recent research suggests that these pan-ethnic and multilingual audiences are changing with regards to their media consumption and linguistic preferences, and they require media content that reflects this multiculturalism (Sinta et al., 2018). Efforts from within the Latinx community have sought to develop culturally-relevant news for this diverse audience with the development of a form of Latino journalism, however, by-and-large dominant media in the United States reflect a hegemony that excludes these points of view (Rodriguez, 1999; Wallace, 2020).

Towards a Universal Scientific Language

Similarly, these linguistic barriers can also be seen in the scientific community. The globalization of scientific communication has largely been facilitated by a dominant language in science and on the Internet. In an era of globalization and increased social relations between societies all over the world, a common language is not only an asset—it is power (Montgomery, 2013). Through a common language, geopolitics can be shaped, economies can be raised, and knowledge can be collectively advanced through unified efforts (Crystal, 2012). In the sciences, "humanity's great tower of knowledge," English has dominated international communication and has become a powerful influence shaping scientific discourse (Montgomery, 2013, p. 3). Moving beyond academia, English has also influenced the science of corporations in the private sector, and even the language of international funding and legal documents like patents (Ammon, 2011).

While English has emerged as a dominant global language for science, this does not mean that it commands a true hegemony in the realm of scientific discourse (Montgomery, 2013). Around the world, scientific findings and active research are still published in a wide variety of languages—Arabic, Chinese, French, Japanese, Spanish, etc. (Ammon, 2011; Montgomery, 2013). These academic and technical journals published in other languages often represent domestic science developed within a particular national or regional space (Montgomery, 2013). Fortified by government funding and nationalism, this scientific discourse in the vernacular represents continued efforts to maintain a strong domestic economy, public health, and even national defense (Montgomery, 2013). Still, as science is globalized and scientists move throughout the globe for education, work, and research, English remains a dominant force in the construction, communication, and dissemination of new knowledge (Montgomery, 2013).

Amongst linguistic studies about the prevalence of English in the sciences, several critical arguments have been made not only about the structure of scientific communications, but also its geopolitical and sociocultural implications on a global scale (Crystal, 2012; Montgomery, 2013). From a postcolonial perspective, this dominance of the English language in the modern sciences can be viewed as remnant of colonial histories—where Western-centric knowledge dominated, as indigenous forms of knowledge and the vernacular were actively delegitimized. This can be noted in the fact that this dominance is most strongly seen in the life and physical sciences, while the vernacular is often used for the applied sciences (Montgomery, 2013). This global domination of the English language, however, is not derived from the linguistic qualities of the language—there is not an inherent link between scientific knowledge or intellectual thought and the English language (Montgomery, 2013). Not only does the global dominance of English represent a barrier for those who can versus cannot understand the language, but there are also advantages for scientists in the West who have English as their native language (Ammon, 2011). As English reigns as the predominant tongue for the rhetoric of science, this linguistic burden not only challenges the inclusion of diverse perspectives in science communication, but also their ability to effectively disseminate knowledge to actors across global networks (Pérez-Llantada, 2012).

Media Logics

As a concept that represents the intersection of cultural, institutional, organizational, and technological trends and their impact on media work, “media logics” provides an important theoretical framework for better understanding how media production industries operate in the cultural economy (Deuze, 2009). Referring to the ways in which “reality” is interpreted and represented by mass media, media logics is a concept that describes the typical organizational practices and linguistic style that are involved in mass communication (Mazzoleni, 2008). Elements of existing media logics inform formats and features of each medium, reflecting technologies, ideological values, patterns of practices, and even intended audiences (Altheide, 2013). However, media logics go beyond a theoretical understanding of factors that shape media work, their original conceptualization referred to prevailing principles, values, and routines that also largely shape how media content is constructed and why (Altheide & Snow, 1979). With regards to news media in particular, these logics shape the ways journalists see and interpret social affairs, informing everyday work and the ideological values that guide it (Mazzoleni, 2008; Pallas et al., 2016).

Social institutions are also infused with similar considerations, and in contemporary mediated societies these logics represent a significant force in structuring social power and reinforcing social hierarchies (Altheide, 2013). With regards to news media in particular, media logics rest on two normative, yet fundamental components of the journalistic institution—professional norms and routines that are built on ideological values and ideals like objectivity, as well as professional standards with regards to the construction of news discourse that are built on sociocultural and institutional agreement (Asp, 2014). With the professionalization of modern mainstream journalism, this meant developing a storytelling language that prioritized values of objectivity and trustworthiness. In pushing away from papers in the vernacular, like tabloid news, since the late 19th century journalists have striven as a former owner of *The New York Times* Adolph Ochs put it, to "give the news, all the news, in concise and attractive form, in language that is parliamentary in good society" (Miller, 2012, p. 7). Traditions of media linguistics that arose from these perspectives have not only shaped media logics but also have naturalized specific language ideologies—shaping cultural values away from the vernacular (Van Hout & Burger, 2016). Vernacular languages exist alongside, but apart from the language of journalism, which is why the institution often privileges the voices and perspectives of the dominant elites (Van Hout & Burger, 2016). This "English first" perspective, where journalists prioritize elite sources and the perspective of the dominant culture, reifies the dominance of English in the news and limits news content in alternative languages. However, to date there is limited research characterizing the dimensions of this perspective in mainstream news media—in particular because it requires comparative research that not only highlights what is manifest in news content itself, but also what perspectives, languages, and audiences are missing.

Noting the important roles that science journalism in particular has in shaping the public understanding of science, researchers have sought to reconcile the differences between scientific and media logics—to develop a better partnership between these interrelated social institutions (Korthagen, 2016). In the mass mediation of science, some scholars have been critical of invoking media logics to explain choices or changes in media production. However, as a conceptual framework that guides practices, media logics not only impact the formation of scientific texts but also shape the public understanding of science (Plesner, 2012). Analyses of new issues in science communications, such as the development of climate reporting, have illustrated the various ways in which existing media logics have been adapted in science journalism to contextualize emerging scientific topics into existing frameworks, however, some topics transcend the limitations of existing media logics (Berglez, 2011). Focusing in particular on coverage of social determinants of health, Hinnant et al. (2017) found that these limitations of existing media logics continue to result in narrow understandings of health realities—as journalists recognize the importance of covering the complexities and ambiguities of health issues, but struggle to produce coverage that aligns with the existing framework (Hinnant et al., 2017). This inability to adapt existing media logics to incorporate diverse perspectives and the complexities of health issues is in part a consequence of linguistic barriers which divide journalists from the audiences they seek to cover. Among the Latinx community, challenges with translating science and public health efforts across sociocultural, linguistic, and knowledge barriers have proven to contribute to excess burden of illnesses within this community (Baezconde-Garbanati et al., 2013).

To fill existing gaps in the literature as illustrated in the work of Thimm et al.

(2017)— particularly with regards to existing media logics, postcolonial/globalizing forces that are influencing these logics, and what perspectives are excluded from the social realities that are actively being constructed by news media—this study analyzed popular online news publications and science magazines from across the U.S., seeking to compare discourse between English-language content and that of other languages. With this conceptual framework, that not only addresses what is manifest in news content but also what gaps may exist in news coverage, this study sought to answer the following research questions:

RQ1: How have these publications dealt with the variety of their audiences' linguistic needs?

RQ2: Have the publications maintained an "English first" approach, or developed different content for differing audiences?

RQ3: What impact, if any, does the linguistic dominance of English in science and health-related news coverage have on the content that minority audiences consume?

Methodology

To obtain a better understanding of the complex forms of science communication in digital news media, as well as the various semiotic systems that they draw from, this study relied on a multimodal discourse analysis of news websites to answer these research questions. Given that both journalistic and scientific discourses are foundationally multimodal (Pauwels, 2006), and often rely on diverse forms of discourse to articulate complex concepts (Lemke, 1998), multimodal discourse analysis was selected as the appropriate method for systematically analyzing this content across various semiotic modalities with regards to both text and context (Kress, 2013). Prominent intermedia agenda-setting newspapers and long-standing popular science magazines were selected for this study, including: *The New York Times*, *Los Angeles Times*, *The Washington Post*, *The Wall Street Journal*, *Scientific American*, *National Geographic*, and *Popular Science*. Given that this study focused in particular on discourse of science and health-related news coverage, these diverse publications were selected to provide a broad picture of mediated science communication across the United States. Digital media content from these publications was gathered from January 1, 2020 to October 10, 2020, and included: 17 websites, one podcast, and one newsletter. Additional archival data was also analyzed to better understand changes in these publications over larger spans of time.

Acknowledging that this corpus included various different topics and content in several different languages, this study followed in the tradition of Glaser and Strauss' Constant Comparative Method—involving iterative rounds of open coding and comparison to develop patterns, themes, and a framework for qualitative analyses (2017). This methodological approach allowed for comparisons to be drawn across a variety of news media. However, this comparative approach also revealed existing media logics, how they may differ across publications, and perhaps most importantly allowed for gaps in news coverage to be made legible. Analyses were focused primarily on understanding the differences in meaning-making across linguistic landscapes, as well as what stories and information were lost in translation—or more often a lack thereof. While media studies often focus on the dimensions of news media and their content, this study foregrounded questions of biases and audiences' diverse needs which are often unseen in the content itself.

Results

To answer the underlying research questions, with regards to how these publications have covered science and health for diverse audiences and how they have dealt with a variety of linguistic needs, this study relied on a comparative approach—analyzing each publication separately, then together. Comparisons were drawn across the two distinct groups of publications that were analyzed for this study: intermedia agenda-setting newspapers, including several of the nation's newspapers of record, as well as popular science magazines. In addition to thick descriptions, this comparative approach offered deeper insights into differing media logics across publications, how some media are (not) addressing the diversity of their news audiences, and what gaps exist in communicating science and health coverage across linguistic barriers.

Not All Newspapers are the Same

In analyzing the newspaper websites and multimedia content, it quickly became evident that not all newspapers are the same with regards to how they approach diverse audiences. To answer **RQ1** (*How have these publications dealt with the variety of their audiences' linguistic needs?*), first this study needed to establish a deeper understanding of the news content that these publications produce, their various multimedia formats, and the mass audiences that they were communicating with. While some publications developed separate websites, podcasts, and even newsletters, others did not share the same approach towards translating their content or adapting their coverage to Latinx audiences. In part this may be explained by each publication's individual audiences, which may vary, however, is more likely attributed to the forms of knowledge and perspectives that are privileged by these intermedia agenda-setters. Amongst these newspapers, *The Wall Street Journal* was the least accessible to Latinx audiences and the least science-oriented. Given that their content is primarily developed for an English audience, and only Japanese and Chinese-language alternative editions are actively published and accessible from the home page, content in the Spanish-language is rarely published except in occasional international stories. Science stories are also rarely published, although they were far more common given the development of the COVID-19 pandemic. Technology stories have long been a staple of *The Wall Street Journal*'s coverage, and last year the coronavirus also garnered its own section on the main page of the newspaper's website—just below the Business and Markets sections.

Similarly, *The Washington Post* provides an English version of its content with three different editions (the WashingtonPost.com Home Page, Print edition, and the e-Replica edition). However, there are key distinctions between these publications. The first is in the diversity and focus of their news coverage. While *The Wall Street Journal* rarely published science or health stories, *The Washington Post* covers a much wider variety of topics including: Climate and Environment, Science, Health, Technology, and dozens of other sections—most recently with the addition of a prominent section focusing on the coronavirus pandemic. By focusing their resources primarily on English-language content, *The Washington Post* has been able to create a site that traverses diverse topics, both domestic and international. However, while the newspaper does not necessarily translate their articles into alternative languages, they have made efforts in recent years to develop content for Latinx audiences.

In August 2019, the newspaper introduced "Post Opinión", a Spanish-language version of their opinions section particularly geared towards Latinx audiences throughout Latin America and the United States. And later that same year, *The Washington Post* also introduced a Spanish-language podcast named "El Washington Post" for these very same audiences. The podcast is published twice weekly and is notable because it is developed for Latinx audiences by Hispanic reporters from Washington D.C., Bogotá, and Madrid. This divergence from their traditional English-language practices illustrate not only a long tradition of aural news media (e.g. radio) being popular amongst Latinx audiences, but also a schism amongst opinions between Latinx and other audiences—so great that they require a Spanish-language opinions section of their own. Aligning with postcolonial perspectives of media studies, this also illustrates Western-centric ideological perspectives, where the vernacular and opinions of minorities are separated from the language of the news.

Newspapers with a Spanish Side

Addressing **RQ2** (*Have the publications maintained an "English first" approach, or developed different content for differing audiences?*), it became apparent that even amongst similar legacy news publication there were significant differences in their approaches toward differing audiences. Unlike the aforementioned newspapers, both the *Los Angeles Times* and *The New York Times* developed separate editions for their Spanish-language content that are easily accessible from the home page of their websites. However, there remain key differences between the publications and the content that they produce. The *Los Angeles Times* has two different websites, one for English-language content and another for Spanish-language content (En Español). The main publication in English is subdivided into 16 different sections, including topics like: Climate and Environment, Entertainment and Arts, Lifestyle, Politics, and Science. While the Spanish-language publication only has eight sections, which include similar topics like: Politics, Sports, Entertainment, U.S. and International coverage. Two important distinctions can be seen between the two sites.

First, there is greater diversity in the types of science stories that are published in English than in Spanish, given the fact that they are given their own sections in English and not in Spanish. And secondly, content “En Español” is considered a subset of the English edition itself—listed as one of its 16 sections. This establishes an “English first” perspective. And this perspective is reinforced within congruent content itself, where Spanish-language articles are near verbatim translations of English-language articles. At the bottom of much of this congruent content in Spanish there are links directing audiences to the English-language version. However, the reverse is rarely, if ever, true. No articles analyzed within this corpus directed audiences to the Spanish-language versions. Interestingly, with regards to congruent content, articles related to scientific topics like the spread of COVID-19 are translated nearly verbatim into Spanish, often with a significant temporal lag time. When compared to algorithmic translations of these very same articles (i.e. Google Translate), the Spanish-language translations were nearly identical.

Similarly, *The New York Times* has separate websites for its English and alternative language editions. However, in addition to English in Spanish, *The New York Times* also offers a version of its publication in Chinese. In English, the digital publication is segmented into 19 different sections, ranging from Arts to International coverage. And in Chinese, the digital publication is similarly segmented into 14 different sections that cover many of these same topics, including Tech, Science and Health. In Spanish, however, the digital publication lacks clear segmentation, with articles clustered into geographic categories like Latin America or ephemeral topics like election and coronavirus coverage. This lack of segmentation, as well as the “Read in English” links to translations of articles that are prominently displayed across the Spanish-language website, emphasize an “English first” perspective—where content in English is given priority. There is, however, an exception to this perspective at *The New York Times*. “El Times”, *The New York Times*’ Spanish-language newsletter, is not translated into English or any other language, although it relies on content that is often translated between English and Spanish. The difference between this newsletter and the rest of the publication, however, lies in the fact that it is not translated into Spanish, but rather written specifically for Spanish-language audiences by reporters based out of Mexico City. Intended to give Latinx audiences a guide to the news across Latin America and the rest of the world, the newsletter is intended to share views from Spanish opinion section as well as highlight coverage from key sections of *The New York Times*, including: Culture, Economy, Health, Science, Sports, and Technology. Unlike what was seen at the *Los Angeles Times*, congruent content with translations in other languages often directed audiences to these alternative versions in Spanish or Chinese. And though these translations often were temporally different from the primary articles written in English, the lag time was not as prominent—often published the same day or the day after.

These findings are important for two reasons: sociocultural and temporal. In answering **RQ3** (*What impact, if any, does the linguistic dominance of English in science and health-related news coverage have on the content that minority audiences consume?),* this study found that many news publications not only offered fewer sections of coverage in alternative languages like Spanish, but also that when stories were translated, they were often much later in the news cycle and often lacked the perspective of minority audiences. The fact that Spanish-language content like "El Times" is specifically constructed in Spanish by reporters from Latin America brings to light the sociocultural specificity of news for an audience constructed by members of that community who speak that same language. Rather than relying on secondary translations, the rhetoric is constructed with a particular audience and language in mind—such that news of complex topics like science or health can be more accurately covered. Additionally, when secondary translations are needed, the short temporal lag illustrates that while English may be the first consideration of the publication, other language-groups and audiences are actively being considered in the construction of the news.

Popular Science Magazines

Apart from newspapers, this corpus also included several prominent popular science magazines, including: *Scientific American*, *National Geographic*, and *Popular Science*. These publications represent the long history of the mass communication of science in the United States. This includes *Scientific American*, which is the oldest, continuously-published publication in the United States. As was seen amongst the aforementioned newspapers, significant diversity was also seen in how popular science magazines addressed the linguistic needs of diverse audiences—from producing content exclusively in English for American audiences all the way to developing multi-language platforms that not only speak to Latinx audiences, but other language groups as well.

Of the three magazines analyzed in this corpus, *Popular Science* proved to be the most perplexing publication—unique when compared to all others in this study. Unlike answers to **RQ2** amongst the newspapers from this corpus, rather than adopting an "English first" perspective as was common with other publications, *Popular Science* was the only one to adopt an "only English" one. This is important, considering the rich history of the publication dating back to the late 19th century, and its particular orientation towards American audiences. By focusing on science in particular, *Popular Science* has been able to adapt a wide variety of complex topics into relatable articles constructed for a broad and non-professional audience. Parsing out the complexities of modern science, topics are subdivided into even more specific categories including: technology, health, animals, space, and environment. They help translate science into clickable, evergreen stories. However, while these stories are simple enough to be translational across various linguistic barriers, language has continued to be a limitation of their work in the United States. In part, this approach may be attributed to the print origins of the publication—limiting the feasibility of producing and publishing content in other languages. However, under publishers in other nations, the magazine and its content have been translated into languages like Italian and Arabic. Domestically, however, no other language editions are currently available.

On the other side of the spectrum, *National Geographic* magazine is a global product with variations in several different languages. Working with different publishers around the world, they produce “foreign-language” editions of their print and digital media products. These include a Spanish-language website, as well as Spanish-language editions of “National Geographic En Español” and “National Geographic Traveler”. The Spanish-language website is not accessible from *National Geographic* magazine’s home page, neither are direct translations of available articles. Direct comparison of the main pages of the website in English and in Spanish revealed significantly different discourse across the two publications (as seen in *Figure 1*). Not only do they differ significantly with regards to central topics, but they also differ with regards to salience and timeliness with the English site reflecting ongoing crises of: wildfires, the COVID-19/coronavirus pandemic, and wildlife conservation. Focusing more on places, destinations, and the occasional science-driven story, the site in Spanish reflects a focus more on evergreen articles and is clearly not maintained to the same degree or caliber as the English-language site. When analyzing the temporality of this content, interestingly temporal elements for the main website in English were not only prominently displayed in the articles themselves (e.g. “Date Published” right beneath the byline) but also incorporated into the URLs. In the Spanish-language versions, however, the date published was nowhere to be found—neither in the text nor in the URL. This further reiterated the evergreen nature of the articles in Spanish, as well as illustrated an “English first” perspective by prioritizing the content in English and establishing its temporal relevance relative to other stories. As illustrated in previous analyses of *National Geographic* news content like Parameswaran (2002), this approach towards globalization illustrates the hegemony of modern discursive regimes where Western-centric discourses and forms of knowledge are privileged in the news, and alternative/local perspectives (e.g. the vernacular) are erased in Western articulations of global news.

A) B)

Figure 1: Word cloud comparison of news topics covered by National Geographic in: A) English and B) Spanish.

As the publication with the longest history of being continuously published in the United States, with print and digital content spanning more than 175 years, *Scientific American* is a particularly important case study to consider given its prominence in American science communication. From the main website, audiences are able to gain access to three completely separate editions in: English, Spanish, and Arabic. The Spanish-language version of the site was introduced in October 2014, however, was ultimately short-lived. While the website is still active and up, the Spanish-language website has not had an update since May 2018. This is an important consideration in addressing **RQ3** and the differences amongst minority audiences, given that while the Spanish version of the publication is no longer actively being updated, the Arabic website remains current. Looking at examples of direct-comparison between the languages, we can see that each of the sites has distinct content geared towards its own language audience—with the Arabic site not only having content geared towards the Arab world (with prominent writers from places like Cairo) but also podcasts in the language, and the Spanish site providing content geared towards Latinx audiences with regards to culture and the health of these communities. Highlighting research from regions that share these languages, the publications are able to share the voices of scientists from within these communities and the importance that their work. However, for some of the most important stories regarding public health, policy, and great advancements in scientific technology, cross-over can be seen from the English site to the other languages. Prominently displayed at the top of this occasional congruent content are links to the translated versions in other languages. However, of all cases analyzed by this study, translations are made to solely one other language at a time not all languages—between English and Arabic, or English and Spanish. Additionally, there is often a significant temporal gap between the publishing of the English content first, then the translation in the secondary language.

Discussion

The results of these analyses allowed for the multimodal discourse of each publication to be better understood, as well as for direct comparisons to be drawn between publications and media type. In answering **RQ1** (*How have these publications dealt with the variety of their audience's linguistic needs?*), it became clear that there is great diversity in how each publication deals with audiences' linguistic needs ranging from creating solely English-language content to creating culturally-relevant content for specific audiences, in their own languages. In addition to Arabic and Chinese, Spanish-language content was actively produced by several publications (e.g. *Los Angeles Times, The New York Times, National Geographic, The Washington Post*). Noting the importance of engaging Latinx audiences and their unique cultural perspective, publications like *The Washington Post* prioritized developing media content like podcasts and opinion sections in Spanish. Others like *National Geographic* and *Popular Science* viewed "foreign-language" editions as a priority for publishers abroad. However, it may not solely be a question of priorities—it may also be a question of resources. Publications like *National Geographic* and *Scientific American* had developed content and the infrastructure for publishing Spanish-language content but had since ceased actively maintaining the site or abandoned it altogether.

Given this understanding of the publications and their approaches to dealing with the variety of audience's linguistic needs, the answer to **RQ2** (*Have the publications maintained an "English first" approach, or developed different content for differing audiences?*) was overwhelmingly that publications maintained an "English first", if not an "only English", approach. While some publications like *The Washington Post* and the *Los Angeles Times* sought to develop content specifically for Latinx and other language audiences, the primary content of all publications was in English—although they varied greatly in the degree to which they developed content in other languages. An "English first" approach was established and maintained through three key differences in coverage: form, diversity, and temporality. With regards to temporality, English-language versions of content were prioritized to be published first, and translations to secondary languages often resulted in a temporal lag time of several days, if not weeks. Occasional stories, such as newswire content, were translated and published in the same day, but this was not often the case across all seven publications. In fact, the incorporation of temporal elements such as time stamps or "date published" were universally available for English-language news content, however, this was not always true of content in other languages—as illustrated by *National Geographic En Español*. Given the fact that not all news content was translated between the English and other language editions, where available, there was also a stark difference noted in the diversity of news content available in English versus other languages. Spanish-language versions of the digital publications often had fewer sections, if any, and even newspapers that developed content specifically for Latinx audiences (i.e. *The New York Times* and *Los Angeles Times*) failed to have Science or Health sections available in Spanish—even though *The New York Times* had both sections available in Chinese versions of the publication. Content in other languages also often differed in the forms of media that were developed. For publications like *The Washington Post*, where content was created specifically for Latinx audiences by Hispanic journalists, the publication prioritized aural forms of media (i.e. podcasts) as well as opinion editorials, rather than hard news. Where content of similar forms was made available across languages, this congruent content also often prioritized an "English first" perspective by directing audiences to English translations of the articles in other languages, but rarely the other way around—with the exceptions of *Scientific American* and *The New York Times*.

Focusing specifically on science and health coverage, **RQ3** asked: *What impact, if any, does the linguistic dominance of English in science and health-related news coverage have on the content that minority audiences consume?* While broadly these publications only offered content in a few alternative languages (i.e. Arabic, Chinese, Japanese, and Spanish), five of the seven publications did offer news content in Spanish. Spanish and other alternative language versions of these publications had limited sections. Although popular science magazines maintained a focus on science topics across all languages, newspapers often excluded these key topics in their coverage. This limited not only the diversity in the types of stories that were translated to Latinx audiences, but also resulted in less comprehensive coverage of these important topics in secondary languages (as seen in *Figure 1*). Additionally, by prioritizing the English-language in the production of science and health coverage, the linguistic dominance of English also potentially limited the inclusion of diverse voices from within this community. While Latinx and Hispanic researchers represent an important group within the STEM community, the dominance of English in science and the news may prove to be an insurmountable linguistic barrier to many researchers. Two other points are particularly worth noting with regards to science and health-related coverage across these publications: 1) A significant temporal gap was often noted between the publishing of congruent content from English to alternative languages, impacting the news' timeliness; and 2) Even with existing frameworks for communicating important public-health related news to Latinx audiences, in the face of the COVID-19 pandemic certain publications failed to provide these audiences with vital information and resources.

Given that this study serves as a broad survey of the language of online news, particularly with a focus on how science and health are reported to diverse audiences, there are several limitations that limit its ability to speak for the broader mainstream news media at large. Although it highlights some of the nation's most important newspapers of record, this study only analyzes data from seven of the nation's top newspapers and popular science magazines. For this reason, the findings do not necessarily speak to the great diversity of the American journalism community, however, do indicate prevailing trends amongst important intermedia agenda-setters. Additionally, as a multimodal discourse analysis of news content and the formats of news media, this study cannot directly address questions of audience perceptions or effects as a consequence of linguistic biases. Although it may present challenges for diverse audiences, noting problems like gaps in reporting, additional studies that focus on audiences would be needed to better understand the impacts that this content has on diverse communities. Finally, the timing of the study is one additional factor that needs to be considered in its limitations. Given the unique circumstances surrounding the time frame during which this data was collected (i.e. the COVID-19 pandemic), these publications may have been or are undergoing significant changes in how they report important topics like science and health to diverse audiences—this study, however, provides insight into the prevailing trends at the time.

Underscoring the importance of these limitations, it is vital to address that since data collection for this study ended, one important change has developed. While international editions and the Arabic-language website of *Scientific American* remain accessible through the publication's main webpage, the Spanish-language version has been removed. The site is still live, however, given its inactivity since 2018 it appears that the publication is moving forward without Spanish-language content. While the publication serves as a great example of the cultural specificity that can be accomplished with linguistic plurality and addressing the diversity of audiences by communicating through their own languages, it also illustrates the challenges of an "English first" mentality. The lack of resources may very-well be the reason why the Spanish-language publication has since been abandoned. However, given the importance of science and health communication during the COVID-19 pandemic of 2020, it was surprising to note that *Scientific American* did not make greater efforts to communicate with Latinx audiences through an existing platform that they had already cultivated—particularly in a moment when reliable scientific information was most needed.

Conclusions

In evaluating the discourse of online news, particularly with regards to science and health topics, this study found that while English may not be the universal language of science or the news, it remains the primary language in which science is communicated to mass audiences in the United States. Aligning with theories of globalization and postcolonial critiques, this dominance of English across the linguistic landscape of both science and news media illustrates a Western-centric construction of social order and the obfuscation of knowledge in the vernacular. While science, health, and technology represent important categories of news content that are prominent across news media and were virtually ubiquitous across all publications analyzed in this study, translations of these publications often failed to consider the needs of diverse audiences—if even translated at all. By prioritizing the English language in the production of online news, news content in alternative languages was often limited and untimely when translated. And these translations also often lacked sociocultural context or additional resources for Spanish-language audiences—relying on near verbatim algorithmic translations of this content. While public health research suggests that sociocultural, linguistic, and knowledge barriers contribute to excess burden of illnesses within minority communities (Baezconde-Garbanati et al., 2013), existing media logics continue to reinforce these barriers by excluding diverse perspectives and other languages in the construction of the news.

While media logics exist for communicating science and health topics in English, alternative media logics are not widely observed by Anglo-American news publications when translating their content to other languages. From a theoretical perspective, these findings suggest that working within existing media logics may perpetuate Western-centric ideologies and colonial frameworks of knowledge (Hjarvard, 2018). Rather than developing new media logics or finding ways to adapt content in other languages to existing media logics with greater cultural specificity, many of these publications simply transpose digital media from one language to another. Although technological advancements in translation software have made the translation of the news viable at scale, given the importance of science and health news coverage for minority audiences, journalists may consider developing practices of interpreting this content for diverse audiences rather than simply translating it. This would require newsrooms to engage with diverse perspectives that they may not normally consider, develop relationships with more diverse sources of information, and seek out journalists with sociocultural ties to these minority communities.

Although the United States has no official language, this study reveals that English is often the primary, if not sole, language of digital news media in the United States. This “English first” ideology influences not only the form of news discourse, but also largely shapes the perspective journalists take. This study illustrated that while many publications do have congruent content that is translated between languages, the salient topics of these publications differ between language editions. In addition, the “English first” ideology seen across many publications had practical implications on the timeliness of news being communicated to different audiences. In spite of Latinx communities having a greater burden of illnesses and disproportionate susceptibility to infectious diseases, science and health-related news in Spanish often lagged days behind congruent content in English. And even more concerning was the abandonment of existing resources for communicating to Latinx audiences, particularly in a moment of global crisis.

This study brings to light a linguistic bias and media logics that remain prevalent across American news media, with regards to the English-language tradition of mainstream news media (Weaver et al., 2009). However, given the fact that it focuses primarily on news content itself, it is limited in its ability to describe how these media logics are inscribed into everyday work practices for journalists and the impact that audience diversity has on newsroom decision-making. Further ethnographic research is still needed to better understand the various forces that contribute to English dominance in American journalism. And given the potential impact that these practices and news content have on mass audiences, future studies should also consider conducting surveys to better understand the practical implications that limited science and health information have for Latinx and other minority communities. Media studies scholarship should further question existing media logics, consider the role that diversity plays in the content that newsrooms produce, and how this dominance of the English language across news media may affect social determinants of health for minority communities.

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Mapping digital-native U.S. Latinx news: Beyond geographical boundaries, language barriers, and hyper-fragmentation of audiences

By Jessica Retis and Lourdes M. Cueva Chacón

In the post-digital era, Latinx journalists have encountered new spaces to communicate with bicultural and bilingual audiences in the United States. Seeking to fill a gap in the investigations about diversity in digital journalism, our research takes on the task of identifying these news media projects to advance the study of contemporary professional practices. This article presents preliminary findings of a larger research project that seeks to map digital-native U.S. Latino news media by examining their online content and their strategies to produce and disseminate information about Latinx communities. A review of 103 Latinx digital outlets revealed that most are very young, are present where Latinx populations are growing faster (i.e., Midwest), and almost half of them produce original content for more than one digital platform. Finally, these digital-natives see their mission as informing, amplifying, and elevating the discourse about Latinx communities and are boosting the development of Latinx diasporic transnational media spaces.

The rapid changing synergies of news production, distribution and consumption in the digital era have altered long-established journalism models. New journalism models have emerged in the American news media landscape during the digital and the now so-called post-digital era (Cramer, 2015). The expansion of the U.S. non-profit news sector since the mid-2000s was invigorated by funding from foundations and donors (Birnbauer, 2018). The rise and growth of crowdfunded journalism as a novel business model (Jian & Usher, 2014) has been examined as a result of a displacement from a mainstream media model to a more networked public sphere (Benkler, 2006). In the case of Latinx media, these new synergies require also thinking in terms of transnational and global flows and situating "diasporic cultures" in their midst, understanding them in terms of their relation to the complex ethnoscapes, financescapes, mediascapes, technoscapes, and ideoscapes that make up the global terrain and the networks that populate these (Appadurai, 1996; Tsagarousianou & Retis, 2019).

These rapid-changing scenarios require constant adaptations. For practitioners, these new contexts demanded revisiting the traditional ways of producing news while remaining profitable and keeping financing quality journalism (Chinula, 2017). For researchers, they required implementing critical forums for scholarly discussion and investigations about the wide-ranging implications of digital technologies for the practice and study of journalism (Franklin, 2013; 2014). In the realm of these ever-changing scenarios, Latino media outlets have encountered new spaces to communicate with bicultural and bilingual audiences in the United States and beyond. (In this essay, the terms Latino, Latina, and Latinx are used interchangeably to refer to people from Latin American descent. The researchers acknowledge that these terms are embraced and contested within the Latino communities and academia since they imply both common and diverse pan-ethnic experiences.)

Seeking to fill a gap in the investigations about diversity in digital journalism, our research project takes on the task of identifying new news media outlets to advance the study of contemporary practices. This article presents initial findings of a larger research project that seeks to map digital-native U.S. Latinx news media by examining their online content, their strategies to produce and disseminate information about Latinx communities as well as the way they interact with their audiences.

Literature Review

Latino Media in the American News Media Landscape

Examining demographic changes become essential to study the diverse nature and impact of Latinx in the American news media landscape. In 2020, 60.6 million Latinxs constituted 18.5% of the nation's total population (U.S. Census Bureau, 2020) and is projected to grow up to 106 million in 2050 (Krogstad, 2014). These growing patterns impact the emergence and development of information and communication needs. Latino media have been part of the American news media landscape for more than two centuries. Despite the trend to consider them mainly as ethnic or minority media, they have demonstrated to be part of the American public sphere—e.g., Spanish-language news casts have out-performed major English-language broadcast networks in primetime—(AP, 2019).

As media reflects the demographics, changes in their audiences influence their production/consumption synergies. If one takes a look at the history of Latino media, one can see that since the foundation of the first Spanish-language print newspaper, *El Mississippí*, in 1808, to the launching of *Conecta Arizona*, a Spanish-language daily stream of news to subscribers on WhatsApp, Facebook, and other social media platforms in May 2020, not only have 200 years passed, but also a series of transformations in the digital and social media world. But both then and now are news media ventures seeking to meet the needs for information and self-representation.

Latino news is a product of bilingual journalism practices that require bicultural competencies to gather, assess, present, and disseminate news and information about, or relevant to, Latinx communities. Offered in Spanish, English, or bilingually, Latino media engages with the understanding of current affairs, but also the history, economics, politics, and culture of diverse groups, whether U.S.-born or immigrants, as well as their global liaisons with countries where they trace their origins (Retis, 2021). Following the complex nature of the Latinx groups in the United States, the media they produce are not a monolith but reflect the vast and deep differences between the communities they serve (Aguilera, 2020). Just as there is no such thing as the “Latino vote” (Rakich & Thomson-DeVeaux, 2020), U.S. Latino media is made up of a myriad of different types of outlets. The larger research project in which this article is based seeks to desegregate the complex components that make up the digital Latino media interactions in the American digital journalism ecology. It seeks to dismantle the tendency to homogenize Latinx communities and, consequently their mediascapes by constructing an interdisciplinary perspective that helps understand the complex, diverse, and constantly changing dynamics of Latinx communities living in a highly mediated transnational life and their media and communication practices (Retis, 2019a).

As argued elsewhere, the political economy of the media and sociology of newsmaking theoretical approaches help us understand how, throughout their more than two centuries of life, Latino news outlets’ editorial profile has ranged from politically conservative to liberal and reflected the status of their audiences as exiles, refugees, immigrants or U.S.-born Latinxs. Ownership has varied from private to non-commercial, from subsidized enterprises to community-based projects, from U.S. Latino initiatives to Latin American foreign investment ventures. Latino news coverage has ranged from local to regional, national, international, transnational, and even translocal. An advocate for immigrants marginalized by discriminatory political, linguistic, and cultural policies in their beginnings, Latino news media today serves growing communities of Latinx people born in the United States and abroad, educated in English, and speaking Spanish at home (Retis, 2019b).

The way in which Latino news media is produced, disseminated and consumed has varied considerably during these more than 200 years, but more extremely during these past two decades. Since the premier of *Latino USA,* on April 1993, as one of the first experiments to create an English-language Latino-centered public radio program in NPR to the Kickstarter crowdfunding campaign to launch *Radio Ambulante*, a podcast that tells Latin American stories in Spanish in 2011, only two decades have passed, but the storytelling in a digital format and the sourcing of content has evolved considerably. Both, the changes of the demographics and the news media industry have converged in a conjunction in which not only have Latinx audiences grown in their linguistic complexity, but news media practices have evolved in nature (Retis, 2019b).

The rapid changes of the Latinx news media production, distribution and consumption accompanied the practices of their specific audiences, but are also a reflection of the larger new media American landscape. The majority of adults in the United States now get their news online and are favoring mobile devices over desktops/laptops (Walker, 2019); the online space has become a host for the digital homes of both legacy and new "born on the web" news outlets; and advertising revenues across digital outlets, beyond news, are growing, with technology companies playing a large role in the flow of both content and revenue (Pew Research Center, 2019). While Latinos' needs of information and self-representation have remained constant throughout the decades, the ways they consume their news have been changing. In recent years, and more specifically in the last two decades, technological and economic forces have transformed general news media. The fragmentation of ethnic media (Mayer, 2001)—which historically played a significant role in the development of immigrant communities—presents challenges and opportunities for bilingual news.

Researchers have addressed the need to understand the evolution of media moving away from the traditional perspectives to conduct the analysis beyond technological determinism, examine innovative media platforms to understand the types of journalism they produce, and construct an integrated view of the media ecosystem (García, Lopez & Vázquez, 2019; Scolari, 2013). Drawing on Scolari, the ecology metaphor to media can be interpreted in two complementary ways: 1) the media as environments or 2) the media as species that interact with each other (Scolari, 2012). He argues how both media history and media archeology have demonstrated that "all media were once new media" (Gitelman & Pingree, 2003, p. xi), repositioning the emergence of new forms of communication in a context that is much wider and less linked to the urgencies of the market and the marketing discourse. To overcome traditional approaches, researchers suggest to study new models of content production within the framework of diversity and the interdisciplinary nature of journalism studies (García, Lopez & Vázquez, 2019).

Following the discussion on the analysis of media evolutions, scholars have embarked on the task of defining the media that emerged as a result of the most recent technological transformation in news media and information consumption. Contrary to legacy media, these types of new media confluence in a myriad of disparate ventures. Lerman and Cohen-Avigdor (2004) incorporated the perspective of a natural life cycle of new media evolution in a six-phase model: 1) birth, 2) market penetration, 3) growth, 4) maturation, 5) defensive resistance, and 6) adaptation, convergence, or obsolescence. Scolari (2012) argues that to facilitate its application to different media and historical contexts, this natural life cycle model can be condensed into three phases: 1) emergence, 2) dominance, and 3) survival or extinction.

Bringing this perspective into the analysis of Latinx news media one can try to understand the socio-demographic changes, the evolution of the news media landscape, and the growth of both Latinx Spanish-language speakers and English-language speakers. This proposal is not a linear one that overviews the history of Latino media as a historical sequence of events, but a comprehensive understanding of intermediality seeking to provide elements of a complex environment in which Latinx media coexist and interact with mainstream media and other ethnic media. Moreover, this study seeks to understand how they intertwine at a local, regional, national, binational, transnational, and even translocal levels. As Scolari suggests (2012), the emergence, dominance, and survival or extinction phases and processes can overlap and it is essential to keep in mind the diversity of media and communication experiences at different moments of their simultaneous developments.

The Transnational and Translocal Nature of Latinx and Their Media

New technological platforms, social networks, and the immediacy of virtual communication point to transnational communications processes in which individual and collective identities reproduce complex historical, social, and cultural dynamics. In this regard, the academy needs to understand the impacts that the social dynamics of transnational groups have on their own members and on others, as they are proving to be a key element of globalization processes. Networks and migratory chain viewpoint permit us to comprehend the reconfiguration of these ties within transnationalism (Guarnizo & Smith, 1998; Levitt and Glick Schiller, 2004). The study of media flows and counterflows (Thussu 2007), the shape and evolution of media linguistic regions (Sinclair & Straubhaar, 2013), and the culture industries (Dávila, 2001; Yúdice, 2002), much like class media (Wilson, Gutierrez & Chao, 2003), enables us to understand the macro-structural complexities of media production, circulation, and consumption. More concretely, studies from diasporic transnationalism and media spaces (Georgiou, 2006) elucidate the particularities and contradictions of the communicative practices of Latinx communities and their news media habits.

Until recently, television was the main source of information for Latinx communities followed by Internet, radio, and print newspapers. A report published in 2018 showed an impressive shift, by demonstrating how on a typical weekday, three out of four Latinxs get their news online, nearly equal to the share who do so from television. This growth mirrors the trend in the overall U.S. population (Flores & Lopez, 2018). Behind this trend lie significant divides across generations, language use, and immigrant status among Latinos. As argued earlier, it is essential to understand the transformation of Latinx audiences and how their news media consumption practices influence the transformation of the media they check for their news. Latinx millennials are driving many of the recent changes in Latinxs' news consumption. Moreover, this generation (those ages 18 to 35) has a higher share than among other racial or ethnic groups (Flores & Lopez, 2018). On the other hand, foreign-born Latinxs tend to be older than the U.S.-born Latinxs, and continue to rely on television for news. However, the complexity of Latinx groups also drive the need for immediate information at different geographical levels.

With the incursion of the internet but more specifically with the transition from web 1.0 to 2.0, a series of opportunities were opened to produce news media beyond the traditional outlets. Soon the concept of "new media" was embraced to differentiate digital publications from "legacy media" or those who remain in the traditional print or broadcast platforms. More recently, as Salaverría (2019) annotated, scholars have distinguished between "legacy" digital publications, meaning those derived from consolidated journalism brands, and new online publications, characterized by their digital nature and recent origins. As he listed, a variety of new labels have emerged in trying to categorize the recent ventures in the digital scenario, "such as 'digital-born' (Nicholls, Shabbir, & Nielsen, 2016), 'digital-native' (Pew Research Center, 2015; Wu, 2016), 'online-native' (Harlow & Salaverría, 2016), or even simply as 'pure players' (Sirkkunen & Cook, 2012) or 'start-ups' (Naldi & Picard, 2012; Wagemans, Witschge, & Deuze, 2016)" (as cited in Salaverría, 2020, p. 1). In his editorial for the issue "Digital News Media: Trends and Challenges," Salaverría (2020) annotates that most research about digital-native news media phenomenon has been limited to case studies, exploring either global-reaching brands or some local cases. He argues that one of the main limitations of case studies is that they usually focus on the most successful and well-developed examples, the characteristics of which hardly apply to the average publications. In order to get a more nuanced idea about the contributions and problems of the average digital-native news media, broader studies are needed. This is precisely one of the main objectives of the larger research project in which this article is based on: to map and explore the challenges and opportunities that a myriad of new ventures is facing when offering news information for diverse Latinx audiences. Drawing on Wu (2016), for this article, the focus is on Latinx "digital-native media" to describe the ventures that were born and grown entirely online.

Mapping Digital-Native U.S. Latinx News Media

In the early 2010s, Franklin (2013) argued that digital journalism is complex, expansive and constitutes a massive and ill-defined communications terrain which is constantly in flux. It "engages different types of journalistic organizations and individuals, embraces distinctive content formats and styles, involves contributors with divergent editorial ambitions, professional backgrounds, and educational experiences and achievements, who strive to reach diverse audiences" (Franklin, 2013, p. 2). Almost a decade later, research has demonstrated that digital journalism not only has a great potential to improve journalism, but also represents a series of challenges due to the pressures facing new businesses among other specific risks (Buschow, 2020).

Embarking in the task of studying digital journalism has its own challenges and opportunities as it is a rapidly changing field that unfolds around us. In this context, Franklin and Eldridge (2018) suggest to think about this area of study and its place in our broader societies; take into consideration that digital developments have been more uneven than expected; and prevent leaving important debates and unforeseen consequences underexplored. Most recent investigations indicate that journalism studies scholars should consider the priority that has been placed on the way digital technologies have been integrated into journalism. They call for a renewed emphasis on the overall digital ecology, in which journalism is woven throughout a range of media and networks (Eldridge & Franklin, 2018).

Drawing on Husband's notion of the multi-ethnic public sphere (1998), Yu proposes to include a multicultural media system that considers both availability and accessibility of ethnic media for a larger audience. By mapping ethnic media that produce in English or bilingually online, studies help advance theoretical debates on ethnic media as independent spheres focused on speaking by and listening to minority voices to move the perspective into understanding what needs to be in place in order to enable these voices to be heard (Yu, 2017).

The larger research project in which this study is based, seeks to bring light to an understudied area in the American digital journalism studies: how race, language, and news information needs intertwine in the American news media landscapes in their stages of emergence, dominance, and survival or extinction. In other words, looking at the Latinx component of the American digital journalism.

Since 2001, and more specifically between the mid-2000s and mid-2010s, the American news media landscape has witnessed the emergence of new spaces of production, distribution and consumption of news media with information about or relevant to Latinx communities. In the early stages, these types of media were launched in the midst of the advances of online communication technologies. After the economic recession and more precisely during the late 2000s and beginning of the 2010s, Latinx digital-born media advanced their engagement with Latinx communities in English and Spanish.

At the change of the new decade new synergies of survival or extinction took place in various and diverse platforms.

In this study, the aim is to examine and understand the current situation of Latinx digital-native media and explore their engagement with their audiences beyond language, race, age and ethnicity. This is done by exploring its transnational nature and understand how these types of media interact locally, nationally, and internationally. Consequently, our project seeks to answer the following research question:

RQ1: What is the current state of Latinx digital-native news media in the United States?

In order to do so, the researchers looked into who they are, where they are located, what platforms they are using, and what they interpret as their mission. It can be argued that digital-native Latinx news media are journalistic ventures launched, developed, and maintained online to gather, assess, present, and disseminate news and information about, or relevant to, Latinx communities. Produced in Spanish, English, or bilingually, they are of recent origin and characterized by their digital nature, tend to produce original content for more than one platform, and increasingly engage with their audiences through social media. Due to the ever-evolving contexts in the post-broadcast era and with the advent of social media, digital Latinx news production, dissemination, and consumption are transnational and bilingual. It goes beyond informing in two languages but understanding linguistic and cultural diversity as well as innovative ways of storytelling.

The transnational nature of Latinx communities demands a transnational perspective that puts Latinx groups at the center of the analysis and explores the fluidity of their news habits. Efforts in mapping these news media outlets using digital ethnography methods provides the opportunity to understand how they are created, launched, and developed.

Methodology

The objectives of this paper are two-fold: 1) to contribute with a first attempt to mapping the digital-native Latino news media in the United States and 2) to provide a preliminary categorization of new models of digital-native Latino journalism in an era of fragmentation.

To answer the research question and fulfill the objectives of the project, this study employed a mixed methodological approach. Digital ethnography methods were front and center to this study because of the nature of the news media organizations that are the focus of this research and because of the multiple digital platforms where they have a presence. In addition to that, qualitative and quantitative content analysis was used to collect descriptions of platforms, objectives and mission, and business models.

Digital ethnography research does not differ from ethnography in the sense that participant observation is still its core method (Boellstorff, 2012). The news organizations were considered the participants for this study but were not separated from the actual humans who give them life. The observation included, but was not limited to, the participants' self-representation in the digital world, their digital journalistic products, their digital interactions with their audiences, and in some cases, the promotion or the extension of the news discourse by the journalists on their own digital spaces. In order to conduct the observation, the field site was defined as the network (Burrel, 2017) of all of the online sites where all the previously mentioned could be observed. Finally, the authors relied on their professional and academic experience following and observing Latino media in the United States for several years to "be able to put into words some aspect(s) of the field otherwise left unspoken" (Hine, 2017, p. 52).

In order to identify as many digital-native news organizations as possible, the authors performed an extensive search starting with projects such as *The State of The Latino News Media* (Mochkofsky & Maldonado, 2019), reports such as *Hispanic Media Today* (Retis, 2019), searched directories such as SembraMedia.com's (n.d.), looked into crowdsourcing supporting organizations such as NewsMatch.org, paid close attention to suggestions offered by social media sites when visiting news organizations' social media feeds, sought recommendations through personal networks, and conducted systematic web searches. The data collection and observations were conducted between March and October 2020.

The transnational nature of some projects presented challenges to identify digital-native Latinx news organizations. To limit the scope of this essay and to make it manageable, only journalistic projects totally or partially produced in the continental United States were included in this paper. News media produced in Puerto Rico and other Spanish speaking countries and territories were not included in this study, but they will be part of the larger project.

To identify if the journalism outlet was a digital-native, the authors analyzed the descriptions available in the sites' "about us," "mission," and/or "vision" pages; consulted external sources, such as news reports about the launching of the outlet, and searched for indications of a life in the offline world. Several news organizations included in the study live only on social media or other online-only platforms (i.e., messaging apps, podcast services), which automatically gave them the identity of a digital-native. The researchers encountered more than 120 news organizations that were not included in this paper because they were originally created based on a non-digital product. Many newspapers in Spanish fit in this category as well as recordings of sports news shows that are also distributed through podcasting services such as Apple Podcasts or Spotify. Two important cases not included in this study following this criterium are *El Tecolote* and *Latino USA*. In the former, the newspaper has now an important and renovated online presence, and in the latter, the show is not tied anymore to a radio station and produces more content than its original Sunday show. Nevertheless, they were not included in this contribution because they were not entirely born and grown online (Wu, 2016), but are part of the larger project in which this study is based on.

News media was defined as producing hard and soft current news (Boczkowski, 2009; Tuchman, 1973)—which included news reports, analysis, opinion, and commentary but not long form, *crónica,* or fact-checking*.* Journalism projects were defined as ongoing projects at the time of evaluation. Projects that consisted of a short and finite series of articles, podcasts, or videos were not included this time but are part of our extended study.

Drawing on Harlow and Salaverria's (2016) categorization of digital natives in Latin America, this study adopted the following: 1) ownership: private, public, or nonprofit; 2) philosophy or their approach to the production of news: commercial, nonprofit, or educational; 3) technological approach to news: traditional, or innovative. In addition to their classification, the researchers looked at: 4) platform**:** which included website, podcast, social media, messaging app, or multiple if the news organization produced original content on multiple platforms and not simply distributed the same content on different platforms; 5) geographical location: state; 6) size: one-person-band (1 to 4 people involved), micro (5-15), small (16-50), medium (51-200), or large (201-plus); 7) audience: hyperlocal, local, regional, national, and transnational; and 8) language: Spanish, English, Spanglish, or bilingual.

Findings

RQ1: What is the current state of Latinx digital-native news media in the United States?

The analysis yielded 103 digital-native Latino news media projects. The oldest was founded in 2001 (*¡LatinoLA!*) and the most recent in 2020. The year 2018 was the top one with 19 digital natives initiating operations that year followed by 2017 and 2019 with 16 and 15 new digital natives each year respectively. In other words, although Latinx digital natives have been around for a long time, 62 news organizations (61%) are 4 years old or younger. (See Figure 1.)

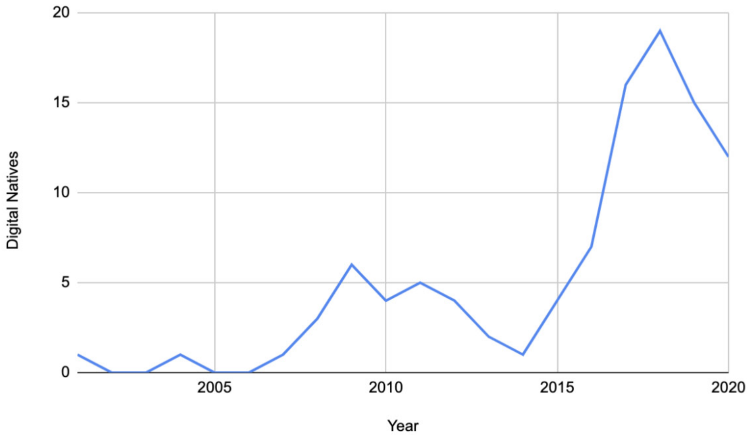

Figure 1: Number of Digital Natives Created by Year

More than half of the organizations (54.4%) delivered their content only in Spanish, 28% only in English, and 15.5% were bilingual delivering news in both English and Spanish. The podcast *¿Qué Pasa Midwest?* was the only organization that delivered their news in a fully bilingual format because the host switched languages to make the content understandable in both languages. The news and satire site, *Pocho*, was the only one that delivered them consistently in English and Spanglish.

Four states concentrated 73.8% of the Latinx news organizations: Florida (34%), California (19.4%), New York (12.6%), and Texas (7.8%) with organizations having a presence in 20 out of the 50 states in the United States. (See Appendix).

A great majority (76.7%) of these organizations were identified as privately funded, 21.4% were nonprofit, and only 2 (1.9%) organizations were funded through public media (local public radio and television stations under the Corporation of Public Broadcasting). Among the digital-natives categorized as nonprofit, six (5.8%) were identified as educational because their parent organizations are universities.

Regarding their size, the majority of digital natives (77.7%) have 15 or less people in their staff. Almost half of those (40%) were organizations that were run by four or less people and that have been classified as one-person-band. The other half, 37.7%, were organizations with a staff between five and 15 people (micro). For the remaining organizations, 1.9% were small (16-50 employees), 7.8% were medium (21-200), 7.8% were large (201-plus), and 4.8% were identified as automated services such as sections for Latinos on NBC, *Politico*, *The Hill*, among others.

Finally, about a quarter (27%) of the digital natives were backed by or part of traditional media conglomerates such as Univision, Telemundo, ESPN, NBC, *The Washington Post*, or The McClatchy Company. In other words, the large minority of digital efforts (73%) are being supported by independent and not-for-profit efforts unlike traditional Latino news media, which is dominated by conglomerates, such as Univision, Telemundo, and Impremedia.

Digital-Native Latinx Platforms in the American New Media Landscape

Almost half of the Latinx digital-native outlets analyzed during March and October 2020 (47.6%) produced original content for more than one platform followed by 23.3% that produced only podcasts, 19.4% only content for websites, 7.8% only content for social media, and 1.9% only for messaging apps. Overall, the most popular platform was website (57.1%) followed by podcast (46.7%), social media (41.9%) and messaging app (7.6%). (See Figure 2.)

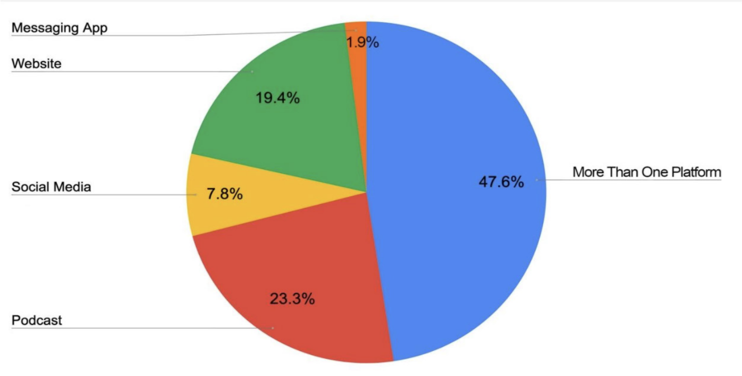

Figure 2: Digital-Native Latinx Platforms in the American New Media Landscape

Regarding audience reach and engagement of Latinx digital native news outlets, our study found that the messaging app WhatsApp is emerging as a new platform to deliver news for Spanish-speaking Latinx communities. Six out of the eight organizations who used messaging apps to deliver news, used WhatsApp as a platform. Two of them used it as the most important platform to deliver the news (*Conecta Arizona* and *¿Qué Hay de Nuevo New Hampshire?*). Facebook (78.6%) and Twitter (75.7%) were the most popular social media networks where the digital natives had a presence followed by Instagram (60.2%)

and Other (24.3%) such as LinkedIn, Periscope, and Snapchat.
The news content produced by the news organizations on their different platforms was reviewed to understand the ways they employed the digitalness or the multimedia, interaction, or participatory affordances of the different platforms (Harlow & Salaverría, 2016). Organizations who produced content following traditional means (i.e., written text, photography, audio or video newscasts) were labeled as traditional while organizations who took advantage of the affordances of different platforms, especially social media (i.e., Facebook Live, Facebook Watch, IGTV) were labeled innovative. More than half (59.2%) of the digital natives were identified as innovative and the remaining 40.8% were identified as traditional. This finding suggests that the new generations of digitally savvy journalists and their interest to serve larger and more diverse Latinx communities—as it will be shown in the next section—are driving the exploitation of the affordances of the new digital platforms.

Latinx Diasporic Transnational Media Spaces

The study of Latin American diasporas and their media requires an interdisciplinary perspective that helps understand hegemonic and subaltern dynamics around capital/population/media flows (Retis, 2019a). During the months of March and October of 2020, the observations to the Latinx digital-native news organizations' presence in the digital world as well as the content they produced allowed the identification of their approaches to the production of news in terms of the audiences they wanted to reach as well as represent. Following these criteria, the analysis shows that half of the news organizations (50.5%) were oriented toward a Latinx national audience, followed by transnational (18.4%), regional (15.5%), hyperlocal (5.8%), and local (9.7%).

Most news organizations who defined their audiences as hyperlocal, local, or regional would clearly establish that in their self-descriptions. For instance, *Cicero Independiente*, a website with news from Cicero, Illinois, had a subhead that read: "Bringing you news from the 60804" (Cicero Independiente, n.d.) clearly referencing Cicero's zip code; the news site *MiamiDiario.com* described itself as the window to Miami and encouraged its readers to "enjoy Miami in Spanish with them" (author's translation) (MiamiDiario.com, n.d.); and *The Nevada Independent en Español* described itself as having reporters covering the north and south of Nevada (Gray, 2020). Organizations who sought to reach audiences at the national level would describe their mission as to report about issues that concerned all Latinos. For instance, *Latin Post* declared to be an "online media company that aims to serve the Latino population in the United States" (Latin Post, n.d.) and *Real America with Jorge Ramos* described the outlet as an "exploration of America" (Real America with Jorge Ramos, n.d.).

Preliminary findings of the ongoing research project indicate that the Latinx digital-native media outlets that reached and represented transnational audiences had some or all of the following characteristics:

1) Part of their staff was located outside the United States—or moved back and forth—but reported on issues inside the United States. Some examples are *El Washington Post*, a podcast in Spanish with a Spanish host located in Washington D.C., a Colombian host in Madrid, Spain, and a Colombian host in Bogota, Colombia. They report on world issues as well as the most important events going on in the United States for Spanish-speaking audiences in the United States and the world. A similar example is the podcast *El Hilo*, that covers issues in the Americas with Latin American hosts in London and Mexico City but produced and edited from New York City.

2) Part of their staff literally inhabits the U.S.-Mexico border and reports and interacts with audiences on both sides of the border. *Borderzine.com*, created in 2008, is the oldest digital native doing this at El Paso-Ciudad Juárez border. Part of its staff are Mexican students who attend The University of Texas at El Paso but live in Ciudad Juárez and cross the border every day. *El Migrante*, a project by Internews' Listening Post Collective, has journalists in the San Diego-Tijuana and El Paso-Ciudad Juárez borders reporting on stories and resources for and about immigrants on the border. They distribute a digital newsletter through WhatsApp and produce a weekly podcast for their audience with literacy problems. Finally, *Conecta Arizona* reproduces a radio newscast, delivers news, and discusses salient issues all on WhatsApp with its audiences in Arizona and Sonora, Mexico.

3) Their staff are refugees from another country who report for the same group in the United States and other parts of the world. Two news organizations reflect this group very clearly, *Voces en Libertad* and *Café con Voz* which are organizations created by Nicaraguan journalists who had to leave their country because of persecution by the Ortega administration. In the case of *Voces en Libertad*, the journalists report from Nicaragua, Costa Rica, Spain, and the United States about what is happening in Nicaragua with the intention to inform the Nicaraguan community in the United States and *Café con Voz* is produced from Miami with a similar objective.

During the observation, a diverse set of editorial perspectives were identified within these outlets. More in-depth examination of their contents and how they can become influential for their audiences will be developed in the larger research project this study is based on. What we can indicate here is the trend in seeking to amplify the Latinx voices in the United States.

Informing, Amplifying, and Elevating the U.S. Latinx Voices

The objectives and mission presented by the digital-native Latinx news media varied but three strong themes emerged from their self-descriptions of their objectives and mission. More than 15% of the organizations defined their mission as to inform their audiences of the issues that impact them. Most of the digital natives in this group delivered their news only in Spanish catering to Latinx born outside the United States and/or recently arrived to the United States. For instance, the audio newscast delivered via WhatsApp, *¿Qué Hay de Nuevo, New Hampshire?*, described itself as:

> A new radio newscast produced by New Hampshire Public Radio. Receive a five-minute audio file from Monday to Friday with the most important stories of the day and with up-to-date information about how the Coronavirus pandemic is affecting the economy, politics, society, and New Hampshire's cultural context. (Author's translation) (Nhpr.org, n.d.)

A second group, of about a fifth of the outlets, sought to write or deliver stories about Latinos or through Latino lenses in order to amplify the voices or the presence of the Latinx communities in the United States. These news organizations would talk about how Latinx communities have been under reported or ignored and they saw the need to correct that wrong. For instance, *El Tímpano* described its mission as:

> *El Tímpano*—Spanish for "eardrum"—informs, engages, and amplifies the voices of Oakland's Latino immigrants. Through innovative approaches to local journalism and civic engagement, *El Tímpano* surfaces community members' stories, questions, and concerns on local and national issues, and provides information relevant to their needs. (El Tímpano, n.d.)

Finally, a third group, smaller in numbers but with a stronger message, also talked about amplifying the presence of Latinx communities in the United States. However, this group used the word "elevating" signaling to an elevation of the status of and the discourse about Latinos. These news organizations would talk about correcting stereotyping and false and inaccurate media narratives. For instance, NBC Latino talked about "elevating the conversation around Latinos" (NBC Latino, n.d.) and *Somos* from Refinery29, sought "to elevate, educate, and inspire a new generation of changemakers committed to Latinx visibility" (Refinery29, n.d.)

Discussion

This study consisted of digital ethnographic observations of 103 digital-native Latinx news media in the continental United States. Our findings confirmed some historical trends. First, that Latinx media tends to concentrate in the South and Southwest; and second, that the prevailing ownership model for most Latino outlets is private ownership and it is conducted often as an independent effort (Mochkofsky & Maldonado, 2019; Retis, 2019b). However, the findings also show that digital-natives are springing up in Northern states as well where Latinx presence is growing such as the Midwest (i.e., Illinois, Indiana, Michigan, Wisconsin, etc.) (Noe-Bustamante et al., 2020) and that there is an increasing number of news outlets funded through philanthropic efforts and/or local crowdfunding. In addition to that, it is important to highlight the presence of student media and journalism schools' efforts involved in the production of news for Latinx audiences. Historically, campus-based newspapers have played an important role in advocating for Latinx communities (Simón Salazar, 2019) and these findings suggest that the new generation of Latinx student journalists, professionals, and professors are continuing that work.

Latinx digital-natives are consistently producing original content for more than one platform and social media is increasingly part of that effort. This trend mirrors what is happening in the general landscape: the majority of adults in the United States get at least some news online; and the online space has become a host for the digital homes of both legacy news outlets and new "born on the web" news outlets. This also reflects the fact that not only Latinx audiences are moving into multiple online and social media options, but the general landscape is evolving in this direction. As digital advertising revenue across all digital entities continues to grow, digital technology companies are playing a large role in the flow of news and revenue (Pew Research Center, 2019).

The media spaces created by Latinx digital-native news organizations are increasingly becoming transnational. Close to 20% of the observed news organizations had staff outside the United States who reported about issues in the country, had reporters not only covering but inhabiting both sides of the U.S.-Mexico border, or were refugees who reported about their countries of origin. Drawing on Georgiou (2006), we found that Latinx diasporic transnationalism became less about the place and more about the space; thus, these complex and multifaceted geographical synergies instead of excluding each other, intertwine at various levels where we can identify the emergence and development of consensual and contradictory forms of transnational imagined communities (Anderson, 2006.)

Last but not least, Latinx news organizations continue to show a strong interest in informing, as well as amplifying the Latinx community's voices and elevating the discussion about their communities which reveals the important role these organizations play in the U. S. multicultural media system focused on enabling Latinx voices to be heard (Yu, 2017).

Conclusions

This contribution attempted to examine and understand the complex nature of digital-native Latinx news media outlets being produced in various regions in the United States. We sought to advance the scope of our study beyond geographical boundaries due to the diasporic transnational nature of these ventures. Even though this contribution presents the preliminary findings of a larger research project, it demonstrates main trends occurring within the U.S. Latinx digital information circuits.

Our observations during 2020, helped to identify that even though Latinx digital-native outlets have been present very early in the digital age, most of them are very young and therefore are under researched. The fast pace of the technological evolution and the business challenges will probably mean challenges for researchers as well; however, it is important to continually map and monitor these changes as they are part of the larger United States multicultural media landscape.

Spanish continues to be the dominant language used for Latinx news media; however, following the language preferences of the different generations of Latinx communities, offerings of news in English are increasingly growing as it was reflected in the number of English-only outlets reviewed in this study and also in the bilingual offerings amounting to close to half of the total.

The digital environment and, more specifically, these digital-natives are boosting the development of Latinx diasporic transnational media spaces. Latinx digital-natives not only are created where Latinx communities have historically resided (South and Southwest) or where Latinx communities are newly migrating (Midwest), they are also facilitating spaces for diasporic transnationalism where news organizations, established in and publishing from the United States, have personnel all over the world that reports for Latinx communities in the United States.

Latinx media continues to be a mostly independent effort where the majority of outlets have less than 15 people and are not backed by the traditional media conglomerates, but with evidence of a growing philanthropic funding either by foundations or crowdfunding.

As the general news media consumers, Latinx audiences are moving into multiple online and social media options. As digital advertising revenue across all digital entities continues to grow, digital technology companies are playing a large role in the flow of news and revenue. Future research will examine these types of synergies within digital native Latinx news media outlets.

This study shows that, more than ever, contemporary digital-native Latinx news media participate in the heightened interconnectivity and intermediality practices beyond geographical boundaries, language barriers, and hyper-fragmentation of audiences (Deuze & Witschge, 2020; Elleström, 2010; Jenkins, 2006; Jenkins & Deuze, 2008). The complexity of their nature becomes fluid and travels back and forth from the local to the regional and foremost to the international level and drives back to hyperlocal, local, and even translocal levels. Mapping all these synergies demands a comprehensive understanding of multiple variables that intervene in these simultaneous news media production and consumption activities. Although a necessary effort, this study shows only the tip of the iceberg. This study did not include input from the news media producers and therefore it reflects only what it is in the surface. More research is needed to learn about the routines that create these transnational spaces and the innovation that these challenges generate.

Many Latinxs speak English and Spanish. This bilingualism is reflected in their news habits. Hispanic millennials use English-language news sources more than older generations. Foreign-born Latinos prefer Spanish-language news sources. These trends in news habits have influenced Latinx news media shifts. The lack of studies on bilingual digital media is, paradoxically, inversely proportional to the emergence of new educational projects to teach bilingual journalism. This is one of the main reasons we have embarked on this collaborative mapping project through a digital ethnography lens. The ongoing larger project seeks to analyze and understand the industry, strategies, new business models, and interactions with audiences. The results of this study will help to assess, design, and update the pedagogical curricula of several bilingual journalism programs in the Southwest.

This study presents the current situation of the Latinx digital-native news media in the United States. Closely following historical and new trends among these outlets can provide educators with sorely needed information to train bilingual journalists who can better serve their Latinx communities by understanding their information needs and creating the transnational spaces they demand.

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Appendix

Digital-native Latinx News Media

Year	Name	Platform	State
2001	¡LatinoLA!	multiple	California
2020	¿Qué hay de nuevo, New Hampshire?	multiple	New Hampshire
2017	¿Qué Pasa, Midwest?	podcast	Indiana
2017	ADN Cuba	multiple	Florida
2015	Al Día CSUF	social media	California
2020	Al Día Digest podcast	podcast	Pennsylvania
2010	America Digital	website	Florida
2019	Amigos	multiple	Florida
2019	Be Latina	multiple	New York
2018	Bese	multiple	California
2020	Beyond the Newsroom	podcast	Texas
2008	Borderzine.com	multiple	Texas
2019	Café con Voz	social media	Florida
2017	Cafecito con Luz y Michelle	podcast	Nevada
2004	Christian Post Español	website	Washington DC
2020	Cicero Independiente: Las Noticias del 60804	website	Illinois
2013	CNET en Español	multiple	California
2017	Con Las Bases Llenas	multiple	Florida
2020	Conecta Arizona	messaging app	Arizona
2018	Conexión Hispana	multiple	Florida
2017	Contrapoder con Jorge Ramos	podcast	Florida
2020	Coronavirus Realidad Vs Ficción con el Dr. Elmer Huerta	podcast	Washington DC
2020	De Campana a Campana	podcast	Florida
2019	Desde El Diamante	podcast	Florida
2010	Diario Palm Beach	multiple	Florida
2016	Dímelo	multiple	California
2018	Documented Semanal	multiple	New York
2019	El Hilo	multiple	New York
			(continued)

Digital-native Latinx News Media

Year	Name	Platform	State
2009	El Latino	website	Florida
2019	El Migrante	multiple	California
2020	El Nuevo Pod	multiple	Florida
2018	El Tímpano	multiple	California
2019	El Washington Post	podcast	Washington DC
2017	Elemento Latino	social media	Oregon
2018	En Un Minuto	podcast	Florida
2017	Enlace Latino NC	multiple	North Carolina
2019	Enlace News	social media	Texas
2016	Epicentro con León Krauze	podcast	California
2017	Es Así y Punto	podcast	Florida
2014	Hip Latina	multiple	California
2015	Hola West Palm Beach	social media	Florida
2018	Houstonish	podcast	Texas
2011	HuffPost Latino Voices	website	New York
2016	In the Thick	multiple	New York
2018	L.A. Taco	website	California
2012	La Esquina	multiple	Kentucky
2019	La Pelota al que Sabe	multiple	Florida
2020	La Wikly con Emilio Doménech	podcast	New York
2017	LAND: Latin America News Dispatch	multiple	New York
2019	Latinext	messaging app	Illinois
2011	Latino Rebels	multiple	New York
2016	Latinos en Michigan TV	multiple	Michigan
2012	LatinPost	website	New York
2018	LatinX Now	social media	Florida
2017	Los Hilos de Washington	podcast	Washington DC
2018	Luz Collective	multiple	California
			(continued)

Digital-native Latinx News Media

Year	Name	Platform	State
2007	Media Moves: Covering Latinos in the Media Industry	website	California
2017	Memphis Noticias	multiple	Tennessee
2009	Mi Winsconsin	multiple	Wisconsin
2010	MiamiDiario.com	multiple	Florida
2011	NBC News Latino	website	New York
2017	Neta	multiple	Texas
2010	News Taco	multiple	Texas
2020	Noches Mágicas	podcast	Florida
2008	Noticias Cristianas Evangélicas	multiple	Texas
2009	Noticias de las Grandes Ligas	multiple	New York
2016	Noticias Ya	multiple	California
2015	Noticiero Móvil	multiple	Nevada
2016	Noticiero Univisión Edición Digital	social media	Florida
2018	NotiPod Hoy	multiple	Florida
2018	On Cuba News	multiple	Florida
2019	Palabra	multiple	Washington DC
2009	Panorama Online	website	Arizona
2009	PDX Latino	website	Oregon
2011	Pocho	website	California
N/A	Politico Latino	website	Virginia
2018	Politiqueando con Carlos Chirinos	podcast	Florida
2020	Posible L.A.	multiple	California
2018	Proyecto Pulso	multiple	Texas
2019	Raza Deportiva	podcast	Florida
2018	Real America with Jorge Ramos	social media	Florida
2008	Remezcla	multiple	New York
2019	SAG-AFTRA Podcast en Español	podcast	California
2015	Soccer Cooligans	multiple	New York
			(continued)

Digital-native Latinx News Media

Year	Name	Platform	State
2018	Somos (Refinery 29)	multiple	California
2011	SurFlorida	website	Florida
2016	Tamarindo Podcast	multiple	California
N/A	The Hill Latino	website	Washington DC
2017	The Nevada Independent en Español	website	Nevada
2017	The Voices of Monterey Bay	multiple	California
2018	Tu Zona Roja	podcast	Florida
2019	UNEWS The podcast	podcast	Florida
2012	Univision Contigo	website	Florida
2013	Univision News	multiple	Florida
2009	Univision Noticias	multiple	Florida
2020	Univision Noticias Coronavirus	website	Florida
2017	Vanguardia America	multiple	Arizona
2017	Vanguardia Arizona	website	Arizona
2019	Voces en Libertad	website	Florida
2012	We are Mitú	multiple	California
2018	Yo Estuve Ahí: El Podcast de Noticias Telemundo	podcast	Florida
2018	Zona de Tres	podcast	Florida
2018	Zona Pop	podcast	Georgia

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Thematic analysis of journalism engagement in practice

By Mark Poepsel

This paper is a qualitative thematic analysis of more than 100 case studies published between 2010 and 2020 in the Gather database of engaged journalism projects. It breaks down these case studies and project blurbs into three organizing themes: content collaborations, facilitating conversation, and random acts of empowerment. Further categorizations are suggested that give us some new language for identifying and strategizing with these crowdsourcing and community outreach practices. One key finding is that nearly a quarter of the cases studied were not about engaging audiences in content creation or interpretation but were about engaging citizens with one another. The community organizer role of the engaged journalism organization is starting to take shape. It will help journalists and scholars alike to have a few shared terms to use when talking about this and other aspects of "what we do when we do engaged journalism."

Journalism and mass communication scholars talk about two types of engagement. The first primarily involves media economics scholars analyzing how audiences engage with content in ways that garner audience attention. This matters in terms of building theory because it covers new ground in media effects, and it matters to the business of journalism because garnering attention is one of the keys to bringing in revenue. Theory generated in this vein is most useful for those who buy and sell ads and those who study the evolving, increasingly challenging economics of the news industry (Nelson & Webster, 2016).

The second type of engagement carries potentially massive social, cultural, and political impacts and continues to fascinate journalism studies scholars. It falls under the umbrella term "Engaged Journalism," which, to borrow from Batsell (2015), is journalism which "must actively consider the needs of an audience and wholeheartedly embrace constant interaction with that audience" (p. 145). This branch of theory matters because it gets at the rapidly changing nature of how news is made in digitally networked societies. It also gives scholars the opportunity to develop frameworks for describing and analyzing how the relationships between journalists and participating audience members may continue to evolve.

Arguably, when historians track the major social and political changes of this century they will find that the changing relationships between journalists and audiences played a major role in driving those shifts. The social and cultural implications of engaged journalism are far reaching. For journalists, if the practices known as “engaged journalism” can be more clearly defined, new frameworks might provide direction in chaotic times. For scholars, if we understand engaged journalism better we can continue to build the foundation for explaining how change in news institutions relates to broader social change. This paper identifies and defines engaged journalism practices found in a publicly available case database to contribute a missing link in our research. Specifically, this study separates engagement projects based on content from those based on conversation. Further subcategories are offered and explained. This is followed by a brief discussion about what journalists and scholars might do to use and to build on the simple frames established here.

A Constellation of Approaches

“Engaged journalism” research falls into a group of theoretical approaches aimed at helping us understand how news organizations and citizens might relate successfully in the age of digitally networked communication (Batsell, 2015; Ferrucci, Nelson, & Davis, 2020; Rosenberry & St. John, 2009). It is essential to note that the evolution of digital information and communication technologies is a driver in the push to develop and improve engaged journalism, but engagement happens both in person and online. Many of the practices discussed by journalism studies scholars under the theoretical framework of engaged journalism predate the widespread use of digitally networked communication technologies and can be traced back to the civic/citizen journalism movement (Rosen, 2006; Rosenberry & St. John, 2009). Thus, we should expect engaged journalism practices to utilize digital communication technologies but not always to be rooted in them exclusively.

This study identifies and defines engaged journalism practices as described in a relatively comprehensive database covering projects from 2010-2020. Even in the 2010s many engaged journalism practices started with face-to-face community engagement and incorporated digital communications to augment those practices. Examples of the digital augmentation of face-to-face engagement might include using social media for recruiting and for sharing published content across platforms in an effort to keep conversations and community connections alive after they were first developed at in-person events. Certainly, this study identifies many digital-only or primarily digital engagement projects, but it is important to note how prevalent face-to-face components were. This gives us some context helping connect engagement journalism to its historical precedents, and it indicates some challenges the industry will face in a COVID-ravaged world if we want to continue to foster community engagement in real life.

In the networked age, audiences are also publishers, and publishers do not necessarily need professional news organizations to reach mass audiences. The urgency that drives this study is this: If we can better understand the practices, routines, and opportunities of relatively contemporary engaged journalism projects, we can develop a common vocabulary. This might help us to do a better job of systematically experimenting with engagement beyond what search engine and social media algorithms do to cause us to stay adhered to smartphone content. If the field of journalism is to seriously and strategically approach engagement journalism on a large scale we have to map the terrain first.

In this study, the researcher looked at the Gather database of engagement journalism, which was located at https://gather.fmyi.com/public/sites/20801 when this study was conducted, and which is now located at https://letsgather.in/, as a means of examining almost a decade's worth of synopses about how engaged journalism was underway.

Covering 2010 to 2020, when the data were analyzed, this collection includes case studies and shorter project briefs. It amounts to a mosaic of snapshots of engagement journalism detailing what tools were used, how journalists, editors and community members contributed, how challenging each project was, and where one might go from here as journalists and researchers. A thematic analysis of 100 case studies and briefs offer some summary terms that might help build engaged journalism theory and to look at the relative prevalence of content-focused projects, that is, those that directly resulted in published news stories, versus those that sought to bring community members physically together to share space and conversation.

Literature Review

Engage with the Literature

Hundreds of academic papers and books cover all sorts of engaged journalism categories. Terms and topics include participatory journalism (Domingo, et al., 2008), solutions journalism (McIntyre, 2019), public journalism (Glasser, 1999; Nip, 2006), civic and citizen journalism (Allan & Thorsen, 2009; Rosenberry & St. John, 2009), and more. What most of the published literature in this area has in common is it deals with the various ways professional journalists and news users relate and collaborate with one another with a strong focus on how news content is shaped and interpreted (Borger, van Hoof, Costera Meijer, &

Sanders, 2012; Gillmor, 2003; Lawrence, Radcliffe, & Schmidt, 2018; Rosenberry & St John, 2009; Singer et al., 2011; Wall, 2017). Journalism studies scholars have been most interested in studying engaged journalism from the perspective of professional journalists and editors working in large newsrooms, and early research often focused on newspaper newsrooms (Domingo et al., 2008; Singer et al., 2011). The focus at the start of the 2010s was often of the disruption of existing journalistic routines, organizational structures, and the industry as a whole. While this is a logical starting point and lays the essential groundwork for research into engaged journalism, it does not leave much room for defining and categorizing new routines of practice, particularly those in engaged journalism that are not designed to produce news content. Engaged journalism projects often have engaging a community in civic conversation as the primary goal and informing the audience as a close second. Batsell (2015) notes the rise and fall of the popularity of news organization-hosted events during the civic/citizen journalism movement, "most from the 1990s and early to mid-2000s" (p. 20). And Batsell (2015) goes on to describe a new financial interest in hosting events as finding new revenue streams for journalism is the primary focus of Batsell's award-winning book. This paper notes a similar resurgence in live hosted events (post-2010, pre-COVID) and works to place them in context and into categories alongside other engaged journalism programs. To continue to theorize and strategize about engaged journalism, perhaps we need to give as much weight to the term "engaged" as we do to "journalism." The importance of journalism in a democracy is, generally speaking, readily accepted by professional journalists and journalism studies scholars; whereas, the value of community engagement, aside from the fiscal focus on audience metrics mentioned previously, continues to be debated in journalism circles (Lewis, Holton, & Coddington, 2014; Masip, Ruiz-Caballero, & Suau, 2019; Meyer & Carey, 2014).

Nelson (2019) names the two-headed monster of audience engagement research the "reception- and production-oriented approaches to audience engagement" (p. 7). Reception-oriented approaches are covered by media effects theories and to some extent by market research. Production-oriented approaches are covered by the various categories related to engagement journalism listed above. Where this article aims to push the conversation on engagement forward is in a direction that breaks down content production and event hosting into distinct categories that might be used in practical planning and in further academic analysis. This study seeks to identify, classify, and describe news organization engagement with communities for the sake of community as well as with communities for the sake of content creation.

Participation Spectrum

Previous classifications of participatory journalism, akin to engaged journalism, centered on the level of influence news organizations granted citizens (Nip, 2008, 2009). In their efforts to map the relationships between news organizations and citizens, scholars looked at comments on news websites (Meyer & Carey, 2014), citizen news pages set apart from professional content (Nemanic, 2016), and co-created content among other types of participatory projects (Rosenberry & St. John, 2009). Examinations of citizen journalism, defined as news created by citizens without direct influence from professional journalists (Nip, 2009), suggest that citizens' ability to publish news online does not necessarily level the playing field between amateurs and professionals (Wall, 2017). These classifications and analyses are useful for discussing different depths of citizen collaboration in news production, but they do not encourage us to examine how deeply news organizations might engage with communities.

Value Proposition

The introduction of reciprocity theory into journalism studies suggests why community engagement is important, that is, how valuable it can be (Borger, van Hoof, & Sanders, 2014; Holton, Coddington, Lewis, & De Zúñiga, 2015; Lewis et al., 2014). People expect reciprocity when they engage with one another. If not immediate recompense, they expect through group dynamics that they might have a favor returned, so to speak, at a later time, and this is true in terms of discursive and agenda setting power just as much as it is with a loaned leaf blower (Borger et al., 2014; Lewis et al., 2014). Reciprocity explains how social capital might be banked and spent, but journalists and news organizations have often sought to remain detached from audiences as "objective" observers of social events rather than active participants. Engaging in reciprocal practices with communities is not a switch that can be turned on. Citing Robinson (2011), Lewis et al. (2014) explain: "Simply put, there are transaction costs associated with engaging audiences, and in many cases journalists cannot (or will not) bear that cost when it cuts into what they see as their core journalistic activities" (p. 11). If journalists and their news organizations are to invest in reciprocity in the name of community engagement, it would help to have some shared understanding of terms and some synthesis of analysis on what appears to be working and what does not.

When social expectations are not fulfilled, trust and other measures of appreciation for the professional field of journalism can falter (Anderson & Revers, 2018). Engaging more will not necessarily mend relationships or alter perceptions, but in an age where dark participation threatens communities and democracy itself (Quandt, 2018; Westlund & Ekström, 2018), it is important to continue to try to understand how news organizations are engaging with their communities. More analysis is warranted even at broad, descriptive levels. For news organizations to engage successfully in meaningful reciprocity in communities, they will likely need to do more than produce audience-influenced content. For news organizations to continue to assert mass influence over meaning making, they may need to foster relationships between community members apart from those meant to generate content. While the civic/citizen journalism movement made efforts in this regard, the movement faltered, too easily dismissed as ideologically motivated and/or too deeply recast as shallow public relations plays (Rosenberry & St John, 2009).

A renewed interest in purposeful efforts to build community cohesion is called for. For news organizations to be platforms for valuable social reciprocity, engagement projects might need to do more than to engage citizens with content. Meaningful engagement may require building and looking after spaces where citizens can engage with each other.

In one of the only major studies to compare digital crowd-sourced journalism practices to "offline forms of audience engagement," Belair-Gagnon, Nelson, and Lewis (2019) showed that public media journalists tended to prefer face-to-face offline engagement activities. This is an important piece of the puzzle. It suggests that some journalists might welcome a chance to explore new roles as direct organizers of community discussion.

We're Gonna Need a Bigger Box

This study analyzes cases and (more brief) project descriptions featured in a database geared toward those who are running their own engaged journalism projects or those who are interested in developing them (Gather, n.d.). This paper does not suggest that hosting community forums or crowdsourcing content are new innovations, but what it offers, through a look at nearly a decade's worth of engaged journalism efforts, is a sort of heat map of engagement complete with the relative prevalence of certain types of projects. It is hoped that by looking for key themes in engaged content creation and in community conversation facilitation we might begin to understand which types of project are most popular and why. This should help us to continue to develop our working vocabulary for engagement journalism and to suggest several areas where further research should be conducted. It may also offer a small contribution to the discussion about how to foster reciprocal journalism in society.

Based on an analysis of 102 projects listed on "Gather, the engaged journalism platform" (Gather, n.d.), carried out between 2010 and 2020, this paper addresses the following research question:

RQ1: What do news organizations actually do when they practice engaged journalism, and how prevalent is the function of fostering community conversation as opposed to the function of fostering collaborative content creation?

Methodology

The method for this study was thematic analysis. It is most applicable in qualitative research when attempting to make sense of a large text or a large body of texts when the goal is to tease out and explain key themes and the basic concepts that comprise them. The specific method applied here comes from Attride-Stirling (2001), which encourages the unveiling and analysis of thematic networks. Thematic analysis allows for the application of existing theory and for the researcher to notice new themes that may help explain phenomena more completely. In that regard it is a useful method for analyzing efforts which are themselves experimental. Thematic analysis can help solidify knowledge about otherwise short-lived projects and programs.

The process is straightforward. One reads or analyzes a text or group of texts and codes the material. Then, the researcher identifies themes, constructs thematic networks, and describes and explores those networks (Attride-Stirling, 2001, pp. 390–393). Analysis continues until the thematic networks can be summarized and patterns interpreted (p. 394). The hierarchy of analysis starts with basic themes, which comprise organizing themes, which all feed into the global theme. In this case, the global theme is simply “engaged journalism.” The organizing themes and basic themes are mapped in a network displayed and discussed in detail in the findings, all following the example of Attride-Stirling (2001).

The textual basis for this thematic analysis was a body of 102 digital documents. There were 54 case studies of between 1,500 and 3,000 words in length found on the Gather database (Gather, n.d.) along with 48 brief project summaries. These covered a time frame from 2010 to 2020. The news organizations conducting these projects were primarily located in the United States, though a handful originated in Europe. The types of media involved were digital-first news properties, public radio stations, and newspapers’ websites and other digital offerings. About 10%, were grant-funded or non-profit-sponsored projects that, more or less, stand as efforts unto themselves. Other notable project sponsors include the Medium platform itself, college journalism courses, the Huffington Post, ProPublica, and StoryCorps.

Case studies and project summary briefs were collected by the Agora Journalism Center at the University of Oregon often by requesting submissions via word-of-mouth and social media. These do not represent a census of all engaged journalism projects done in the last decade, nor are they a perfectly constructed random sample; however, this collection is the most comprehensive database of journalism engagement projects publicly available. The case studies include details about the goals, costs, challenges, and successes of each case. Case studies and project blurbs also indicate whether or not the primary purpose of each project was to create news content or to bring the community together in other ways.

Where choices had to be made in the classification of projects as primarily conversation-focused vs. content-focused, both the project's stated purpose and outcomes were taken under consideration. Projects were categorized according to element(s) emphasized the most in the write-ups. For example, if a project included a day-long event put together at great expense featuring dozens or more community members brought together to discuss current issues and it resulted in several news stories it was categorized as "Facilitating Conversation" because this was deemed to be the primary purpose. In other words, cash expenses and time costs were considered in addition to stated goals.

In one sense, the Gather platform is a repository of hope that engaged journalism might work. It's an attempt to document the history of an evolving journalism practice, which may provide a renewed sense of purpose for the field. For journalism studies scholars to more intricately evaluate and rank types of engagement journalism, some common vocabulary might serve as a collective codebook or guide. Thematic network analysis is the appropriate method for uncovering, explaining, and beginning to analyze the many practices and purposes that comprise what we call "engaged journalism."

Findings

RQ1: What do news organizations actually do when they practice engaged journalism, and how prevalent is the function of fostering community conversation as opposed to the function of fostering collaborative content creation?
In response to **RQ1**, content collaborations tended to dominate the cases documented in this engaged journalism database. They made up 64% of the total, compared to 23% geared to facilitating conversation. The 100-plus case study write-ups and project briefs listed in the Gather database are representative of what is possible when news organizations pursue engaged journalism and where we have room to grow as practitioners and researchers. Besides "content collaborations" and "facilitating conversation," a third organizing theme was identified. It is something of a miscellaneous category referred to here as "random acts of empowerment."

While many news organizations focus only on engagement as defined as a series of web metrics (Nelson 2019), the project briefs and case studies discussed here focus on community. In some ways these efforts are a continuation of the civic journalism and public journalism movements, which both largely receded in the early 2000s; however, there is promise here for building engines of social reciprocity in communities through journalism. If anyone is going to overcome the "transaction costs" identified by Lewis et al. (2014) and establish community reciprocity through engaged journalism, it would be those who are dedicated and who have the time and often the grant funding to try. But we need to examine what underlies the organizing themes, with special attention paid to “content collaborations” and “facilitating conversation.”

Seven basic themes were identified as branching off of the organizing themes. The basic themes are labeled, and definitions are provided and supported with concrete, empirical examples below. Following the explication of themes are brief discussions of what may be possible in the future. Note that considerations are tempered by the understanding that the COVID pandemic may limit face-to-face engagement efforts by news organizations for at least the near term.

Content Collaborations

Content collaborations comprise 65 of the 102 cases and project briefs studied here, which is 64% of the total. They are defined straightforwardly enough as engaged journalism projects and events where the primary purpose is to gather or contribute to news content. The vast majority of content collaborations are crowdsourced reporting efforts, defined here as the practice of taking large questions or problems and asking a large number of online contributors to help break down and analyze or contribute to the project in small ways. The collective efforts, usually of individual users, are leveraged to compile databases, analyze existing pools of data, and/or to compare experiences. One example of “engaging organized groups” was when an Italian journalist built a database from information contributed by users organized according to municipality. This was a fascinating project and will be detailed below. Engaging organized groups was the smallest category among the basic themes identified in this study.

Crowdsourcing takes many forms, and it can be done online and asynchronously with potentially outsized results, which likely contributes to its popularity. A small number of the “engaging individual citizens” cases mention additional crowd-engaging elements such as crowdfunding or “hackathons.”

One of the most striking notes on the theme of content collaboration is how evenly split the projects were between open calls for collaboration and guided reporting projects. At a glance the Gather platform might appear to focus on projects with specific topics in mind, but 37 of the 65, or 57% of the content collaboration cases, were open-ended calls for content. An example of an open-ended call was the “One River, Many Stories” project based at the University of Minnesota, Duluth, which was noted in a project brief (Featured Projects Archive–Gather, n.d.). The organizing concept was that each story needed to concern the St. Louis River region in northeastern Minnesota. Media formats and story topics varied widely as journalists worked with individual citizen contributors to create a sense of community around this small river basin.

Of the 65 content collaboration cases, in 61 of them, or 94%, journalists engaged directly with individual citizens. This matters because the institutional power differential is greater when news organizations engage with individuals. This may be more popular because it enables journalists to maintain control more easily over story selection, reportage, and framing even as their news organization demonstrates a willingness to engage with citizens in setting the news agenda. Additionally, it is also likely that engaging with groups is the more expensive approach. Coordinating with organized groups to create content requires knowledgeable outreach and often event planning capabilities and budgets. Where organized groups were engaged in content collaboration, there was an even split between open requests for story ideas and guided requests.

A guided request is when a news organization seeks content and insights on a particular topic or story determined by journalists to be newsworthy. A good example of a guided request can be found in the Cittadini Reattivi project. In this case, "about 400 Italian communities have helped [editor Rosy] Battaglia build a detailed map of 15,000 contaminated sites across Italy" as her news organization seeks to report extensively on environmental justice issues (Torchia, 2018, para. 4). When journalists define the topic, this opens up opportunities for contributors to provide information with depth and richness. The tradeoff is that citizens with little knowledge of the subject might only engage as audience members. Arguably the potential to establish reciprocity is present, however, because journalists are taking notice and direct action to address a problem thousands of citizens are having.

The Cittadini Reattivi project is exemplary because by using maps it not only maintains but enhances the detailed information provided by citizens. It is an example of a content collaboration built with posterity and function in mind. The groups in question are municipalities, which are relatively easy to identify and to identify with. The project, as described in the Gather case study was its own standalone site. Battaglia hosted a successful crowdfunding campaign to produce a documentary film (Torchia, 2018). Further follow up is needed to see if this relationship between journalist and communities continues and to see if positive environmental impacts result. This leads to the question of how we might foster ways to make this sort of effort common practice for journalists in organizations of all shapes, sizes, and nationalities.

When individuals are called on to help crowdsource story ideas, news organizations have to manage parallel efforts. These projects often appear to serve a community outreach public relations function and a journalistic one simultaneously, which hearkens back to the civic and citizen journalism projects of the past. Further study is needed to see how these projects may avoid the pitfalls that plagued some of the public journalism projects of the 1990s and early 2000s (Rosenberry & St. John, 2009). This is not to say that journalism is necessarily given short shrift when story ideas are crowdsourced, but when individual citizens are engaged in unguided agenda setting, the resulting news is not necessarily in-depth and issues-focused. What remains to be seen is whether that matters for community building or for leveraging engagement to build journalistic reciprocity. Perhaps the hope for engaging with individual citizens is that for every few human-interest stories gathered through crowdsourced agenda setting there might be a guided crowdsourced project that successfully tackles an issue of national concern. Gather does not offer examples where multiple engagement projects were conducted simultaneously. Though it is not unusual for a digital news standalone site to feature engaged journalism at its core, there are no examples in the database studied here of large-scale news organizations that run mostly or even in large part on engaged journalism projects. Instead, these often appear to be side projects, although they may be recurrent.

By empowering citizens to help set the news agenda, news organizations are responding to the digital age reality that citizens can craft and share news on their own and bypass professionals. Outreach to individuals or groups for the purpose of content collaboration is not foolproof and only rarely leads to the type of journalism Cittadini Reattivi produced. Scholars should examine what might be an appropriate balance between guided and open-ended crowdsourcing.

Sometimes the result of engaging individuals in collaborative content creation can be life-saving. Information such as where to find help after a hurricane or how to try to thrive during the COVID pandemic may become common features of engaged journalism in the future (Featured Projects Archive–Gather, n.d.). One blurb on the updated Gather database site notes:

> [With] ‘Rona Call: A Community Info Phone Tree. Free Press’ News Voices team created a guide to help community [members] reach out to five folks [each] and ask them a series of questions about what information they need to stay safe, healthy, and connected. The News Voices also relayed these findings to local journalists to help inform media coverage, raise questions to pose to decision-makers, and suggest how to frame stories in a way that will provide value to communities. (“‘Rona Call: A Community Info Phone Tree’” section)

Tackling issues from the perspective of individual news users may result in a marriage of issues reporting and human-interest framing within a given story (Poepsel & Cox, 2019). Case studies in the Gather database focus more on the goals and challenges of setting up content collaboration projects than they do on content analysis but for anecdotal highlights. Future research should continue to examine the content developed in engaged journalism projects to help us understand the relative prevalence of “hard” and “soft” news. Another key question to ask is whether engaged journalism is incorporated into the core mission of the news organization or if it is more often done in a performative manner.

Facilitating Conversation

The facilitating conversation type of engagement accounts for 23 of the 102 cases, 23% of the projects studied here. This organizing theme is defined as an activity or event hosted by a news organization with the purpose of bringing community members together to discuss issues or to get to know one another rather than to produce news content. There is a difference between meetups convened to generate story ideas or to conduct crowdsourcing efforts and this category. The primary purpose under "facilitating conversation" is community building through fostered discussion as evidenced by details in the texts of these 23 cases and project briefs. News organizations may use these events for multiple purposes such as informing community members about democratic processes and/or promoting the news brand in addition to fostering discussion. Though these types of events do not generate news content, they are not necessarily less essential for the evolving role of a news organization because they may help to maintain or reestablish the organization's role as facilitator of communicative reciprocity.

A shorter definition: news organizations fulfill the role of conversation facilitator in communities when they strategically plan events to bring community members together to engage in constructive discourse. In a sense, by hosting conversations, most often in-person, news organizations are taking a role once fulfilled in the pages of the newspaper as a marketplace for ideas, applying some structure and guidance, and bringing this activity into physical spaces and digital forums. How does this relate to the civic journalism or public journalism movement of the 1990s and early 2000s? It follows what Nip (2008) observed that some of the of the practices of civic journalism were adaptive and accepted into the DNA, so to speak, of a number of news organizations.

As a national movement, civic journalism may not have shifted the focus of most newsrooms toward what are now called engagement and solutions journalism, but some of the practices live on as news organizations continue to experiment and to assert their role as catalyst for building connective tissue in communities.

Actual practices varied widely. Some curated conversations that appeared in these data were set up as person-to-person meetups. Others brought people in positions of power into conference centers or similar spaces to face questions from citizens in the room. Such events may not raise revenues. In many cases there was not even an attempt to turn these events into money makers, but one consistent aspect of these types of project was that they were designed to improve the standing of the news organization in the community through serving some other social need. For example, an event in Richland, Ohio brought in pregnant women to learn about the available community resources after local reports in RichlandSource indicated high levels of infant mortality in the region (Poole, 2018). Here the engagement portion of engaged journalism happened after the news stories made an impact. The relevant scholarship in this area is solutions journalism research (McIntyre, 2019). Most of the events described in the data that fit this theme were not as focused, however. In fact, it is difficult to classify these events as either “guided” or “open topic” because at times even the guided discussions covered several sweeping municipal issues. Further study will reveal if and how the practices formerly known as civic journalism may be being reconstituted under the engaged journalism umbrella.

After thematic coding and recursive analysis, it was determined that three basic themes comprise the “facilitating conversation” organizing theme. Those basic themes are “person-to-person” meetups, “truth-to-power” sessions, and finally the “soul searching journalists” theme. Each presents unique opportunities for follow-up research.

The person-to-person meetups were the most common, making up nine of the 23 cases, or 9% of the overall cases. These were creative efforts to try to bring community members together to share stories and to attempt mutual understanding. Most were open-ended in nature. Some had the express purpose of bridging divides between ethnic groups or political factions. For example, “After the 2016 election, Colorado Public Radio (CPR) reporters wanted to know how they could help bridge conversation across party lines in an increasingly polarized political climate. So in May, CPR brought together a politically and ethnically diverse group of listeners to share a meal and engage in conversation” (Stevenson, 2018, para. 1). There appear to be local news organizations willing to try to coordinate community connections, even down to the individual level. The individual meetups could be a qualitative case study unto themselves because they exemplify what happens when news organizations attempt a sort of soft-pedaled community organizing. An obvious critique of most of these projects is that they focused on brief events rather than outcomes; however, some resulted in subsequent news coverage, and others provided services not likely to be found anywhere else. For example, one project brought stories from Kentucky inmates to their families via radio (Featured Projects Archive–Gather, n.d.). Many of these communication efforts are costly and experimental and might make more sense as government programs than as community outreach efforts run by online news sites and public radio stations; however, these show there exists a willingness to innovate.

Most of these person-to-person engagement projects were held face-to-face in real life. For some time even after the widespread delivery of a COVID vaccine, members of communities in areas hard-hit by COVID may be reluctant to meet in person. If anything, this is a possible opportunity because the costs of coordinating group discussions are relatively low in virtual settings. Turnout at these events was relatively low, but this was often because they were only designed to be meetups of a few dozen people or so. One possibility is that these become a function of government not simply about government. If the democratic experiment in the United States is to continue, perhaps some previously unthinkable steps need to be taken in the way government, news media, and citizens relate and coordinate with and for one another.

The "soul searching journalists" category refers to seven cases of discussion facilitation where citizens were brought together with news professionals to discuss the industry. The outcome, in this limited sample, was often that members of the public simply wanted to tell journalists what they are doing wrong. Based on the discussions in the Gather database, citizens want better, more inclusive coverage of diverse groups, and they want multiple contexts and points of view provided.

One project brief ("Bridging Divides") included in this category posed a problem in data analysis because it referenced an entire year's worth of outreach efforts by the Pulitzer Center on Crisis Reporting, which may include as many as 500 events that use news as a jumping off point for community education (Featured Projects Archive–Gather, n.d.). Without more in-depth description, it is not clear whether these were each independent outreach efforts or rather similar efforts repeated hundreds of times. Based on the brief, these appear to have been lectures and lessons rather than engagement sessions, so the decision was made to count this in the context of this paper as only one project brief. Further studies could be done on the Pulitzer Center's work to learn more about the types of engagement practiced. The Center itself is not so much a news organization as it is a facilitator. At any rate, journalists are engaging with communities to discuss media ethics, to explain the role journalists play in the media ecosystem and in society in general, and in limited instances they discussed the public's news agenda. What ties this category together is the sense in each of these cases and project briefs that leaders in the journalistic field need to hear more from communities that some of them have worked for decades to keep at a detached length.

The final basic theme in this section is "truth to power," which represents meetings where civic leaders were invited to answer questions from readers and listeners of local news media. A couple of these events were focused on specific issues while the rest were open-ended in nature. While these can serve to maintain the position many news organizations aspire to hold as guardians of accountability, large, open-topic meetings can appear to citizens as invitations for officials merely to pay lip service. Many of the writeups for these events suggest that they ultimately shape and influence news coverage, which is promising. In the age of networked digital communication, tracking outcomes is becoming a necessity. Though most of these cases do not indicate that tracking is happening, future "truth to power" sessions and similar digital platforms set up by news sites could track outcomes. This is another trail for journalists and researchers to follow.

Random Acts of Empowerment

This theme represents a collection cases that have in common some notion of fostering empowerment. Empowering people is an admirable goal, and perhaps it is too harsh to suggest that these are any more random than some of the other events or one-off programs cited above, but what these have in common are that they do not involve citizens and journalists collaborating to craft news content, nor are they meant to bring community members together with one another to address social issues. The primary definition of this organizing theme is an idea that persists in journalism practice that news content itself can be so citizen-focused as to be empowering and to constitute engagement. In the academic literature, content alone does not make for engaged journalism no matter how diverse the intended audience is or how useful the "interactive" database might be. What defines engaged journalism is that there is a two-way (at least) exchange of information and communication of issue agendas. What we see in these examples is usually simply well-meaning, if sometimes patronizing, targeted reporting.

The basic theme of "empowering content" fits this bill. Important to note, this type of reporting can be good journalism. It can be creative, and it may cover a wide range of perspectives, but, for example, sending student photojournalists to document underrepresented communities one day out of the year as an educational exercise might do more to placate guilt about structural inequalities in news coverage than to engage communities in sharing the power of journalism to influence social structures (Bruni, 2018). It is possible that these efforts are the beginning stages of engaged journalism practices. For that reason, they are included in this section and are not labeled "half measures." Instead, these are indicative of institutional efforts the world over that recreate some inequalities while attempting to tackle others. To travel from "random acts" to the realm of engaged journalism, the circle between journalists and citizens needs to be completed, documented, repeated, normalized, taught, and appreciated with outcomes tracked.

Finally, there is a basic theme called "Miscellaneous literacies." As it happens, in this database are five community outreach efforts that focused on something other than news. Topics here included poetry, art, computer literacy and good, old-fashioned reading and writing. Encouraging literacies is another way news organizations might build their community brand, but in each of these cases either the news element or the element of community connection was found lacking. One interesting case saw a group of coders come together with news editors to create tools of engagement (Stevenson, 2017). This particular case was too "meta" to be categorized as anything but a literacy engagement. That is, journalists learned something about coding, and engagement tools were made. This explains why this case exists and why it did not fit anywhere else. Efforts at building engagement engines will likely continue and should be encouraged. Perhaps our ability to categorize and analyze will catch up.

Table 1

Relative prevalence of engaged journalism types

Type	Frequency	%
Content Collaborations		
Engaging individual citizens	61	60
Engaging organized groups	4	4
Facilitating Conversation		
Person-to-person	9	9
Soul searching journalists	7	7
Truth-to-power sessions	7	7
Random Acts of Empowerment		
Empowering content	9	9
Miscellaneous literacies	5	5

Based on 102 case studies and project briefs from the Gather database

Discussion

Most of these engagement projects are not new in nature. Community outreach was part of civic and citizen journalism practice since at least the mid-1980s (Rosenberry & St John, 2009; Ruiz et al., 2011). Community journalism scholars will note that small community news outlets never stopped doing various types of outreach, and when you are part of a faith community, a business community, a family community, an educational community, etc., many things you do under those guises looks quite a bit like the "fostering community" type of engaged journalism. But this is not about news organizations attempting to duplicate community building efforts. Rather it is about the need for shared secular civic spaces and for journalists, or people doing journalism, to build and to occupy those spaces to try to ensure that they function because this is what societies are built on. Forming factions and calling them communities is relatively easy. Making connections between groups to help maintain a functioning society is hard. It is argued here that it is not enough for journalists to assert that through storytelling they create shared community. This does not work in an age of information glut and self-selected news content. Journalists and scholars must be able to demonstrate and solidify in the form of knowledge which news and community development practices actually work to build cross-group mutual understanding to get community-level things done.

How They Made It

This study provides some more terms to define the *how* of engaged journalism. Perhaps these categories will need to be changed or be refined as we study and practice engaged journalism and solutions journalism more. One main limitation of this study is that it does not break down the various ways individual citizens are engaged. This is good fodder for further study because individual engagement is the core building block and perhaps the best unit of analysis of engaged journalism. As scholars, one can study what motivates individuals to participate in community conversations organized by journalists, and one might also survey community members to better understand what their expectations are for potential outcomes that may result from crowdsourced journalism efforts. McIntyre (2019) noted that “compassion fatigue” can result when people are made aware of problems in the news but see few if any viable solutions (p. 16). One question to pursue is: “What exactly counts as a solution?” Understanding what gets citizens engaged and what they might consider to be socially satisfying outcomes would give clear starting and ending points for practice and research.

It was identified here in the findings, and it matters quite a lot, that individual citizens appear generally to be less powerful and cheaper to contact than organized groups for the purposes of content collaboration. Many in organized and activist efforts would note that they are not as well engaged by news media as need be for them to affect structural change. By engaging more with activists across the political spectrum, journalists might improve society’s understanding of who the various activist groups are and what they want. The cases studied here were in a general sense, safe projects that did not challenge the status quo much, but when journalists attempting to represent the center do not cover left wing action much it makes it that much easier for right wing extremists to label everything to the left of them as a monolith. Engagement projects that treat Black, Indigenous and other People of Color as the “other” and that seek to engage “them” to tell “their stories” indicate a dearth of diversity within news organizations. Engagement can happen in-house too.

Reciprocity as Ultimate Goal

Without studying long-term community effects, it is difficult to say which types of cases did the most to foster journalistic reciprocity, defined again as building a system for shared social capital by fostering community relationships through journalism (Borger et al., 2014; Lewis et al., 2014). Perhaps in future research we may examine which balance of content collaboration and facilitating conversation works best to build social capital. It would make sense to start with successful community outcomes and then backtrack. Observations in this study give us a starting point. Many of the successful content collaboration efforts were guided crowdsourcing projects. Building reciprocity might be conceptually as simple as normalizing the practice of crowdsourcing to prioritize community problems and crowdsourcing to find positive community outcomes. Community engagement platforms such as Hearken, appearing in a dozen of the cases studied here, can be configured to tackle social issues wherein newsrooms use their own reporting as a starting point and use Hearken for more than human interest stories. An appropriate measure of community reciprocity would likely involve surveying community members to see if they trust their local news organization to identify issues and to pursue solutions until meaningful change is achieved. This goes well beyond discussions of solutions as identified in early solutions journalism research (McIntyre, 2019), which is not to say that the research is lacking but that journalism which seeks outcomes is still not the norm.

Conclusions

Thinking of all 102 cases, what seems to be evolving and improving is the level of innovation and sophistication in engaged journalism practice. Many of these projects involved creating databases or coding web applications specifically for the project in question. In many cases, well-regarded investigative journalists had specific stories in mind and went to communities to find people affected by issues, to crowdsource information, and to find social remedies. This method of storytelling should be encouraged as should the tracking of solutions. Open-ended community sessions are important for starting the engagement ball rolling, but journalists prove their mettle by organizing and synthesizing complex information from various sources and stakeholders and by holding the powerful to account until changes are made. Journalists and scholars should not shy away from being the brains of engaged journalism operations. The animus of the crowd gets us mob Twitter, fast-spreading conspiracy theories, and insurrection. When it works, engaged journalism gets results.

It is also noteworthy that the social media platform that comes up most often across these cases is Facebook. As a tool for connecting with community members, it is powerful, but researchers have raised questions about how Facebook functions as a news sharing site (Carlson, 2018). Alternative means of engaging with audiences that are not dependent on third-party platforms may be preferable in the future, particularly in the United States where engagement with news on Facebook may be more polarized and hostile than in other parts of the world (Humprecht, Hellmueller, & Lischka, 2020). News organizations may take encouragement from the examples referenced and alluded to in this study where local communities throughout the Gather database have built their own networked enterprises. This is, after all, what Gather is all about.

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Cued up: How audience demographics influence reliance on news cues, confirmation bias and confidence in identifying misinformation

By Amber Hinsley

The influence of political ideology on audience perceptions of news reports and misinformation is well established, along with its role in selective exposure and confirmation bias. The impact of other identity demographics, like education, age, gender and race, have drawn less attention regarding how the public assesses potential misinformation. This study explores the influence of demographics on the public's reliance on news cues such as headlines and photos and also examines the impact of demographics on confirmation bias as well as confidence in identifying fake news.

A recent Pew Research Center report might have understated national sentiment when it concluded that "Americans continue to have a complicated relationship with the news media" (Gottfried, Walker & Mitchell, 2020, para. 1). In that report, Pew noted the deep partisan divide in perceptions of news coverage: Republican and Republican-leaning adults were more likely to expect articles to be inaccurate and for journalists to intentionally mislead their audiences. It is perhaps not surprising, then, that other studies have established the role of political ideology in individuals' perceptions of fake news and misinformation, including selectively choosing facts (Schaffner & Roche, 2017) and ignoring cues like misleading headlines because the material reinforces their political opinions (Moravec, Minas & Dennis, 2019). The influence of other demographics—such as education, age, gender and race—have received less attention in studies of how the public assesses potential misinformation, and how journalists can use that knowledge to better engage with news consumers and work to overcome material that exploits oppositional narratives.

Through a national U.S. survey, this study uses social identity theory to examine a range of demographic variables in the context of the public's reliance on news cues such as headlines, links in stories, and personal research to determine if factors in addition to ideology have an influence on individuals' assessments of potential misinformation. The present research also explores the impact of demographics on confirmation bias as well as confidence in identifying fake news. Social identity theory helps explain the connection individuals feel toward their social groups—including ones that define their sense of belonging via race, gender and political ideology (Go, Jung & Wu, 2014)—and why those connections can influence assessments of misinformation. The results of this project reinforce the significant influence of political ideology on news consumers' reliance on particular news cues when evaluating potential misinformation. Political ideology also was a predictor of the inclination that information should confirm what people already believe in order for it to *not* be considered fake news and that they are confident in recognizing misinformation when they see it. To varying degrees, education, age, gender and race also influenced individuals' assessments of the importance of certain news cues and confirmation bias, as well as the strength of their confidence in their own ability to identify misinformation.

Research into demographics and fake news perceptions is important because although previous studies indicate strong ties between partisanship and political misinformation (Nyhan & Reifler, 2010; Weeks & Garrett, 2014), particularly in online spaces like Twitter (Brummette, DiStaso, Vafeiadis & Messner, 2018), relatively less attention has been given to the influence of other demographic variables even as some have argued about the ways in which disinformation can radicalize people along race and gender lines (Johnson, 2018).

Literature Review

Identifying Demographics as Key Variables

As the key independent variables in this study, demographics are important because they can be the foundation of our identities; how we see ourselves influences how we view everything in the world around us. Social identity theory helps explain how self-perceived membership in social groups—like race/ethnicity, gender, and political ideology, among others—affects our perceptions and behavior (Tajfel & Turner, 1986). In seeking to understand and define ourselves, we foster a sense of connectedness to others whom we see as being like us; we favor in-group members and tend to focus on the differences of the out-group (Tajfel & Turner, 1986). Demographics are our core personal identities (Perloff, 1996), and "people have…social distance between themselves and other persons based on their social positions or demographics, including age, gender, ethnicity, and education" (Go, Jung & Wu, 2014, p. 359). Individuals have multiple layers of identities, with some identities taking precedence over others in given situations to form a complex fabric that flexes and stretches based on personal preference and need.

In particular, social identity is a fundamental component of political partisanship that can influence how information is perceived across a multitude of topics (Greene, 2004). As noted, we hold stronger connections to some identities than others and there can be an interplay between our identities as Magnum (2013) found that racial identity can influence political identity. Other studies of demographics and social identity theory have shown that gender informs how we see ourselves and others (Cameron & Lalonde, 2001; Lindeman & Sundvik, 1995), that income plays a role in self-perception and connections with similar others (Martinangeli & Martinsson, 2020), and that educational experiences are often the foundation of our professional identities (Khalili, Orchard, Laschinger & Farah, 2013; Ma, Ma, Liu & Lassleben, 2020; Whitaker, 2020). The present research, then, uses social identity theory as the lens through which its findings are viewed as a way to interpret the role and importance of demographics in understanding perceptions about news cues, confirmation bias, and confidence in identifying fake news.

Looking for Cues of Fake News

The first goal of this study was to explore features in online material that individuals may rely upon to help them identify misinformation. These features—called news cues—include headlines, photos, links within stories, shareability, and objectivity that were identified in previous research (e.g. Go, Jung & Wu, 2014; Sundar, Knobloch-Westerwick & Hastall, 2007) for their important role in signaling to consumers the accuracy of associated information. News cues help consumers manage information overload by triggering mental shortcuts that make it easier for them to decide whether to further pursue the information they are presented with by continuing to read or otherwise engage with it (Sundar, Knobloch-Westerwick & Hastall, 2007). As users judge the credibility of the news cues, they process the features in the context of how the cues relate to them: Kessler & Engelmann (2019) found that news relevant to an individual's social group appeals to that person's social identity and reactivates knowledge about the topic. Because their interest in the information is based upon news cues that convey a consumer's potential connection to the material, the individual might draw from their prior knowledge or engage in personal research to further determine the veracity of the information.

Since news cues influence users' perceptions of a news story, it is particularly relevant as journalists struggle to help their audience differentiate legitimate reporting from fake news. The present study builds upon previous pieces that theorized news cues to be critical factors in fake news assessments (Jun et al., 2017; Tandoc et al., 2018a; Tandoc et al., 2018b) by examining the influence of demographics on news consumers' assessments about their reliance on news cues when determining whether news material contains misinformation.

Recent research has examined single cues such as headlines, story source or objectivity in the context of misinformation perceptions and political ideology

(Bago, Rand & Pennycook, 2020; Edgerly & Vraga, 2020; Mourao & Robertson, 2019; Schaffner & Roche, 2017), while other studies did not look at demographic data in their analysis of news cues. For example, Smelter and Calvillo (2020) discovered a link between the presence of photos and perceived accuracy of headlines, and Kim and Dennis (2019) studied the role of authors and headlines in credibility ratings. One study of science misinformation found that photos affected readers' perceptions of the evidence presented in the article (Dixon, McKeever, Holton, Clarke & Eosco, 2015), and another noted that knowing the source of the story influenced perceptions of bias (Chia & Cenite, 2012). Greater scrutiny of news consumers' reliance on multiple news cues and their various demographic variables can reveal expanded nuance in understanding what drives perceptions of misinformation as informed by social identity theory.

Similarly, consulting previous studies about how misinformation spreads offers valuable insight about the importance of accounting for news consumers' age, gender, race, education and political ideology. Strong partisan beliefs are associated with selectively sharing misinformation and other types of biased reports online (Colleoni, Rozza & Arvidsson, 2014; Hopp, Ferucci & Vargo, 2020; Shin & Thorson, 2017), although Guess, Nagler and Tucker (2019) found age to be an even stronger determinant of disseminating fake news.

To help clarify the influence of demographic variables on news consumers' perceptions of the importance of a variety of potential fake news signals, **RQ1** is posed: To what extent do demographic variables predict the public's reliance on news cues when identifying fake news?

Using Confirmation Bias in Evaluating News

In addition to examining the predictive effect of demographics when relying on news cues to determine whether a story contains misinformation, this research also looks at the connection between demographics and preferring information that validates what an individual already believes as they are assessing potential fake news.

Other studies employing social identity theory to examine confirmation bias—favoring information that reinforces what one already believes—found that people will seek out material from sources they perceive as being in-group and assign greater credibility to information if they perceive accepting it bolsters their membership in the group (Attwell, Smith & Ward, 2018; Go, Jung & Wu, 2014). Thus, analyzing the influence of people's social identities as they relate to race, gender and political ideology among other demographic variables can shed light on how confirmation bias functions in regard to fake news assessments.

People tend to gravitate toward attitude-consistent information (Winter, Metzger, & Flanagin, 2017), which may be exacerbated by partisan information sources

(Tripodi, 2018; Zompetti, 2019). Previous research on this topic, as with news cues, centers on the influence of partisan ideology. Confirmation bias can impact judgments about the credibility of news and news organizations on both ends of the political ideology spectrum (Mourao & Robertson, 2019; Tong, Gill, Li, Valenzuela & Rojas, 2020; Van Duyn & Collier, 2019). News consumers with strong political beliefs tend to spend more time with media sources that support and reinforce their views (Kaye & Johnson, 2016). Brummette et al. (2018) warned of online echo chambers because people are repeatedly exposed to messages decrying oppositional information as “fake news” simply because it comes from a different political party or party member. Such chambers are self-perpetuating as individuals connect in online spaces with others who share their views and are perceived as being in-group, increasing the likelihood of selective exposure to information they already believe is accurate and true (Tripodi, 2018; Winter, Metzger, & Flanagin, 2017). This phenomenon, as Nelson and Taneja (2018) explained, compounds the difficulty journalists face in persuading “audiences that real news is more credible—even when it tells them things that run counter to how they would like the world to be” (p. 3734).

At least two other demographic variables may influence engaging in selective exposure and fueling confirmation bias: Race and gender also can be factors in seeking out information that reinforces beliefs, as noted in Johnson’s (2018) conclusion that repeated fake news appeals and accusations on social media function to radicalize some white men as they seek to find others who are “like” them.

These findings lead to **RQ2**: To what extent do demographic variables predict the public’s reliance on confirmation bias when identifying fake news?

Developing Confidence in Identifying Fake News

Confidence is a crucial element in suppressing the spread of misinformation, which otherwise fuels confusion, mistrust and partisanship (Nyilasy, 2019). Individuals develop confidence in their ability to identify misinformation through a tenuous progression in which incongruous data can undermine their certainty (Burke, 2010). While some research has focused on how individuals fact-check in social media spaces (Jun, Meng, & Johar, 2017; McNair, 2017; Wenzel, 2019) and Van Duyn and Collier (2019) found that increased exposure to fake news is associated with diminished accuracy in identifying real news, relatively little work has been done to understand the potential impact of social identity theory and demographic variables on people’s confidence in their ability to recognize fake news.

What we do know about confidence is that it involves complex information processing (Chaxel, 2016) which is intricately dependent on the person analyzing the issue and gaining knowledge until they feel secure in their skills to handle it (Wan & Rucker, 2013). Information is processed in different methods based on how confident the individual is about the strength of the argument they're considering and how relevant it is to their life (Wan & Rucker, 2013). The more relevant the information is to a person, the greater the depth of their cognitive processing. Confidence also is linked to identity management because new information can threaten any number of identities an individual holds, especially if it's seen as a direct challenge to a particularly salient identity (Martiny & Kessler, 2014). Individuals whose demographic details are tightly bound to their sense of identity may rely more heavily, for example, on their political ideology or gender identity to help them assess information in the context of what they think their group believes and develop confidence that those evaluations are accurate. Thus, information that disputes "truth" as recognized through a group identity might affect confidence in regard to belonging to the group as well as the ability to effectively identify fake news.

In one of the few studies on confidence and misinformation, Schwarzenegger (2020) found that news consumers with higher confidence believed they could better differentiate between truthful and fake news than could people with lower confidence. Similarly, individuals with greater confidence in their news literacy are more skeptical of misinformation when they encounter it online (Paisana, Pinto-Martinho & Cardoso, 2020).

Because lower confidence in identifying misinformation undermines informed analysis, **RQ3** asks: To what extent do demographic variables predict the public's confidence in their own ability to identify fake news?

Methodology

Similar to other studies examining perceptions of misinformation (e.g. Bathel et al. 2016; Tandoc et al., 2018b), an online survey was developed to answer the research questions. Pretests were conducted with a convenience sample of 20 adults ranging in age from 21 to 70 to ensure the reliability of question wording and response measures, all of which were drawn from previous research as detailed below.

With internal funding for this study from a university grant, the survey firm Qualtrics was contracted to recruit respondents from its national pool of survey participants in October 2017. Requirements for the present study included that all participants were at least 18 years old and had one or more social media accounts. Each participant received under $5 for a completed survey from Qualtrics, and survey-takers certified at the start of the questionnaire that they would provide true and honest responses. Data was collected from 553 participants, and the sample was weighted to control for a greater number of female participants (n=390, 70.7%). The weighted sample yielded a more even gender breakdown, with 50.6% female (n=390) and 49.4% male (n=381) for a total weighted *n* of 771. Other demographic data from the weighted sample is generally representative of the U.S. adult population (U.S. Census Bureau, 2019), and further demographic data is provided below.

Demographic Overview of Participants

Participants split fairly evenly into three groups of political ideology: 37.1% (n=286) indicated they were on the liberal spectrum, 30.8% (n=237) identified as conservatives, and the remaining 32.1% (n=247) identified as neither liberal nor conservative. Their ages ranged from 18 to 84, with 25% (n=193) being 18-29, 37.2% (n=287) were 30-49, 22.5% (n=173) were 50-64, and 15.3% (n=118) were 65 and older. More than three-quarters (76.5%) of the participants were White or Caucasian (n=589). About one-quarter (n=193, 25.1%) had high school as their highest education level, 55.9% (n=431) had some college or had graduated with a bachelor's degree, and 15.8% (n=122) had some graduate education or had earned a graduate or professional degree.

Measures

Independent Variables: Demographics

The independent variables in each **RQ** are the demographic factors. For age, survey participants were asked to enter their current age as a whole number. Gender options were either male or female. Participants selected their race from seven choices: Black or African-American, White or Caucasian, Hispanic or Latino, Asian or Asian-American, Native American, multiple races, or other. In order to run the regression analysis, the categories were collapsed into two groups: White and all others. To indicate their highest level of education, participants chose from eight options: less than high school, high school, some college, bachelor's degree, some graduate education, professional certificate, master's degree, and doctoral degree. Finally, in regard to political ideology, participants were asked to choose where they would place themselves on a scale that included: very liberal, somewhat liberal, closer to liberal, neither liberal or conservative, closer to conservative, somewhat conservative, and very conservative.

Dependent Variables: Fake news cues

RQ1 examines 11 cues that participants might look for when trying to determine if a news story contains fake news. The survey presented them with a variety of features theorized in other work as being factors in identifying fake news, such as scrutinizing the headline, sources, visuals and shareability of the story, as well as trying to find the same information on their own from a different source (Jun et al., 2017; Tandoc et al., 2018a; Tandoc et al., 2018b).

Table 1 displays a complete list of the news cues. Participants noted on a seven-point semantic differential scale the frequency with which they rely on the features (1=Never to 7=Extremely often).

Dependent Variable: Confirmation bias

The dependent variable in **RQ2** is based on research that indicates people prefer information that supports beliefs they already hold so as to not create cognitive dissonance (Westerwick, Johnson, & Knobloch-Westerwick, 2017; Winter, Metzger, & Flanagin, 2017). Participants used a seven-point semantic differential scale (1=Not important to 7=Very important) to indicate the importance of a news story confirming what they already believe when they are deciding whether it contains fake news.

Dependent Variable: Confidence in Identifying Fake News

The dependent variable in **RQ3** is the participants' confidence in their ability to identify misinformation. They were not primed in the survey with specific examples of mis- or disinformation because, as Fletcher and Nielsen (2018) found, the public broadly understands "fake news" but does not wade into categorical distinctions. To avoid confusion, participants were asked how confident they are in their ability to recognize news that is made up, which mirrors a similar question asked by Barthel et al. (2016) in a Pew study. Responses on a seven-point semantic differential scale ranged from Not at all confident (1) to Very confident (7).

Results

Fake News Cues

With **RQ1**, this study asked "To what extent do demographic variables predict the public's reliance on news cues when identifying fake news?" as it sought to empirically examine concepts theorized in other studies (Jun et al., 2017; Tandoc et al., 2018a; Tandoc et al., 2018b) that suggested the news audience looks for particular cues when determining whether an article contains misinformation. Those cues include headlines, visuals, links within stories, sources cited in stories, and date published. In addition, other news cues examined in this study included how frequently participants reported relying on their own assessments of objectivity and conducting personal research. Because of the number of independent and dependent variables involved in analyzing this research question, an individual regression test was run for each news cue to determine the influence of the demographic variables on it. In answering **RQ1**, the present study found that of the 11 news cues, nine had statistically significant overall regressions, which are listed in Table 1 and indicate small but significant relationships between some of the variables. The significant regressions showed demographics help predict reliance on the following news cues when determining the presence of misinformation: location URL, appearance like a news story, date published, headline, author, sources cited within story, links in the story, objectivity and personal research.

Table 1. Overall regression for each news cue with all demographic predictors

	Overall regression
Location URL	R=.29, R^2=.08, Adjusted R^2=.08, F(5, 765)=14.07, p<.001
Appearance like news story	R=.19, R^2=.04, Adjusted R^2=.03, F(5, 765)=5.70, p<.001
Date published	R=.15, R^2=.04, Adjusted R^2=.02, F(5, 765)=3.40, p<.01
Headline	R=.13, R^2=.02, Adjusted R^2=.01, F(5, 765)=2.46, p<.05
Photos/visuals	R=.10, R^2=.01, Adjusted R^2=.004, F(5, 765)=1.62, p=.152
Author	R=.15, R^2=.02, Adjusted R^2=.02, F(5, 765)=3.41, p<.01
Sources cited in story	R=.15, R^2=.02, Adjusted R^2=.02, F(5, 765)=3.73, p<.01
Links in story	R=.14, R^2=.02, Adjusted R^2=.01, F(5, 765)=5.70, p<.001
Objectivity	R=.15, R^2=.02, Adjusted R^2=.02, F(5, 765)=3.27, p<.01
Shareability	R=.11, R^2=.01, Adjusted R^2=.006, F(5, 765)=1.86, p=0.09
Personal research	R=.14, R^2=.02, Adjusted R^2=.01, F(5, 765)=5.70, p<.01

To add greater detail in answering **RQ1**, Table 2 presents the statistically significant regression details for each news cue and participants' demographics. Political ideology was a statistically significant factor in six features, with participants who were more liberal reporting they more frequently relied on examining the URL, story appearance, headline, visuals, date published and links when trying to determine whether news stories contain fake news.

Education level also was a significant influence, with more highly educated individuals reporting they spend more time conducting research on their own and assessing an article's objectivity, as well as contemplating the piece's URL, author and sources.

Age, too, played a role in the reliance on looking to certain cues: Younger people said they more frequently use the story's URL, appearance, publication date and shareability as indicators of whether the material might present misinformation.

White participants indicated they more frequently consult the URL, appearance and sources cited. Women said they look at story URLs more often than men, and men indicated they look for shareability options more frequently than women.

Taken together, only the URL of the story was significant across the five demographic variables, and the appearance of the information as looking like a news story was significant in three of the demographic variables. The remaining news cues were significant in only one or two demographic variables, suggesting much work is to be done to improve recognition of these features as keys to identifying misinformation.

Table 2. *Demographics as predictors of reliance on news cues to identify fake news*

	M	Age	Gender	Race	Education	Political ideology
Location URL	5.17	Beta= -.17 p=.000***	Beta=.08 p=.032*	Beta= -1.0 p=.000***	Beta=.17 p=.000***	Beta= -.12 p=.001***
Appearance like news story	5.06	Beta= -.13 p=.001**	n.s.	Beta= -.09 p=.012*	n.s.	Beta= -.11 p=.004**
Date published	5.13	Beta= -.09 p=.012*	n.s.	n.s.	n.s.	Beta= -.07 p=.048*
Headline	5.35	n.s.	n.s.	n.s.	n.s.	Beta= -.09 p=.013*
Photos/visuals	5.28	n.s.	n.s.	n.s.	n.s.	Beta= -.09 p=.012*
Author	5.02	n.s.	n.s.	n.s.	Beta=.10 p=.008**	n.s.
Sources cited in story	5.36	n.s.	n.s.	Beta= -.08 p=.033*	Beta=.11 p=.003**	n.s.
Links in story	5.20	n.s.	n.s.	n.s.	n.s.	Beta=-.10 p=.007**
Objectivity	5.18	n.s.	n.s.	n.s.	Beta=.139 p=.000***	n.s.
Shareability	4.48	Beta= -.08 p=.047*	Beta= -.09 p=.016*	n.s.	n.s.	n.s.
Personal research	5.23	n.s.	n.s.	n.s.	Beta=.11 p=.002**	n.s.

***p<.001, **p<.01, *p<.05, n.s. not significant
M=How frequently they look at each feature when trying to determine whether a news story contains fake news (1=Never to 7=Extremely Often)

Confirmation Bias

To better understand the role of confirmation bias in fake news assessments, **RQ2** posed the question: “To what extent do demographic variables predict the public’s reliance on confirmation bias when identifying fake news?” The desire for confirmation bias was compared across the five demographic variables as predictors, and the overall regression was statistically significant, R=.21, R^2=.05, Adjusted R^2=.04, F(5, 765)=7.34, p<.001, with small relationships between the variables.

Table 3 presents the statistically significant regression findings. Confirmation bias had several drivers, with the following demographic variables indicating that having information confirm what they already believe was of great importance to them: being male, non-White, less educated and more conservative. That confirmation bias was significant in four of the five demographic variables indicates that certain individuals’ identities may influence their desire for information that does not challenge what they perceive their in-groups believe to be true.

Table 3. *Demographics as predictors of seeking confirmation bias in identifying fake news*

	M	Age	Gender	Race	Education	Political ideology
Confirms what I already believe	4.75	n.s.	Beta= -.11 p=.002**	Beta=.12 p=.001**	Beta= -.09 p=.012*	Beta=.11 p=.003**

***p<.001, **p<.01, *p<.05, n.s. not significant
M=How important it is that the material confirm what they already believe when trying to determine whether a news story contains fake news (1=Not important to 7=Very Important)

Confidence in Identifying Fake News

On a limited scale, previous research (e.g. Burke, 2010) has examined how people develop confidence in identifying misinformation but there is no known research on the influence of an individual's education, age and other demographics on feeling confident in their own ability to recognize fake news. **RQ3** investigated the ability of demographic variables to predict personal confidence in identifying news that is made up by asking, "To what extent do demographic variables predict the public's confidence in their own ability to identify fake news?" The overall regression with all five predictors was statistically significant, R=.30, R^2=.09, Adjusted R^2=.08, F(5, 765)=15.17, p<.001, though the relationships between the variables were small.

Table 4 shows the statistically significant regression findings. Political ideology, age, and education were significant influences, with people who were younger, more liberal and more educated being more confident in recognizing misinformation. This finding rises in stark contrast to the demographic identities of those who reported for **RQ2** that they rely on information that confirms what they already believe and is discussed in the next section.

Table 4. *Demographics as predictors of feeling confident in identifying fake news*

	M	Age	Gender	Race	Education	Political ideology
Confidence in identifying fake news	5.05	Beta= -.17 p=.000***	n.s.	n.s.	Beta=.11 p=.002**	Beta= -.18 p=.000***

***p<.001, **p<.01, *p<.05, n.s. not significant
M=How confident they are in their ability to recognize news that is made up (1=Not at all confident to 7=Very confident)

Discussion

As recent events like the U.S. presidential elections of 2016 and 2020 and the COVID-19 pandemic have shown, fighting misinformation can seem insurmountable. This study sought to develop a better understanding of how individuals' demographics influence their perceptions about misinformation. Specifically, this research examined how age, race, gender, education and political ideology impact people's assessments about fake news related to 1) their reliance on cues like headlines and visuals, 2) the extent to which they believe information should confirm what they already believe, and 3) their confidence in their own ability to identify misinformation. Although a growing body of literature (e.g. Bago, Rand & Pennycook, 2020; Brummette, DiStaso, Vafeiadis & Messner, 2018; Edgerly, Mourao, Thorson & Tham, 2020; Hopp, Ferucci & Vargo, 2020; McNair, 2017; Mourao & Robertson, 2019; Tandoc et al., 2018a; Tong et al., 2020) examines news audiences' experiences with various forms of misinformation, it rarely takes a close look at the role of multiple demographics and how those identities influence the ways in which people assess news. By filling this gap, the present study uses empirical data to highlight the importance of understanding how our social identities can inform what we see as credible cues of legitimate news, why certain groups of individuals may seek out information that confirms what they already believe, and why other groups report feeling more confident in their ability to identify fake news.

Social identity theory helps explain how we make sense of our many identities—which includes how we see ourselves as belonging to certain demographic groups and seeking to maintain connections to those groups (Go, Jung & Wu, 2014; Perloff, 1996). In this study, social identity theory aids in interpreting the findings so more effective news literacy strategies can be developed—particularly in relation to education and political ideology since those variables were significant predictors in each research question.

The sustained influence of education in the regression analyses suggests it could be one of the most important factors in bridging partisan ideologies as individuals assess news. Education was the only demographic variable to have a significant influence on two key news cues: evaluating objectivity and conducting personal research. Previous studies have shown that news audiences still struggle to identify objective news (Urban & Schweiger, 2014) and that performing research on their own requires extra cognitive effort that people are generally not inclined to undertake (Edgerly, Mourao, Thorson & Tham, 2020). Better education in the form of repeated news literacy training could help to build research skills and an appreciation for objectivity, which carries a trickle-down influence on several of the news cues because those literacy programs stress looking to features like headlines and sources cited when verifying accuracy and objectivity (Urbani, 2019). That younger people showed greater frequency in looking at certain news cues suggests the effectiveness of recent concerted efforts to boost media literacy skills in K-12 education and at some higher education institutions, as well as through public materials developed by nonprofits, libraries and media organizations. Social identity theory suggests that one possible way to boost older adults' reliance on news cues is to focus on incorporating more people from their perceived in-group (other older adults) to help educate them about which features they can trust as credible indicators of legitimate news.

Of concern is that people who identify as more liberal and as having more education look to several news cues more frequently than conservatives and those with less education when they are assessing whether the material contains misinformation—the concern is that people who identify as more conservative and as having less education are not looking to news cues at the same rate. It's possible that an explanation for this phenomenon can be found in confirmation bias. People who were more conservative and less educated also reported feeling it was important to have information confirm what they already believe when trying to determine if the material contains fake news. Through social identity theory, it could be that the demographic identities of people who are more conservative and less educated are tightly bound in finding information that they believe represents the views of their in-group and are less concerned with the credibility cues they could independently ascertain from features like URLs, headlines and photos. The draw to be "like" others with whom we identify is a powerful psychological motivator that can lead individuals to dismiss oppositional information and seek data that supports what the group believes to be true (Tripodi, 2018; Winter, Metzger, & Flanagin, 2017). To combat this, it will be crucial to recruit people who are viewed as in-group to encourage individuals who are more conservative and less educated to see the value in relying on news cues to determine whether a news story contains misinformation instead of more readily dismissing material that might challenge what they believe to be true.

Similarly, people who were more liberal and had more education were more likely to be confident in their ability to identify fake news. Understanding the function of identity in social group membership may help to develop new strategies that will engage conservatives and those with less education in becoming more confident. Since these groups relied more heavily on confirmation bias when determining if a story contained fake news, it's possible they were less concerned with whether they felt confident in identifying misinformation and instead relied more on how they perceived their in-group to assess fake news. Further research using experimental design can begin to investigate these potential relationships.

As with all research, this study has limitations and points to several avenues for future research. Among the limitations are that the data was weighted to balance the greater number of female participants in the survey and that because of lower numbers in some of the seven race categories, the groups had to be collapsed into two options (White and non-White) in order to run the statistical analyses. These necessary decisions may have led to decreased nuance in assessing how these demographic factors can be small but significant predictors of evaluating certain news cues and relying on confirmation bias when determining whether news contains misinformation.

Moving forward, another survey-based project could use a larger sample of participants with a more even demographic spread and test the reliance on social media as a news source against the variables already included in this study. Additional research could examine the interaction of the news cues and a preference for confirmatory information that was suggested in Moravec, Minas and Dennis (2019) and it could create a model to examine the interactions of the demographic variables on each other as the independent variables are added. Using experimental design, researchers could test different news cues (headlines, story URLs, etc.) in news stories and social media posts to learn which wording and visuals trigger "fake news" judgments.

Conclusions

Circling back to the Pew report mentioned in the introduction and the "complicated relationship" Americans have with the media (Gottfried, Walker & Mitchell, 2020, para. 1), this research confirmed some of the strain on that relationship might be attributed in a small but significant way to the demographic background of the public and their reliance on certain cues to signal that articles might contain fake news. It also confirmed that certain demographics are a factor in many Americans' tendency to prefer confirmatory information and that our confidence in identifying misinformation is tied to age, education and political ideology. But simply knowing these things won't help change that a considerable swath of Americans don't trust news or the journalists who produce it.

So how *can* this data help journalists and other groups fight misinformation? The present research helps identify what journalists and educators can work on, based on the characteristics of who's looking at certain cues—and who isn't. This project reinforces previous findings that partisanship is real (Tripodi, 2018; Zompetti, 2019) and it affects behavior in terms of relying on certain cues and seeking out confirmatory information (Bago, Rand & Pennycook, 2020; Edgerly & Vraga, 2020; Kaye & Johnson, 2016). It indicates that education and age are also important considerations in devising strategies to help the public become better at evaluating information and recognizing fake news. Knowing about the influence of demographics matters because it enables us to bring those characteristics together and combine them with other pieces of information that can work in tandem to, as boyd (2017) explained, "develop social, technical, economic, and political structures that allow people to understand, appreciate, and bridge different viewpoints" (para. 23).

News literacy education can alleviate the pull of partisan information by providing people with better tools to evaluate the veracity of material and look beyond whether it reinforces their existing beliefs. It is not reasonable to expect people to "overcome" being conservative or liberal because those ideologies may be central to their identity—but we can use news literacy education to give people greater access to developing the skills to recognize balanced, valid arguments in the different viewpoints that are presented in news articles and other forms of information by talking to them through individuals they perceive as credible in-

group members. In recognizing the value of the totality of facts around an issue, it can lessen problematic extremist positions and assuage perceived threats to individuals' partisan identities (Schaffer & Roche, 2017).
Taken together, these experiences could bolster news consumers' confidence in identifying misinformation.

The central takeaways from this research are that demographics—particularly age, education and political ideology—do influence our experiences with journalism and perceptions about misinformation. Understanding how identity informs which news cues people rely on when they're trying to determine if a news article contains misinformation can help journalists develop strategies to draw attention to cues that are important but overlooked by some news consumers and assist news professionals in better engaging with their audience. The demographic data here provides clearer detail about which areas need greater focus in the effort to help people become more critical consumers of news and information and better learn which cues can signal credibility. Starting from the foundation of utilizing authoritative in-group members to teach about the importance of assessing multiple news cues, we can hope to use news literacy education to lessen people's tendency to gravitate toward information that confirms what they already believe when they're evaluating potential fake news—especially among those whose demographic variables indicated a heavier preference for such confirmation. Ideally, news literacy knowledge will inspire greater confidence across age, race, gender, education and political ideology in identifying misinformation and disrupt the cycle of partisanship that is an overwhelming detriment to the critical analysis of factual reasoning, verification through impartial data and the recognition of objectivity.

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Amber Hinsley, Ph.D. joined the faculty at Texas State in Fall 2020 after 10 years at Saint Louis University. Hinsley uses her experience as a former journalist to blend the instruction of journalism and multimedia skills in classes with her research, which currently focuses on misinformation related to news and health as well as journalists' use of social media as professional tools. Her research has been published in a variety of academic journals including *Journalism*, *Journalism Studies*, *Newspaper Research Journal*, *Journal of Radio* and *Audio Media*, and *Computers in Human Behavior*.

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More than code: The complex network that involves journalism production in five Brazilian robot initiatives

By Silvia DalBen and Amanda Jurno

Algorithms are part of several routine steps in online journalism and are important actors in automated journalism. In this research, the researchers argue that the use of Artificial Intelligence (AI) in newsrooms involves much more than just the 'robot reporter', coding and programmers. Instead of humanoid figures, one can say the focus is about computers, software, algorithms, databases, and many humans. Seeking the professionals involved in those initiatives in an attempt to demonstrate the complexity of networks associated with automated journalism, this study describes and analyzes five robots created in Brazil: [1] Da Mata Reporter; [2] Rosie from the Serenata do Amor operation; [3] Colaborabot; [4] Rui Barbot from Jota; and [5] Fatima from Aos Fatos checking agency. In common, those initiatives use AI to process large volumes of data and use Twitter's platform as the main channel to distribute information and interact with readers.

The most common initiatives in automated journalism use algorithms to produce data-driven stories about sports, finance, elections, crimes, earthquakes, among others, written with repetitive narrative structures (Carlson, 2014; Dörr, 2015; Graefe, 2016; Van Dalen, 2012). The first applications of Natural Language Generation (NLG) software in journalism were weather forecasts (Glahn, 1970; Reiter & Dale, 2000) in the 1970s, but the use of Artificial Intelligence (AI) in newsrooms became popular after being adopted in the past decade by great enterprises with international repercussions such as *Forbes*, *Los Angeles Times*, *Associated Press*, *Le Monde*, *The Washington Post*, Southern Metropolis Daily (China), Deutsche Welle and MittMedia (Sweden) (D'Andréa & DalBen, 2017).

Also named as "robot reporters," the automated production of news stories by those newsrooms carries a negative symbolism and is considered by some journalists a threat that could replace them in the future. Sometimes associated with humanoid figures, inspired by science fiction novels and films, automated stories are not written by robots and are actually produced by computers, software, algorithms and databases, elements that are part of journalism practice for at least four decades. (Linden, 2017)

In recent years, scholars have focused on how readers perceive automated news (Clerwall, 2014; Graefe et al., 2016; Haim & Graefe, 2017) and their work revealed a difficulty in differentiating automated content from texts written by human reporters. Automated journalism is considered more descriptive, boring, informative and objective compared to stories written by journalists that are more interesting, coherent and pleasant to read (Clerwall, 2014).

Automated journalism is defined by some scholars as narratives produced by software and algorithms with no human intervention after the initial programming stage (Carlson, 2014; Graefe, 2016). In our perspective, this view overestimates the work performed by programmers and makes invisible the complex sociotechnical network mobilized in journalistic tasks automation, which includes several human and non-human actors. It can be argued that automated journalism involves intricate ecosystems under formation, where journalists are part of multidisciplinary teams, working alongside professionals with complementary skills, such as programmers, engineers, data analysts and designers.

In an effort to demonstrate these complex networks that engender automated journalism and make visible the humans' role in the technology's development, this research describes and analyzes five initiatives in Brazil where NLG is used to process large volumes of data and give insights for journalists.

These Brazilian "robot reporters" follow a different logic of those adopted by newspapers from North America, Europe and Asia, because they do not write any automated story but focus on processing open data and creating alerts published in social media platforms.

The five cases in this study are not created by great enterprises, but instead are developed by crowdsourcing teams or digital native newsrooms comprised with data journalism. These particular uses of NLG in Brazilian journalism demonstrate how technology systems are hybrid objects shaped by social, cultural and political issues and have multiple uses depending on the context they are inserted (Haraway, 1987; Winner, 1977). Inspired by the anti-essentialist lenses of science and technology studies (Callon, 1990; Latour, 2005; Law, 1992; Sismondo, 2010), one can understand technological artifacts as occasional and temporary products directly related to a given network of actors and the circumstances of their production, which are shaped by but also shape the world to which they belong.

This study seeks to investigate the role played by professionals in the development of NLG systems applied in journalism and which are the technologies and objects mobilized in the production of automated content. Our methodology includes semi-structured interviews and information collected in news and online digital platforms, intending to identify the actors assembled in these five case studies. Our study is inspired by the Cartographic Method (Barros & Kastrup, 2012) and the Cartography of Controversies (Venturini, 2010), a method of "crafting devices to observe and describe social debate especially (...) around technoscientific issues" (p. 258) and "face the highest complexity without the slightest simplification" (p. 263).

Our methodological choices aim to give visibility to professionals involved in the development, implementation, and monitoring of these initiatives, demonstrating the need of a broader concept that recognizes the role played by humans in the carrying out of automated journalism. For this study, the researchers collected information, interviewed journalists and other professionals involved, and systematized data of five different robots: 1) Da Mata Reporter; 2) Rosie from the 'Serenata do Amor' operation; 3) Colaborabot; 4) Rui Barbot from Jota; and 5) Fatima from Aos Fatos checking agency. In common, these initiatives use AI algorithms to process large volumes of data, automate journalistic tasks, and distribute information and interact with users through digital media platforms.

'Journalisms,' Artificial Intelligence and Platforms

The idea of "hegemonic journalism" refers to a set of relatively recent norms and values that govern the news environment—late 19th century and first decade of the 20th century—and the borders of which is to be considered "professional journalism" is constantly policed by the community on both sides of the ideological spectrum (Nerone, 2015). For Nerone, journalism is an "ism"—"an assemblage of ideas and norms constructed and deployed historically to make sense out of and discipline the news environment by identifying practitioners and assigning them responsibilities" (p. 314). Today there are "journalisms," in the plural, due to the coexistence of several types of journalism with different functions and objectives in the media ecosystem. This proliferation is one of the consequences of what Nerone calls the "journalism's crisis of hegemony," along with transformations presented by the internet. For him, this crisis relates to the increasing incapacity of hegemonic media representing and speaking on behalf of society: "When the 'crisis' came, of course, everyone blamed the Internet, but this neglects just how deep the problems of hegemonic journalism have run" (p. 324).

For Jácome (2020), the normative discourse—the base for this "ism"—promotes a conception of the journalistic practice linked to operational values and procedures. “Faced with the complex materiality of the journalistic phenomena, what is perceived is the adoption of a perspective that seems to advocate a narrow and totalizing conception of what should, or should not, be considered as belonging to this ‘ism’” (p. 37, translated by authors). This generates a gap between idealized journalism and practices and processes that are effectively done through history, making “their utopian promises anchored in the very utopia they defend, projecting a future that has never realized” (Jácome, 2020, p. 273, translated by authors).

In this study, journalism is identified as a “singular collective” (Jácome, 2020) whose strength anchors in the articulation between rhetoric, actors, commercial interests and materialities: “Journalism ceases to be an object limited to a set of themes and concepts and becomes a phenomenon of mediation of time and in time” (p. 277). Jácome’s conception helps us think about Artificial Intelligence’s role in journalistic practice, and in our case studies.

The use of AI in journalism has been identified as: robot reporter (Carlson, 2014), algorithmic journalism (Dörr, 2015), machine written news (Van Dalen, 2012), automated news (Carreira, 2017) and automated journalism (Carlson, 2014; Graefe, 2016). Carlson (2014) defines automated journalism as “algorithmic processes that convert data into narratives news texts, with limited to no human intervention beyond the initial programming choices” (p. 1). Graefe (2016) conceptualizes it as “the process of using software or algorithms to automatically generate news stories without human intervention—after the initial programming of the algorithm” (p. 14). Dörr (2015) proposes a more elaborated definition acknowledging algorithms are not capable of generating texts without human interference but argues that “the direct and active human element during the process of content creation is eliminated in algorithmic journalism (...) the individual journalist in NLG is changing to a more indirect role (Napoli 2014) before, during and after text production” (p. 9), suggesting a growing need for programming skills in journalistic work.

These three definitions by important scholars in the area limit human action in automated journalism to the programming phase. It can be considered a technocentric and simplified view that makes invisible human and non-human actors involved in the process, dazzling the non-static and complex network of agents that composes these processes. It can be argued that it overestimates the programmers’ role and overshadows professionals who also work in the development, implementation, monitoring and maintaining these NLG software running on a daily basis, which contributes to a negative view and fear among journalists.

Inspired by STS and Actor-Network Theory (Callon, 1990; Latour, 2005; Law, 1992; Sismond, 2010; Winner, 1978), it can be considered that automated journalism is more than just a new technology introduced in newsrooms. One can argue that a new ecosystem is being built composed by multiple professionals working together in multidisciplinary teams to automate simple and repetitive tasks, saving journalists' time to be dedicated in roles that cannot be automated.

However, as algorithms, these robots are not inert intermediaries or tools at journalists' service, but agents that influence and mediate actions in the networks where they belong. This topic has been discussed by scholars of Critical Algorithm Studies. (Gillespie, 2014; Introna, 2016; Kitchin, 2017). As Introna (2016) points out, algorithms are "the computational solution in terms of logical conditions (knowledge about the problem) and structures of control (strategies for solving the problem), leading to the following definition: algorithms = logic + control" (p. 21). Algorithms' agencies have normative implications, because they implement and construct power and knowledge regimes (Kitchin, 2017). As Bucher explains, they are not only modeled "on a set of pre-existing cultural assumptions, but also on anticipated or future-oriented assumptions about valuable and profitable interactions that are ultimately geared towards commercial and monetary purposes" (2012, p. 1169).

Moreover, algorithms are inert entities without their databases, and those have to be "readied for the algorithm" (Gillespie, 2014) which means data has to be categorized, organized, cleaned and valued to be autonomously readable by them. As argued by Gitelman and Jackson, "raw data is an oxymoron" (2013, p. 2) due to all mediation involved even before it is stored in databases.

Our perspective is closer to the scholarship of Human-Machine Communication (HMC) defined as "an emerging area of communication research focused on the study of the creation of meaning among humans and machines" (Guzman & Lewis, 2020, p. 71). This perspective proposes to analyze the interactions between people and technical artifacts as "communicative subjects" and not just mere interactive objects, considering the implications for individuals and society.

It is also important to stress the role that other platforms' materialities, besides algorithms, play in this process, considering all case studies described in this study use Twitter's platform to circulate content produced by the robots. According to Van Dijck, Poell and de Waal (2018), today there is the construction of a "Platform Society'' where sociotechnical artifacts gradually infiltrate and merge their actions with social practices and institutions. The dynamic and volatile process of platforms' organization and infiltration in various segments is called "platformization," and it refers to "the way in which entire societal sectors are transforming as a result of the mutual shaping" (p. 19). Elsewhere, it can be argued that the process of "platformization of journalism" (Jurno, 2020) occurs when these platforms offer themselves as infrastructure for journalistic production, influencing and molding journalistic practices and production. They have to increasingly adjust and adapt their work to platforms' logic, in order to use them in their own benefit, in a constant dispute between public and economic values. These advantages can be ready-to-use software, free storage, algorithmic targeting audiences, or broad circulation between users, etc.

Distant from users' direct experience, even being often underestimated, platforms' actions are composed of several layers of mediation. Protocols that are hidden behind simple user-friendly, and often symbolic, interface features make the complex technology that regulate platforms and algorithms to be considered as a mere facilitator of pre-existing social activities (Van Dijck, 2012), when connectivity itself and "online sociality has increasingly become a coproduction of humans and machines" (Van Dijck, 2013, p. 33). In contrast, platforms mold content by what they allow and make possible to do by their affordances and policies, building their own "technoculture logics" (Gerlitz & Helmond, 2013; Helmond, 2015). To Gillespie (2018), "platforms are intricate, algorithmically managed visibility machines ... They grant and organize visibility, not just by policy, but by design" (p. 178). Because of that, Bucher affirms that these platforms occupy a "peculiar epistemological position, where some components are known while others are necessarily obscured" (2012, p. 1172).

Methodology

In an attempt to analyze how automated journalism materializes in Brazil, this study describes five different robots that use Twitter's platform to publish their texts. Four initiatives publish their content based on open data and one generates alerts to users while scanning fake news spread into the platform. For this study, five semi-structured interviews were conducted with six professionals involved in the development of five robots, from July 2019 to October 2020. Those interviews were conducted online and last around thirty minutes each. Three of the interviewees are journalists, two are lawyers with experience in data journalism, and one is a researcher of NLG software as a master's student in computer engineering.

The interviews consisted of these questions:

> 1. How was the team involved in the development of the robot? Were many people needed? What is the challenge in terms of people management to develop a project like this?
> 2. Considering equipment and technologies, what was needed to put the robot on the air? What kind of objects and structures did they have to mobilize?

3. After participating in the development of a robot, how do you see the use of technology in journalism? What kind of applications do you think would be useful for the profession?
4. What does Artificial Intelligence mean to you? Are you afraid that technology will end the job of journalists and other professionals?

This methodology was used to give visibility to the professionals that create those technologies, in an attempt to present their different backgrounds and demystify the idea of no human action after the initial programming choices in automated journalism.

The first robot to describe is DaMataReporter, created to monitor the deforestation of Amazon. The researchers interviewed João Gabriel Moura Campos, an engineer and computer science master student at University of Sao Paulo (USP) who is part of the developing team of DaMataReporter.

The second robot is Rosie, created by a crowdsourcing operation focused on supervising the expenses of the Brazilian House of Representatives members that generates alerts on Twitter every time it finds suspicious refunds. The researchers interviewed Pedro Vilanova, a data journalist who is part of the Serenata do Amor operation since its beginning.

The third robot is called Colaborabot and is focused on generating alerts every time a transparency website maintained by the Brazilian government is off the air. The researchers interviewed the data journalist Judite Cypreste and the lawyer João Ernane, who are the developers of Colaborabot.

The fourth robot is Rui Barbot, created by Jota, a digital native newsroom specialized in covering Brazilian Justice. Rui Barbot publishes a tweet every time it recognizes a lawsuit stopped for more than 180 days at the Brazilian Supreme Court. The researchers interviewed Guilherme Duarte, a lawyer and data enthusiast who was part of the development team.

And finally, the last robot of this study is Fatima, developed by the digital native newsroom Aos Fatos with the support of the Facebook Journalism Project. The aim of Fatima is to fight against misinformation and fake news. It monitors Twitter's feed looking for malicious news and answers the users with the checked information link. The researchers interviewed Pedro Burgos, a data journalist who created the robot after covering the U.S. elections in 2016.

@DaMataReporter and @DaMataNews

The robot DaMataReporter (@DaMataReporter) was created to monitor Legal Amazon deforestation using data retrieved from TerraBrasilis, an environmental monitoring platform created by the National Institute of Spatial Research (INPE) maintained by the Brazilian federal government. Launched in July 2020, it publishes an alert on Twitter every time new data about deforestation in the Amazon is published. The initiative also maintains a second Twitter account (@DaMataNews) in English (See Figure 1).

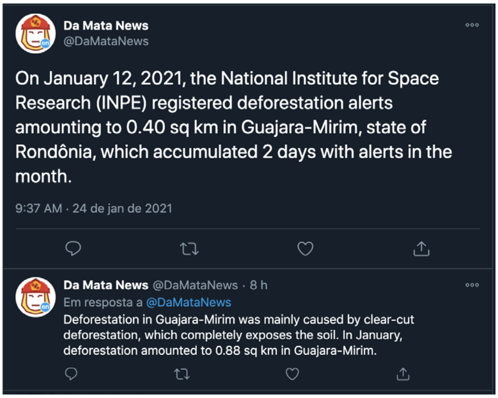

Figure 1: @DaMataNews on Twitter | **Source:** Retrieved from https://twitter.com/damatanews

The DaMataReporter bot was developed by researchers from the University of São Paulo (USP) and the Federal University of Minas Gerais (UFMG) in a team composed of computer engineers, information scientists and linguists. The project aimed to create a “Twitter profile to complement traditional journalistic work” (França, 2020), which becomes more explicit when the robot is named as “reporter” and is described on Twitter’s profile as a “Robot Journalist covering Amazon deforestation data.”

“We still don’t have a journalist in our team, but we could really use his/her help to improve our texts with the linguists,” explains computer engineer João Gabriel Moura Campos. He recognizes calling the robot a “journalist” and the tweet a “journalistic text” is an issue, considering that what the robot produces is not a journalistic story, just a lead or the headlines: “One of our purposes when designing this robot was to create a journalistic assistant. We wanted to reach this specialized audience so that they look at the data and run after that information.” He also asserts that robots cannot substitute human journalists: “Artificial Intelligence is nothing more than statistical learning. Using the term ‘intelligence’ to define it gives too much subjective character to something that is still algorithmic.”

Software’s basic programming architecture was created by Thiago Castro Ferreira in Python and runs on Amazon Web Services (AWS). The code is available on GitHub. “We set up our database based on what was scraped from INPE, we structure all the content, all the paragraphs, make the lexicals choices using the program we developed in Python, and finally the last step of computational resource that we use is the publication on Twitter's API," explains Moura Campos.

The interest in developing NLG resources and a library in Portuguese is one of the reasons that motivates the team to create and maintain DaMataReporter. Despite its success, the engineer complains about the bot's engagement being hostage to the platform logic. "A positive point is the type of audience that follows us: many journalists from major vehicles, people from media and environment sectors." However, he wishes DaMataReporter's voice could reach more people.

@RosieDaSerenata

In the Brazilian House of Representatives, each member—or deputy—has a U.S.$8,000 budget to spend monthly on transport, accommodation and food, getting a refund of those expenses by presenting receipts. Considering the country has 513 deputies, around U.S.$50 million is spent each year with those expenses. In an effort to fight against corruption, eight young professionals, including programmers and data journalists, created the Serenata do Amor operation (www.serenata.ai) in June 2016 to supervise those costs and generate alerts for suspicious refunds.

After raising U.S.$15,000 in a crowdfunding campaign, Serenata do Amor analyzed all refunds made from 2011 to 2017 and found 5,222 irregular receipts. They sent 587 messages to the Chamber of Deputies questioning 917 expenses from 216 different deputies. However, they only received 62 answers and just 36 returned the money (Cabral, 2017). (See Figure 2).

Figure 2: @RosieDaSerenata on Twitter. | **Source:** Retrieved from https://twitter.com/RosieDaSerenata

Tweet translation: Suspected expense of Deputy Schiavinato (Paraná). Can you help me check? [link] | Suspected expense of Deputy João Carlos Bacelar (Bahia). Can you help me check? [link] | Suspected expense of Deputy Elcione Barbalho (Pará). Can you help me check? [link]

Because of the notifications' low response rate and considering all data was already published by the government, in May 2017 they decided to create a robot and give visibility to those irregular expenses on Twitter.

Named Rosie (@RosieDaSerenata) in an allusion to "The Jetsons", the robot publishes alerts every time it finds suspicious refunds. Each tweet (Figure 2) quotes the deputy's name with a link to the original document and asks Twitter's users for help to verify if it is irregular or not.

All of the project's files are open source and available online, which facilitates the collaboration of 600 volunteers that currently work on this project from all over the world, including journalists and researchers. "Just as our project demands transparency, we have always been transparent. If you come in today, you know exactly what was done yesterday, and it has always been that way, from the first day," says Pedro Vilanova, a journalist who has been part of the project's development team since the beginning.

For Vilanova, technology should always be used focusing on people: "The people who make the magic happen at Serenata operation are the people who follow Rosie, see the findings and help propagate them." He explains that the project uses Amazon's cloud computing service and Python programming language, which he considers computationally simple devices that do not require astronomical investment. "Being in the cloud, our technology can be installed and executed on almost any computer."

Besides Rosie, the project has another tool named Jarbas (https://jarbas.serenata.ai/dashboard/), a database used to view and store a copy of information regarding federal deputies' reimbursements. On this website, one can filter payments by year, name of deputy or company, by state, view only suspicious refunds and check details of the documents (Cabral, 2017). As Vilanova describes it, these are two complementary technologies and, while Rosie is the "cleaning robot that looks at the data trying to find what is dirty there," Jarbas is the "butler who organizes everything and delivers it to Rosie." Without Jarbas, Rosie doesn't work.

Since August 2018, the project is part of Open Knowledge Brasil, a partnership to internationalize and inspire similar initiatives abroad (Cabral & Musskopf, 2018). Vilanova explains that the people involved in the project became activists for open data and free information, which gave them the opportunity to participate actively in discussions about open government in the Chamber of Deputies and in court.

In March 2019, Twitter's battle against fake accounts and spam-spreading robots affected Rosie and it stopped working (Lavado, 2019). After being blocked, the developers’ team managed to regain permission to send automatic messages, but they can no longer tag politicians in the robot’s posts. According to Eduardo Cuducos, leader of the Data Science Program for Civic Innovation at the NGO Open Knowledge and one of Rosie’s developers, partial release is not a solution: “It’s a patch. But this is better than nothing.” For initiatives like this, Twitter is considered a “more open platform,” but developers complain about the lack of transparency on rules applied to differentiate “good bots” and “bad bots.” “Rosie is not bothering one or another parliamentarian in a systematic and invasive way, which is characteristic of spam,” Cuducos points out. “It is offering extremely valuable information to public administration, as well as offering an opportunity for the parliamentarian to explain himself.”

Currently, the project team is focused on communication actions to reach a bigger audience. Vilanova points out that “maintaining an active and open community for new members, connecting people from different areas of knowledge, is essential to improve the project and to bring increasingly clearer information for people to participate in public resources’ management” (Cabral & Musskopf, 2018).

@colabora_bot

In Brazil, initiatives that support transparency and the disclosure of open data from governments are recent, considering that the access to information act, popularly known as LAI was enacted in 2012. As a project created to support access to open data and the work of journalists, Colaborabot (@colabora_bot) monitors the Brazilian government’s transparency websites, checking if they are working, and posts alerts on Twitter and Mastodon when a page is down. The robot is part of the Brazilian collaborative initiative Colaboradados, specializing in transparency and open data that describes itself as committed to veracity and easy access to information.

The concept of Colaborabot was created by data journalist Judite Cypreste when she identified that all of Brazil’s 2014 World Cup open data was deleted during an investigation she was writing for a newspaper. “When I asked those responsible, they said they were not obliged anymore to keep the site online and we had several issues to get the data back.” After this, she decided to build a robot to monitor government transparency portals and check if they are working, avoiding the recurrence of this situation and being able to forewarn in case it happens.

Figure 3: @colaborabot on Twitter | **Source:** Retrieved from https://twitter.com/colabora_bot

Tweet translation: Gee, I tried to access guariba.pb.gov.br/portaldatransparencia and I couldn't. This site is maintained by the Transparency Portal of the city of Guariba. Can you confirm this? | I cannot access merces.mg.gov.br/portal, and I know that it is maintained by the Transparency Portal of the City of Mercês. Can you help me check? | Hi, it looks like this site novaubirata.mt.gov.br/downloads/transparencia has access problems. Is the Transparency Portal of the City of Nova Ubiratã aware of this?

As shown by Figure 3, each Colaborabot tweet starts with a robot emoji followed by a small text explaining that it couldn't access a specific transparency portal, its link and the entity it belongs to, asking users for help to check if information proceeds.

Part of the Colaborabot team, João Ernane, a lawyer and data enthusiast, was responsible for the coding. Built in Python programming language, the robot ran on a personal computer until the team earned a server as a donation. Today, Colaboradados' team has six volunteers, including the software developer Ana Tarrisse, and all its codes are open and available on GitHub. "Using different tools, our goal is only one: make access to data and information more democratic," explains Cypreste.

At the beginning, the development team organized a crowdsourcing campaign to create the bot's database in which anyone could add transparency portals' links of different cities in a Google spreadsheet. And today it covers a great part of Brazilian municipalities. According to Cypreste, "There is no one looking at this information to see if they are really available, just us. So the project is a way to keep transparency working." (See Figure 4).

Figure 4: @colaborabot tweet is answered by a user | **Source:** Retrieved from https://twitter.com/colabora_bot

Tweet translation: The public data portal acrelandia.ac.gov.br/novo-portal-transparencia of the Transparency Portal of the City of Acrelândia seems not to be working. Could you help me check it out? | It's true, it's out. It may have been updated to [link].

Several transparency websites already have gigantic databases, however it is common to find some of them down or deleted without previous warning. They are also difficult to monitor since some of these links change overnight "in a completely arbitrary way. They just decide to change the links and no one can find them anymore," explains Cypreste. But sometimes they are deliberately taken down, being weeks offline, and "no one cares or gives any explanation." As seen in Figure 4, after a Colaborabot alert, someone answered, confirming that a specific city in Brazil changed the link of its transparency page.

Colaborabot has already gone through different phases to become what it is today, not just by the project's improvement along the way, but also considering changes that were necessary to keep it running. Some errors may also occur as, for example, sometimes links with https may work, but not with http. "Today we have a much lower error rate, because we improved the code," says Cypreste.

Similar to Rosie from the Serenata do Amor operation, Colaborabot was also banned by Twitter in 2019 as spam, and the platform didn't clearly explain why it happened. Colaborabot's team realized that the problem was with the tagging system after talking with Serenata's team. With an update of Twitter's API, the bot could no longer tag the institutions where transparency portals were offline in its tweets exposing them to the public. "If we didn't tag them, Twitter's algorithm would let us continue to post. It worked, but we were unable to publish on the platform for several days," explains Cypreste.

@ruibarbot

In a tribute to a famous Brazilian jurist Rui Barbosa, the website Jota (www.jota.info) specializes in legal news created by the robot Rui Barbot (@ruibarbot) to monitor lawsuits at the Brazilian Supreme Court (STF). Every time Rui detects nothing new happened in a lawsuit for more than six months, it publishes an alert on Twitter. Initially, the system was programmed to monitor 289 lawsuits previously selected by Jota journalists, based on their potential impact on society. Gradually, new processes were added to the list that is still growing. As depicted in Figure 5, each Rui tweet has a brief description of the lawsuit, how long it is stopped followed by its link to STF's website and the hashtag #rui.

A member of the development team, Guilherme Duarte is a lawyer who also has experience as data journalist. He worked at the newspaper Estado de S. Paulo during the Panama Papers investigation before joining Jota. He explains that the system behind Rui Barbot starts with a script running in a spreadsheet on Google Drive that everyday monitors STF's website for any updates on the pre-selected legal actions. "About seven days before, Rui tells Jota reporters that a lawsuit is going to celebrate its anniversary. With that, reporters can check which case is paused and prepare a story. One of the goals of this project is to bring out the importance of causes that, many times, end up forgotten."

Figure 5: @ruibarbot on Twitter | **Source:** Retrieved from https://twitter.com/ruibarbot

Tweet translation: ADI 5632, on the prohibition on reappointment to the post of president of the Chamber of Deputies who is exercising provisional madate, has been stalled for 1 year and 270 days [link] | ADPF 497, on the resolution of the Legislative Assembly of Rio de Janeiro that authorized the release of state deputy Jorge Picciani (PMDB), arrested by a TRF2 decision, has been stalled for 180 days. [link] | ADPF 444. on the application of coercive driving in the criminal investigation phase, has been stopped for 180 days [link].

Currently, there are almost 36,000 legal actions at STF, which judges an average of 2.45 causes per session. As depicted in Figure 6, each black dot represents a lawsuit. On the vertical axis, one can see the name of each minister and on the horizontal axis, the years from 2000 to 2018. The dispersion of the dots shows that there are many lawsuits stopped for many years.

The original idea of creating Rui Barbot belongs to Felipe Recondo, a journalist who specialized in STF's coverage and who has always been intrigued by the inertia where "stopped cases are infinitely more numerous than judged cases." For him, STF's ministers are endowed with a sovereign power that is immune of social control: they can maneuver the time. According to Recondo (2018), "the court uses the excessive volume of cases to justify or cover up its choices.'' As Duarte explains, Recondo always pointed out that justice in Brazil does not work when it moves forward, but when it stops, because "actors act to stop lawsuits at STF."

Committed with the transparency of the judiciary in Brazil, Rui Barbot is the result of the work of a multidisciplinary team including a lawyer, a product manager and many journalists. "Like it or not, Jota is basically made up of journalists. Rui Barbot, for example, also had the design work, the news, so it always had the participation of many people", says Duarte. Considering the infrastructure, the project uses Microsoft Azure's cloud computing services as a server.

Figure 6: Latest movements in STF's lawsuits | **Source:** Duarte, 2018

@fatimabot

Created some months before Brazil's presidential election in 2018, Fatima's name is an abbreviation of "Fact Machine," which is also a common name in Brazil. As a robot designed to fight against misinformation, Fatima was developed by the fact-checking agency Aos Fatos (http://www.aosfatos.org) with Facebook Journalism Project's support.

Fatima's aim is to provide readers with tools to check information so they can have autonomy and "feel safe to surf online in a reliable way and without intermediaries" (Aos Fatos, 2018). According to the journalist Tai Nalon, executive editor of Aos Fatos, the best way to prevent misinformation's proliferation is to treat the insecurities of those on social media with respect. "Fátima will never say that an information is false. The goal is to give instructions, and people can draw their own conclusions" (Monnerat, 2018). The project follows the methodology created by the International Fact-Checking Network (IFCN), and Aos Fatos' team also conducts studies to understand Brazilians' news' consumption and readers' main doubts.

Officially launched in July 2018, Fátima's profile on Twitter (@fatimabot) monitors the feed every 15 minutes. As shown in Figure 7, when detecting any tweet spreading a biased news link, it replies with an alert and Aos Fatos' link with checked information. To maintain Fatima running, Aos Fatos' team continuously updates a database with pre-selected biased news links that are circulating among platforms and write a correspondent fact-checking story denying the statements (Hafften, 2018).

Figure 7: @fatimabot on Twitter | **Source:** Retrieved from https://twitter.com/fatimabot.

Tweet translation: @CastroElainy Hi! I have already found out that the information on this list has been reproduced in the past mistakenly. Take a look: [link] | @yec_terrza Hi! It is not true that chloroquine-based drugs can be considered effective treatments against the disease - even at an experimental stage. Understand: [link]

The idea of developing a fact-checking robot came up in 2016, when the journalist and programmer Pedro Burgos worked in the United States as engagement editor at The Marshall Project. During one of the presidential election debates, Burgos predicted that Donald Trump would provide incorrect information on crime statistics, and prepared tweets with the fact checked in advance.

> "The fact that I tweeted these charts just seconds after Trump spoke about the subject made a huge difference in terms of engagement, as people were more interested in the subject. This is the logic behind all successful recommendation algorithms." (Hafften, 2018)

Back to Brazil, Burgos worked with Aos Fatos' team to develop Fátima.

Burgos pointed out that one of the project's biggest challenges was to deal with the subtleties surrounding the verification of facts, which is much more complex than just stating that a news content is true or false. "The ways in which users can conduct dialogue are endless, and we strive to conduct fluid and contented chat" (Aos Fatos, 2018). He also explains that the robot's development process did not mobilize an extensive team and that an experienced programmer would be able to create its code in two days. "It took me a little longer," Burgos reveals. "The big bottleneck today is having professionals who understand programming well enough to identify automation possibilities, and who can break a journalistic process into small tasks."

As for infrastructure and technology, many of the services used by the development team are free and do not require large investments. For example, they used Python programming language, the code is stored on GitHub and the script runs on a virtual server that, depending on the complexity, can be the free Heroku with a cloud database on PostgreSQL. "All of this is free, and you can do a lot with this infrastructure. It is possible to put a robot to write reports based on structured data, for example, with almost zero money," Burgos explains. However, for more sophisticated applications that use proprietary Artificial Intelligence programs, a larger investment may be necessary. "The cost and the staff depend on how fast we want the product, the amount of data we are dealing with, and the speed of processing."

In addition to Twitter, Fátima has two other versions acting as a chatbot on Facebook Messenger since October 2018 and in WhatsApp since April 2020. In those cases, Fatima helps users to check information and if a news story is reliable or not when receiving a questionable link. It gives tips on how to distinguish news from opinion, how to find reliable data for different topics, and how to check if a source is trustworthy.

Results

The Complex Sociotechnical Networks of Brazilian Automated Journalism

Considering these five case studies of automated journalism in Brazil, one can see complex assemblages being created with multiple networks of human and non-human actors that are not contemplated in the previous definitions that put programmers in the central role of the development of those technical artifacts. Those initiatives mobilize multidisciplinary teams to keep the publishing of automated content, and the human workforce does not end after the system development.

As anticipated in the introduction, our methodological choices aim to give visibility to humans involved in the development, implementation and monitoring of these initiatives, demonstrating the need for a broader concept that recognizes the role of different professionals mobilized by those technologies. When one looks at those technologies as social and political apparatus working in a more complex network of professionals and artifacts, one can abandon the idea that NLG software could replace reporters. One can argue that the work environment in newsrooms is getting more heterogeneous, especially when it involves data-driven stories and investigative journalism.

In the past two years, there has been a movement of young professionals from different backgrounds joining initiatives related to transparency and open data as a new way of doing journalism and disseminating information with public interest in Brazil. In common, these projects use AI to process large volumes of data and use digital media platforms, mainly Twitter, as a channel to distribute information and interact with readers.

It is important to highlight that those initiatives of automated journalism in Brazil are carried out independently and four of them are committed to transparency and open data, publishing their codes on GitHub for free, for example. Rosie and Colaborabot are maintained by volunteers who keep them up and running with donations and crowdfunding resources. DaMataReporter is developed by researchers with funds from two Brazilian Universities (USP and UFMG). Finally, Fatima and Rui Barbot are managed by two digital native journalism initiatives, Aos Fatos and Jota respectively, and have a hybrid business model that combine editorial partnerships and funding support for technology projects. Thus, contrary to the most recognized examples of automated journalism worldwide, none of them are associated with traditional media companies and "hegemonic journalism."

Most of those projects use free web services and platforms like Twitter, which is their primary channel to circulate information. Fátima is the only robot that also works on Facebook Messenger due to the partnership with the Facebook Journalism Project. Another platform used by ColaboraBot, Mastodon, “is an open source decentralized social network—by the people for the people” (Mastodon, 2020), but it does not offer the reach and audience benefits that Facebook and Twitter do.

The dependence of those bots on platforms, especially with the publication of texts using Twitter’s public API, means that they are also constantly affected by platforms’ changes and politics. As already discussed, platforms have their own interests and make constant changes on their algorithms and protocols to achieve them, mostly without publicizing it (Bucher, 2012; Gillespie, 2014; Gillespie, 2018). However, when those platforms modify their APIs, they affect the entire automated production implying that bot’s development teams have to be constantly alert to make changes and updates to keep them running. That means humans are constantly interfering in the content production process and not just in the programming stage.

Another consequence of using platforms like Twitter is that those same protocols and algorithms limit automated actions by their affordances. Rosie and ColaboraBot were banned as spam and had to change their bots in order to continue posting on Twitter: they had to stop tagging profiles in the texts. Situations like these, in which platforms block bots’ performance when identifying them as spam or negative bots are quite common in the development teams’ routines and also means that they have to be constantly working and tweaking the code to keep robots running.

Thus, it can be argued that definitions as those proposed by Carlson (2014), Graefe (2016) and Dörr (2015) are not sufficient to think about initiatives like these in Brazil. Technical artifacts are shaped by social, cultural and political issues and it is needed to contextualize them considering the entire set of actors and actions mobilized in their development. Moreover, one can reaffirm our perception that automated systems are not just tools that help journalism. They manage and reorganize a complex network of actors according to their own agency—what needs to be done for it to exist, work and continue to function based on changes in other variables. When Campos, from DaMataReporter, calls the robot “reporter” and Cypreste, from ColaboraBot, says that these initiatives are helping journalists, they demonstrate the construction of a much broader and less media centric perspective (Hepp, 2014) compared to the usual view of journalism studies.

The initiatives described in this research do not fit in the traditional sense of what would be a journalistic production, not corresponding also to any genre used to identify as journalism. Although Campos calls DaMataReporter’s tweet a “journalistic text,” we cannot say that it is a journalistic text, according to traditional molds. However, we also cannot say that it is simply an automated text: there is an informative production, with journalistic mediation and journalistic vision behind it. We cannot separate the tweet produced by the robot from the network of journalists and other professionals involved in this complex assemblage. Because of that, it can be believed that STS's concepts and principles can help us deal with those new situations and think about heterogeneity and the actor networks under construction (Latour, 2006; Law, 1992; Van Dijck, 2012; Van Dijck, 2013; Van Dijck, Poell, & de Waal, 2018).

Furthermore, it also made us wonder if one might be witnessing the emergence of new types of "journalisms" within this myriad that already coexists in the profession (Nerone, 2015). Although there is no space for detailed descriptions of sociotechnical networks' actors and actions, one sought to point out the several situations of agency where human actions were obfuscated by the opacity of the robots in our descriptions.

Conclusions

In this study, one can argue that the idea of automated journalism as software and algorithms that produce narratives without human intervention after the initial programming stage (Carlson, 2014; Graefe, 2016) overestimates the programmers' work and overshadows the role done by other professionals, turning invisible a complex sociotechnical network mobilized in those initiatives. With the interviews and descriptions of five Brazilian case studies, this research can show how those initial concepts are limited and insufficient to define automated journalism and express its plurality. One can argue that innovative initiatives like these involve an intricate ecosystem under formation, in which journalists are part of multidisciplinary teams where many professionals and technologies are mobilized.

When looking at these digital infrastructures, one might have to consider their social implications and refute the idea that technology is an abstraction, because it is not a "view from above, from nowhere" (Haraway, 1987). The Brazilian case studies described above demonstrate a plurality of applications of NLG software in journalism, which are shaped by the social, political and cultural context where they belong. By helping journalists automate repetitive everyday tasks, these five robots also manage networks (Van Dijck, Poell, & de Waal, 2018) and they are not mere tools journalists use in daily work. As technical objects, they "discover" important facts, process information and act by posting it on Twitter, drawing attention to certain topics that could go unnoticed by journalists and other actors in the social debate.

These case studies also shed light to further questions about the journalistic process. If the idea of journalism is a social and professional construction

(Jácome, 2020; Nerone, 2015), what does one mean by “journalism” nowadays in a media ecosystem populated by Artificial Intelligence and robots? Do these compositions change our understanding of what is “journalistic content”? Can one say automated texts published on platforms, like those stressed above, can be part of “journalistic” content?

Considering the plurality of possibilities that automated journalism can be adopted by newsrooms, this study limits its framework in just five initiatives that generates alerts on Twitter. For further research, more investigation is needed about how Artificial Intelligence is being used by other Latin America newsrooms to compare and analyze how cultural, social and political issues shape those technologies and influence its use by journalists.

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What's on your page, on your pa-a-a-ge: Zombie content and paywall policies in American community newspapers, 2015-2020

By Burton Speakman and Marcus Funk

In 2015, a national study of community newspaper websites indicated a slim majority of websites had no paywall of any kind. Five years later, nearly a third of those websites were no longer publishing – especially those without paywalls. Some such websites redirected to new pages on regional newspaper sites; many others, though, retained the original URLs but no longer published news, creating "zombie" websites that appeared functional years after ceasing publication. Other URLs redirected to foreign gambling, insurance or pornography websites. This two-wave study measures paywalls and content accessibility among community newspapers over five years and considers relationships between closure rates, paywall policies and corporate ownership structure.

In 2015, the *Mellette County News* in South Dakota, the *Marion County News* in Tennessee, the *Peotone Vedette* in Illinois and the *Greece Post* in New York all had websites. By 2020, all four URLs saw interesting changes. The *Greece Post*'s old URL redirected to a site for *The Post*, a consolidated website covering many small communities in the same county. The *Marion County News* and *Peotone Vedette* have new websites, but their old URLs have been appropriated by a Japanese car insurance company and an Indonesian gambling site.

The *Mellette County News*, meanwhile, has become a zombie. It's technically still an active website but it hasn't updated since February of 2017. None of those sites had paywalls in 2015. Conversely, the *Cumberland Advocate* in Wisconsin and *Enid News* in Oklahoma did have paywalls in 2015—and their websites are still actively publishing news.

The battle lines are drawn regarding paywalls. Many consumers hate them, but more and more news media rely on paywalls to either monetize their website or to incentivize the more profitable print subscription. Publications and media companies of all sizes have added paywalls trying to stave off economic losses (Senz, 2019), although paywalls seem to primarily benefit large-scale media companies while hurting smaller ones, including small-market newspapers with little competition (Chung et al., 2019); paywall policies in those larger conglomerates are typically made in corporate offices, far from local journalists, editors and publishers (The News Landscape in 2020, n.d.). Conversely, in the era of "fake news" and "alternative facts," it is abundantly clear that disinformation and lies have no paywall—making them cheaper to consume than accurate journalism (Robinson, 2020).

Furthermore, past studies of paywalls have not explored them over time. This study began in 2015 with an analysis of paywalls and digital accessibility among 400 American newspaper websites through the prism of networked gatekeeping theory (Barzilai-Nahon, 2005). Five years later, researchers revisited the same newspaper websites to document changes to paywall policy and accessibility.

How have those newspaper websites, and their paywall policies, changed over 60 months? The second analysis in October and November of 2020 found that many retained paywalls and consistent policies five years later. Many others, however, had succumbed to "Zombie Sites"—no longer updated or maintained, either with old news content or a dead or inaccessible URL. Some were folded into other newspapers and some redirected to new websites. An unlucky few maintained their domain but were repurposed into foreign language gambling or pornographic content.

Researchers utilize a mixed method approach to review the websites from more than 500 community media sites. The sample represents large chains, smaller companies and individually-owned publications. It charts changes in paywall policy, as well as survival and zombification rates, and incorporates a 2015 survey of those same publications. It also develops categories for different types of paywalls. The metered paywall, which allows members of the public to view a small number of articles without charge, a full paywall which allows for the reader to view the headline and maybe the first paragraph, and then full paywalls where nothing from an article can be viewed. Sidewalls where people could come onto the site from Facebook, where some publications allow people to access unlimited article views were not reviewed (Stulberg, 2017).

The goal is to utilize networked gatekeeping theory (Barzilai-Nahon, 2005) to advance the understanding that many of the gatekeeping decisions regarding community media websites lie outside of the newsroom. This research suggests that economic concerns, and decisions made associated with those, as opposed to editorial ones, which are typically not made by journalists guide decisions relating to community journalism websites.

Literature Review

Community newspapers have a dual mission to both be a business and provide essential information to a public. For many people, a community media outlet is their primary source of information about their local world; unlike some other countries, though, news media in the United States are typical businesses without public subsidy that have experienced significant disruptions due to the internet (Abernathy, 2014). Additionally, there are those who argue that while news is essential media outlets should still charge for content because other essential businesses continue to charge for services (Saltz, 2020). At the same time, traditional ideas of gatekeeping are no longer sufficient in the modern media environment (Reader, 2018).

Why Community Journalism?

Community journalism outlets embody the majority of American newspapers. While the largest publications believe they set the standards for journalism, they represent only a small portion of the industry (Reader, 2012). Furthermore, many make the incorrect assumption that community journalism is simply journalism on a smaller scale; instead, community media differ from regional and national publications in many ways including a closer relationship between reporters and the community (Reader & Hatcher, 2012). They also tend to have closer relationships with local businesses (Tichenor et al., 1980). This study uses the most common quantitative definition for a "community newspaper," or a newspaper with regular circulation less than 50,000 copies, which Lauterer (2006) notes comes from the American Society of News Editors. However, the authors acknowledge that size is an imperfect measure of community journalism with a potentially more effective manner for consideration being how much content of a publication it is community focused (Reader, 2012). Size is also challenging because as circulation continues to fall more publications reach that threshold that never would have in the past.

Community journalism research is particularly important because of industry trends. Of the estimated 1,800-plus newspaper closures since 2015, the vast majority has been among community media outlets—including more than 1,700 weekly publications (Abernathy, 2018). Prior studies also show that community newspaper publishers have been slower than larger publishers to implement new technologies, including websites (Adams, 2008; Garrison, 2001; Greer & Mensing, 2004; Huang, 2007). Another manner in which community media typically differ from larger publications is technology adoption, which could influence website maintenance and use.

A Slower Nature to Change

The small staff size of community media outlets combined with limited resources slowed the development of websites at community news outlets. (Adams, 2008). Poor planning was also a factor; nearly half of weekly newspapers did not initially develop a business plan for their website (Adams, 2008). Ignoring the web is unlikely to be a successful long-term business plan for community newspapers because their audience is moving online (Abernathy, 2014). However, the added expense of creating and maintaining websites comes at a time when community media also need to shed legacy costs and attempt to find new revenue streams (Abernathy, 2014). Altogether, past research suggests online innovation occurs at larger newspapers before smaller ones (Garrison, 2001; Greer & Mensing, 2004; Huang, 2007).

Additionally, larger newspapers typically are more active in the digital sphere than their smaller counterparts (Carey, 2014; Schultz, 1999; Xu, 2020). These differences often relate to budget limitations. Large news organizations have more financial and human resources to devote to digital content and development; small newspapers lack those resources and have smaller digital footprints (Cornia et al., 2016; Greer & Mensing, 2004; Schultz, 1999; Zaleski, 2018). This suggests that community media may invest less in their website, or simply choose not to have one, to protect and prioritize their more profitable print product. This thought leads to the concept of gatekeeping.

Gatekeeping in Digital Spaces

Media gatekeeping represents selections made by journalists about what to publish (Bass, 1969; Shoemaker & Vos, 2009; White, 1950). Digital media gatekeeping choices likely influence people's access to the news, in particular local news. Additionally, changes in the way that people access news results in most types of media acting more like community media, ostensibly because digital media primarily appeal to niches and communities (Rennie, 2007). Technology proposes some challenges for journalists in maintaining their gatekeeping role of the past, but researchers disagree on both the severity of the challenge and how journalists and media outlets should respond. The idea of gatekeeping choices potentially being made for economic reasons is not new. There is a potential argument that gatekeeping decisions traditionally relate, at least partially, upon financial considerations (Soroka, 2012; Tichenor et al., 1980).

However, journalists remain unsure if reducing their gatekeeping role is the proper method of coping with the financial difficulties facing journalism (Vu, 2014). Yet some would argue that journalists have already ceded at least some gatekeeping control as part of an increasing reliance on web analytics to help select what stories feature prominently on many news websites (Tandoc, 2014). These studies point toward a concept of gatekeeping for noneditorial reasons that has occurred in the past, and potentially will continue in the future as it relates to digital media. Companies will likely allow or block content based on what they believe is within their financial interests.

Paywalls as Economic and Gatekeeping Concepts

Paywalls represent a potential gatekeeping concept because they limit public access to information and force them to make a choice about how much they value that information. Historically, the newspaper industry has not consistently embraced or utilized paywalls, mostly because they have been ineffective in generating income (Franklin, 2014; Sjovaag, 2016). Companies that utilize paywalls typically earn a relatively small amount from them, particularly when compared to print subscriptions (Franklin, 2014; Lacy et al., 2014; Myllylahti, 2014).

There are examples of effective paywall usage. The Arkansas Democrat Gazette is known for adding a paywall to encourage readers to continue their print subscription, not as a moneymaking idea (Pickard & Williams, 2014b), and the Shawnee Mission Post hired more staff and expanded based on success in attaining digital subscribers (Morris, 2019). They were able to do this through a focus on civic journalism about their local community (Morris, 2019). Furthermore, some believe that metered paywalls can lead to digital subscription models that are ultimately more profitable than advertising-based models (Pavlik, 2013). There are those who argue the future for newspaper in a digital world relies upon subscriber revenue (Saltz, 2020).

Conversely, though, others have argued paywalls are elitist and defeat the purpose of community journalism by limiting news to a select few, not the community as a whole (Benson, 2019). There is also skepticism that paywalls will not provide a long-term financial solution and other methods will be more successful than limiting access to content (Singer, 2017); alternatives include foundations, donations, micropayments and any economic method that removes news from market pressures (Nielsen, 2016; Pickard, 2019, 2020; Scott et al., 2019). Historically, paywalls have not typically offset losses from advertising revenue (Bryant, 2018; Pickard & Williams, 2014b). Paywalls also represent a challenge to many people's idea of what journalism should be. Paywalls treat journalism as a commodity as opposed to a public service (Pickard, 2011). Paywalls provide a limit of who can receive essential information and go against the internet norm of free content (Pickard & Williams, 2014b). They also could limit the views and diversity in the information in the national discussion (Pickard & Williams, 2014a). Yet, while the news media are a public service, they cannot be a public service if they go out of business (Saltz, 2020).

More recently, many newspapers removed paywalls for stories covering the COVID-19 pandemic (Jacob, 2020; Saltz, 2020); others left paywalls intact, and experienced an increase in subscribers (Jacob, 2020).

Research Questions and Hypothesis

This two-wave analysis of paywall policies in American community newspaper websites explores how paywall strategies in 2015 correspond with website closures, “zombie” content and continued publication. It also builds on previous academic scholarship on networked gatekeeping theory (Barzilai-Nahon, 2005) to explore implications for paywall policies in the future.

RQ1: How have community newspaper website paywall policies changed between 2015 and 2020?

H1: Publications will be more likely to have a paywall in 2020 than in 2015.

RQ2: Between 2015 and 2020, how many community newspaper websites ceased regular publication? What, if any, content is now published on the site?

RQ3: Is there a relationship between paywall policy in 2015 and website elimination by 2020?

RQ4: How will corporate ownership influence the use of paywalls?

Methodology

This two-wave content analysis identifies and categorizes the paywalls of 400 community newspaper websites. Researchers included publications with stated (paid or unpaid) circulation of 50,000 or less, which mirrors the definition of community news used by Lauterer (2006). The list was compiled in 2015 from an initial Gale Directory listing of 3,724 potential community news publications; the 400-newspaper sample reflects 10.7% of the total population of American newspapers.

In both 2015 and 2020, websites were reviewed to determine content accessibility and paywall structure on the site. Potential access options were all content available, a limited number of articles as part of a metered paywall, or sites with a hard paywall where no access to content occurred without signing into the site.

The two coders started with the home page, and then looked at each of the specific sections listed on the website. If a paywall notice immediately appeared on the site, the coder would attempt to review at least one article from each section if the paywall allowed. The coder also attempted, if possible due to paywalls, to view a roughly equal number of articles within each of the sections on the site. To determine intercoder reliability for these content analyses a third coder received training to assist. All three coders reviewed 40 of the sites, which represented 10% of the total sample. Krippendorff's alpha scores included total agreement for more basic questions related to website functionality such as if the public could submit material using a digital form, email address or by mail. There were differences in story type however. The Krippendorff's alpha scores ranged from 1 for social news in both UGC and staff produced, probably at least partially due to lower numbers of examples, to a low of .92 in the category of staff produced soft news articles, which also had among the largest number of responses. There was also a small amount of disagreement about how many times the site might have solicited comments with a score of .974. These scores for Krippendorff's alpha fell well above the minimums suggested by Riffe, Lacy, and Fico (2013) for intercoder reliability.

Metered paywalls included both publications that were explicit about the limited number of articles freely accessible and others that did not mention the limit until readers had reached their maximum number of articles. Some publications allowed readers to view as few as three articles without subscribing and others allowed much more but did not say explicitly how many articles a reader could access without subscribing. In addition, while publications with a hard paywall typically allowed readers to view headlines and sometimes part or all of the first paragraph, there were sites that simply told those who came to the site how to subscribe and/or a method of submitting content or otherwise contacting the newspaper's staff. There were also two newspapers whose entire website consisted of a PDF of a recent print edition of the publication.

The 2015 study was published as part of the primary author's dissertation (Speakman, 2017) at Ohio University. The second sample, taken five years later, looked at the same elements regarding how much of the site was viewable without a subscription, but the researchers modified additional questions for the survey based on findings from the previous study. Unlike the first wave, the second analysis also included dormant, dead and "zombified" websites that were active in 2015 but not in 2020; the 2015 analysis focused entirely on community newspapers with active websites. The second sample also used different coders in this case two educated white males with familiarity with and experience in the journalism industry. To test intercoder reliability, 40 sites were reviewed by both coders and Krippendorff's alpha scores are included with each of the questions below.

This sample reviewed the following questions. What amount of access does a nonsubscriber have to the site? The options were that a viewer can access all content; can access limited content; can access no content; and there is no website. Intercoder reliability received a Krippendorf's alpha score of .925. The next question went more in detail than the previous sample to learn how much content a reader could access. The options were unlimited content; 10 or more; five to nine; one to four; one or two paragraphs; headline only, or none. Intercoder reliability received a Krippendorf's alpha score of .968. These were the most commonly found options noted qualitatively in the prior sample and in a brief review prior to starting the second.

The third and fourth questions sought to learn more about ownership factors and how they might influence access to content regarding paywalls. The third measured ownership model and if a publication was privately owned, owned by a hedge fund, or publicly owned (i.e. traded on the stock market). Intercoder reliability was KA .944. The last question asked how large a media company was in terms of holdings. Options were 1-5; 6-10; 11-20; 21-50; 51-100; and more than 100. Intercoder reliability was KA .844. All intercoder scores were above acceptable levels for agreement in content analysis (Riffe et al., 2019).

Findings

RQ1: How have community newspaper website paywall policies changed between 2015 and 2020?

In 2015, of the 400 community newspaper websites, 211 (53%) allowed free and full access to all content on the site, 129 (32%) used various types of metered paywalls that limited the amount of material available for viewing without subscribing, and 60 websites (15%) did not allow the public to consume any content. The metered paywalls included both publications that were explicit about the limited number of articles freely accessible and others that did not mention the limit until readers had reached their maximum number of articles. Some publications allowed readers to view as few as three articles without subscribing and others allowed much more, but did not say explicitly how many articles a reader could access without subscribing. In addition, while publications with a hard paywall typically allowed readers to view headlines and sometimes part or all of the first paragraph.

The results changed extensively in the sample five years later. At this point, only 97 publications allowed viewers to freely view all articles. One of the more interesting elements of this was that a number of the publications that did not have a paywall were owned by Gannett, and the former GateHouse publications had not been placed behind the three-article paywall used by Gannett's other publications. Another 16 did not provide access to any content, which is a reduction from the previous sample. There were 169 publications that utilized some form of paywall for their content. Overall, the 2015 sample had 37% of publications that utilized some form of paywall, whereas in the 2020 sample 60% of community newspaper websites utilized some form of paywall. (See Figure 1.) This suggests that a sizably larger percentage of community media websites have added paywalls to their sites in the past five years.

H1: Publications will be more likely to have a paywall in 2020 than in 2015.

In 2015, a slim majority of newspapers in this study had no paywall. Five years later, just over a third of surviving newspaper websites had no paywall. Metered paywalls were twice as common among surviving newspaper websites in 2020 than in 2015; full paywalls were rare in both 2015 and 2020. (See Figure 1.) H1 is supported.

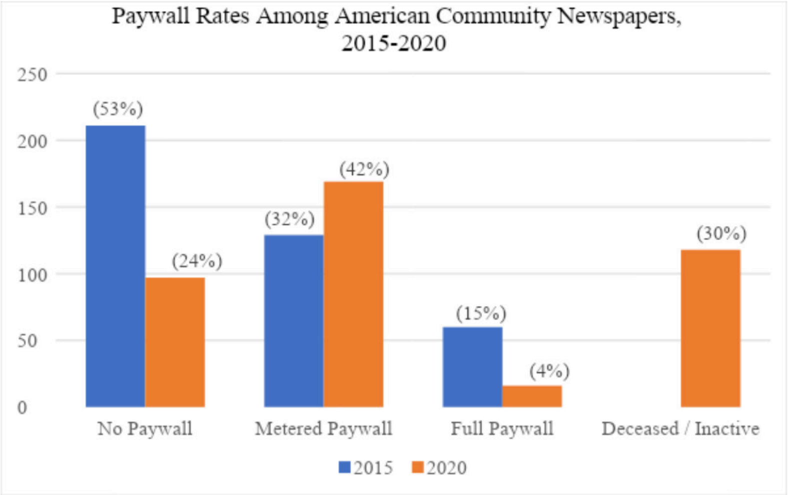

Figure 1: In 2015, n=400. In 2020, n=282.

RQ2: Between 2015 and 2020, how many community newspaper websites ceased regular publication? What, if any, content is now published on the site?

Between 2015 and 2020, 118 newspaper websites (30%) in the study ceased regular news publication. In many relatively simple cases, the newspaper's original website automatically redirected to a larger newspaper's website. So, while the reader still gets news, they receive it from a publication that is further away and less local to them. Additionally, in a number of these instances the smaller (typically weekly) publication still exists as a sub-page. This creates a lack of identity for the print publication and will likely eventually result in the death of the publication, because as Abernathy (2014) notes, the audience is moving online. It also implies a lower priority for the local community, and local news, alongside dependence on (and consolidation with) larger regional news media.

In other cases, the websites were still technically active but had not published news in over a year, or longer. While not technically dead, such "zombie" websites serve no practical journalistic or community-building function.

More common were websites that had been abandoned and repurposed, occasionally in unusual ways. In a few cases the local newspaper website had been overtaken by either city government or public relations firms. They were producing “news,” or at least commercial or promotional content designed to resemble news, that was at least focused on the same local community. In other cases, the URLs were completely the same, but had been taken over by wildly different content. There was one instance of pornography and another where a Japanese insurance company took over a site while retaining the original publication’s logo. Additionally, all the former Russell Publications’ websites are now operated by an Indonesian gambling site.

These URLs were presumably attractive to foreign companies because of U.S.-based Google traffic, including traffic from people searching for these small newspapers. The companies in these instances made no attempt to redirect to another site after purchasing the URL, nor does their content match the news-oriented URLs in any way.

In a few such instances, the weekly newspaper still existed in print and may have moved to a new URL. This provides a challenge because a Google searches still directs you to these “zombie” sites, which could lead surprised readers to assume the paper had closed. It would have been simple and reasonably low-cost for a publication to maintain ownership of the URL. However, now that URL is lost and gone forever.

Publications likely decided to cut costs when migrating to a new URL or consolidating different community newspapers, presumably not expecting their old domains to be appropriated by exotic or foreign language content. Maintaining old domains—even without an active website—would be relatively cheap and prevent future confusion and appropriation.

RQ3: Is there a relationship between paywall policy in 2015 and website death by 2020?

Researchers utilized simple descriptive statistics to examine publications that no longer had a website and if they had a paywall in 2015. Of those publications with closed websites, 59 of them had no paywall in 2015. Sites with no paywall represented 52.8% of sites examined in 2015, yet they make up 60.2% of newspapers that no longer operate an independent website. Additionally, 15.1% of sites that had a website in 2015 did not publish news, using the site instead to promote print subscriptions and contact information. This group represented 18.4% of the disappearing community newspaper websites in 2020.

The last group considered is those community news websites that utilized any form of paywall in 2015. These sites constituted 32.3% of the 2015 sample, yet only 19.4% of the community media websites that no longer existed in 2020 had some type of paywall in 2015, despite the fact that sites with paywalls represented 60% of the total existing sites in 2020. This suggests a relationship between paywalls and newspaper website closures. Those publications that put the least effort into their websites, by either allowing full access or simply having a spartan site with no content at all, appeared considerably more likely to either cease to exist or to have had their site co-opted into part of a larger publication.

RQ4: How will corporate ownership influence the use of paywalls?

One of the elements considered was how corporate ownership might influence paywall policy. One of the more interesting findings was that the three hedge fund-owned publications did not utilize paywalls. However, there was not a statistically significant difference between publicly owned and private media companies. To some degree this is likely connected to the small sample size for hedge funds. Otherwise, it appears that publicly traded and private community media act in much the same way regarding paywall decisions.

Discussion

This study further supplies some possible explanation as to why these community media website managers engage in networked gatekeeping. It relates to economic concerns and in particular controlling access to specialized content. For these economic decisions, managers must consider both limiting public access to the website and the use of paywalls on journalistic sites as forms of networked gatekeeping decisions. Networked gatekeeping applications would seem to suggest economic-based gatekeeping could be successful because the public often accepts limitations online (Coddington & Holton, 2014) and economic-based networked gatekeeping may represent another form of withholding (Barzilai-Nahon, 2005). Furthermore, the public accepts limitations based on feedback from those operating the network as part of the criteria for participation (Coddington & Holton, 2014), which in this instance could relate to story type to submit, what content is available online, or even what version of the publication to consume.

One can also speculate that issues like the combining of websites were also related to economic issues. There were 46 publications that now redirect to combined sites or larger publications. Yet, there remain questions about what it means for the long-term health of a publication to no longer have a direct website associated with the publication.

In 2015, it’s plausible that community newspapers focused on more profitable print products and crafted their digital strategies to reflect the higher-priority print versions. In many ways, print was profitable and the web was not. Relying on print may offer short-term success, but it would appear to result in long-term problems because it opens the opportunity for competitors who might make different economic gatekeeping choices in networked enviroments. In fact, this could result in the same type of limited economic thinking from media companies that led to much of current state of the industry.

By 2020, priorities had obviously shifted. Newspaper websites that did not regularly publish news had often closed their websites by 2020; also by 2020, a majority of newspapers had a paywall of some kind. Papers that had no paywall in 2015 made up a majority of newspaper website closures by 2020. This also reflects research showing newspaper audiences moving online, both before the first wave analysis (Abernathy, 2014) and has grown in the years since (Barthel et al., 2020). Additionally, there is some indication that paywalls will be part of a model that successfully funds digital journalism (Pickard & Williams, 2014a).

In a survey accompanying the first-wave analysis inn 2015, community newspaper website editors often reserved user-generated content for the print publication to prioritize print. This strongly suggests that those running these sites were already thinking economically. The results of this study show that publications with paywalls are seemingly better able to stay in business at the community level, providing further evidence that it's in the best interest of the publication to think that way.

This seems to work in two ways. First, a publication needs to have a local website presence as part of audience development over the long term while still privileging and in fact attempting to provide a gatekeeping mechanism to encourage members of the public to subscribe to the print version of the publication, or at a minimum force them to pay for an online subscription if they seek local news. Prior data from the industry and academic research clearly shows that print was, and remains, the more profitable publishing medium for newspapers (Chung et al., 2019; Harzard Owen, 2019; Pickard & Williams, 2014). In fact, paywalls only represent about 3% of total revenue with publications with a stronger print subscriber base (Chyi & Ng, 2020).

While this paper does focus upon gatekeeping, it's important to discuss some of the other issues, particularly with nearly 30% of sites defunct just five years later. There were two elements that appeared to go into this because in some cases the publications did close; in other instances the publications were merged with other small or sometimes larger publications. But there were also instances where publications took a strong stance as it relates to networked gatekeeping and simply removed themselves from the network. These publications have chosen to remove themselves from the Internet (except the occasional Facebook post). So, while as Abernathy (2014) states the audience is moving online, these publications have chosen to stick to the more profitable print and force those who want news from that community in a very direct manner. This includes the number of abandoned Zombie sites that still contain the newspaper content yet have not been updated in years. There are a few of these sites that continue to sell subscriptions to the publication using the site, and a handful that continue to offer online subscriptions. There are even a few that simply contain an image or a PDF of a front page (sometimes recent, sometimes not) and an address or phone number to subscribe.

The lack of activity would serve as a message to younger potential future subscribers that the publication lacks a serious digital footprint. This also runs contrary to the central focus of community journalism—relentlessly local news coverage (Lauterer, 2006). By not regularly publishing news content online, or by collapsing local news into a sub-section of a regional publication, editors are effectively limiting the development and importance of their local communities. Neglecting local digital content would seem to effectively disconnect the local community from the digital realm or articulates that local identity as a sub-section or afterthought tied to a larger region.

The researchers would also be remiss if they failed to mention what became of the other sites that are no longer actively being used for community media coverage. At least one site was taken over by the city government to provide information about the community, another is now being operated by a public relations firm that uses the site to post press releases. Some sites have met a different fate; for example, all the sites formerly managed by Russell Publications are now Indonesian gambling sites, another company's site now contains niche pornography and a third has become a Japanese auto insurance site. This suggests at least some value to the sites in that people are still searching for the website for these publications. However, it is one that many in the media industry do not seem to recognize.

The growth of zombie websites seems a troubling development in an industry that has lost more than 1,800 print publications within the past few years. It also does not speak well for the continued inability for media companies, and in particular community media sites which serve a smaller niche audience, to successfully monetize their online platform. In fact, it continues to show a lack of a plan to monetize the web that has existed in community media for more than two decades.

There are limitations to this study in that the researchers never directly spoke to the companies about their decisions. As a content analysis, this study provides statistical context regarding a large group of American community newspaper websites; it can only speculate about the decisions motivating those policies in 2020, however. Additionally, as it relates to websites, it is likely that paywall policies are set at corporate offices rather than individual newsrooms; a full understanding of paywall motivations would require interviews with corporate executives as well.

Similarly, understanding motivations for collapsing local newspaper websites into regional news websites merits further study.

There are several possible explanations for closing or consolidating a newspaper website, including a loss in staffing making it untenable, new staff that do not possess the technological skill, or simply a lack of interest from the local audience. The challenge is that all of these reasons in some ways connect to economic factors. Therefore, it seems clear that gatekeeping in networked spaces is being done for economic reasons. Newspapers are struggling to survive and taking whatever measures they can to maintain profitability and remain open (Abernathy, 2018).

It seems highly likely that such decisions are motivated by financial and human resources, but a more thorough investigation is warranted. There are also demographic limitations based on respondents. Nearly all the respondents, were white, male, and above the age 50, which likely influences how they think about the web. It is unclear if this is a limitation of who elected to respond, or one of who is responsible for websites at community media publications.

The issue of paywalls should continue to be studied in a number of ways. First, expanding upon Chyi and Ng (2020) to look more at digital subscriptions among smaller publications. Most studies that focus on paywalls focus on national or regional publication and the impacts neglecting the smaller local publications that still serve as a primary news source for a sizable part of the population. Furthermore, researchers should consider if the simple act of having a paywall helps to staunch the loss of print subscribers to determine if media outlets had successfully created a gate to force the public into their chosen platform.

This study moves research forward in two manners. The first is that it provides perspective about how paywalls have changed over the past five years during a time of extensive closures. It helps provide perspective to previous research into paywalls that looks at single points in time or paywalls up until a certain point (Benson, 2019; Pickard & Williams, 2014a). Additionally, while previous networking gatekeeping research focuses on how the networked environment is different (Barzilai-Nahon, 2005; 2006; 2008), this research helps to offer a perspective about why gatekeeping in networked spaces might differ.

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