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Future-proofing the Past?: Digital History and Preservation in New Orleans after Hurricane Katrina

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Future-proofing the Past?: Digital History and Preservation in New Orleans after Hurricane Katrina

A Thesis

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Travis Waguespack

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Abstract

   Digital history has grown into a critical aspect of history scholarship and practice. The literature surrounding digital history is colored by its discussions of the possibilities and problems of digital history, both as an archiving tool and a method of increasing interaction with public history. This literature is also defined by its lack of answers to these questions, and lack of examinations of these possibilities in cases studies. By examining how three different New Orleans historical institutions have embraced digital history for preservation and public history in the wake of Hurricane Katrina, this thesis will illustrate how questions of preservation, access, and the impact of digital history on research are being answered by these institutions. The New Orleans historical institutions evaluated in this paper have used digital history to bolster their preservation in the face of natural disaster, and to foster increased interactivity and importance with the New Orleans community.

University of New Orleans historian Al Kennedy was lucky. When Hurricane Katrina made landfall in New Orleans on August 29, 2005, his family home was high and dry in a New Orleans suburb, saved from the destruction by just a few miles and a few feet of elevation. He and his family were able to open up their house as a home-base to friends and colleagues who had not been so fortunate and needed a place to stay as they sifted through the flooded remains of their homes, careers, and lives.[1] Hurricane Katrina displaced 1.3 million lives, claimed over 1,800 others, and caused an estimated $125 billion in damages after levees around the city failed and allowed floodwaters to rush in. It would take New Orleans twenty months just to return to 66% of its pre-Katrina population.[2]

Kennedy's home may have escaped being part of these statistics, but the history of the city of New Orleans, including the historical record that he himself had helped to organize and create, was in danger of being washed away forever. An employee of the Orleans Parish School Board (OPSB) for 21 years, Kennedy had been involved in or in charge of a number of projects focused on creating and maintaining the historical record of the OPSB. One of these projects was to document efforts to remove the names of slave owners from public school buildings. This included not just school board meeting minutes, but also correspondence from people around the world who were protesting the name changes. Another of Kennedy's projects was to conduct oral histories with musicians from around the city, gathering information on their early lives and schools. These were invaluable projects that captured the social history of these schools and neighborhoods. A portion of this collection still exists in the form of the Orleans Parish School Board Collection at UNO. Fortunately a few years before the storm, Kennedy in cooperation

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[1] Al Kennedy, interview by the author, June 12, 2017.
[2] Christine Rushton, "Timeline: Hurricane Katrina and the Aftermath." *USA Today*. August 24, 2015. Last updated August 28, 2015. https://www.usatoday.com/story/news/nation/2015/08/24/timeline-hurricane-katrina-and-aftermath/32003013/.

with the Ethel & Herman L. Midlo Center for New Orleans Studies, and the OPSB, donated to the University of New Orleans Earl K. Long Library a collection of school board records that span the period from 1841 to 1998. This includes "Board and Committee meeting minutes, Board correspondence, documents, directories, publications, records, architectural drawings, photographs, multi-media, and other collected materials pertaining to the schools and the operation of the school system by the Board."[3] The collection has grown over the years to be greater in linear feet than the length of five football fields, and remains a hopeful example of New Orleans history that was otherwise largely lost to the storm. But still, Dr. Kennedy stresses and laments all that was lost. Photographs, records, yearbooks, syllabus, trophies, and more which stood not only as artifacts of individual schools, but also of the neighborhoods and communities destroyed by the storm.

Destroying stores of information and culture, Hurricane Katrina was, for historians, a dramatic example of the continuing threat such historical sources face even today. Whether it be by willful human destruction, natural disasters, accidents, or simply the degrading effects of time, repositories of crucial historical data are and have been consistently lost throughout human history. From the burning and destruction of the Library at Alexandria, to the more recent burning of the library in Mosul, Iraq, by ISIS fighters, such losses continue to shape our view of the past. A survey done by UNESCO's International Council on Archiving (ICA), with 105 countries around the world participating, reported that around 6,000 repositories had suffered losses during the 20th century alone.[4] What can be done to mitigate this consistent threat of loss?

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[3] Orleans Parish School Board Collection (MSS 147), Louisiana and Special Collections, Earl K. Long Library, University of New Orleans

[4] Van Der Hoeven and Van Aldaba, *Lost Memory,* 22.

The first step in finding an answer might be found in the form of another question: how can the technology of today be used to preserve our history, into our future? The answer falls largely into two categories. First, digital technologies offer ever more viable ways to digitize and duplicate large amounts of historical documents, images, audio recordings, and film/video, in an archival or repository setting. Folded into these technologies are increasingly safer, economical, and more secure ways to store the digitized information. Second, the availability of new digital resources, via the internet, has in many ways radically changed how historical sources are accessed and used. Online databases and exhibits not only greatly expand the reach of available access to primary sources and other historical resources when archives and institutions make digital versions of their collections available for viewing online, but also open up new avenues and methodologies by which historical data can be created and collected. In particular, digital online archives have made access to new media materials, or digitized versions of legacy media formats, much easier. A number of oral history archives, in particular, have been digitized and made available via the web for researchers and other individuals to access at home. And websites such as the Hurricane Digital Memory Bank collect and allow access to an ever-expanding database of user-uploaded memories and materials, centering around experiences with Hurricanes Katrina and Rita.[5]

What does not exist, however, is a consensus among the historical and archival community about how, and even if, these technologies and changes should be fully embraced and implemented on a wider scale. This is not to say that there is a lack of writing and resources on how to go about putting digital methodologies and resources into practice. However the secondary literature that does exist tends to be largely generalist, and ranges from technical

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[5] "About the Hurricane Digital Memory Bank." Hurricane Digital Memory Bank. http://www.hurricanearchive.org/about.

manuals and "best practices" guides, to broad discussions about the merits and obstacles to digital history as a whole. What seems to be missing from the discussion is a consideration of how and why individual, local archives and institutions can and should be making efforts to digitize holdings and collections, and to make these digital collections more readily and easily available for public access via the internet.

Following Anne R. Kenney and Nancy Y. McGovern's assertion that the process of digitization has to begin at the local level this paper will focus its discussion and argument on the efforts to use new digital technologies to enhance the ability of archives to preserve the past in Post-Katrina New Orleans. These include the New Orleans Catholic Archdiocese Archives, the Historic New Orleans Collection, and the Hurricane Digital Memory Bank.[6]

This thesis examines the utilization of digital and online archiving and public history practices through these three case studies. Reviewing their digitization processes, motivations, and outcomes, this thesis will offer conclusions about the benefits and challenges inherent in adopting digital history methods for both preservation and public history purposes. By comparing these local New Orleans digital initiatives this thesis will argue that archives, repositories, and history institutions of all kinds should be making serious efforts to implement digitization and online archiving into their existing archiving practices. The examples set by these institutions also shows that the adoption of digital history tools can serve to both reform and reinforce the goals and missions of each institution.

Literature Review

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[6] Anne R. Kenney and Nancy Y. McGovern, "Five Organizational Stages of Digital Preservation." In *Digital Libraries: A Vision for the 21st Century: A Festschrift in Honor of Wendy Lougee on the Occasion of Her Departure from the University of Michigan*, edited by Patricia Hodges, Maria Bonn, Mark Sandler, and John Price Wilkin. Ann Arbor, MI: Michigan Publishing, University of Michigan Library, 2003. http://quod.lib.umich.edu/cgi/t/text/text-idx?c=spobooks;idno=bbv9812.0001.001;rgn=div1;view=text;cc=spobooks;node=bbv9812.0001.001%3A11.

This thesis falls in step with examinations of archives and similar institutions after Hurricane Katrina. Following the storm, the American Libraries Association published two articles examining the situation on the ground for New Orleans Parish Libraries (NOPL), as well as the library systems of surrounding parishes which were also affected. The first, "Katrina's Terrible Toll," published in October 2005 just two months after the storm, outlines the losses and problems immediately facing the NOPL, including two water-damaged branches, as well as an unsure future. NOPL is reliant on funds largely generated by property taxes on businesses.[7] As the immediate post-Katrina population of the city remained low and businesses were slow to reopen or closed for good. The article also finds silver lining by outlining how libraries were a service to the public after the storm, providing a place for victims to fill out FEMA paperwork. This presented a funding hurdle for libraries which were looking to rebuild and possibly restore damaged holdings. The second article, "Two Years and Counting: New Orleans Libraries after Katrina," (2007) updates this examination after two years, by which time the number of damaged libraries was updated to eight of the thirteen branches in Orleans Parish.[8] The issue of funding is also presented again, this time framed as a problem of how to both rebuild the damaged branches and downsize the NOPL while using less funding.[9] But as with the previous article, there is also good news. Two years later, the functioning library branches were seeing a steady increase in circulation in proportion to the city's slowly growing population size. Together these two articles highlight the impact that disasters such as Hurricane Katrina can have on libraries, and in turn the impact that libraries can have on the affected population during the rebuilding process.

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[7] George Eberhart et al., "Katrina's Terrible Toll." *American Libraries* 36, no. 9 (October 2005): 14-25, accessed July 31, 2017.

[8] Brian Huddleston, "Two Years and Counting." *American Libraries* 38, no. 8 (September 2007): 30-32. Accessed June 31, 2017.

[9] Huddleston, "Two Years and Counting," 31.

Another article published by the ALA in 2006, "Libraries in the Eye of the Storm: Lessons Learned from Hurricane Katrina" changes the focus from evaluation of the situation as it stood for the library branches affected by the storm, and instead questions how the damages were able to occur and what can be done to mitigate similar damage in the future. The article itself serves as more of a best practices guide to disaster response and preparedness for libraries, offering guidance on setting up disaster evacuation and response plans for both personnel and collections, how to handle displaced employees post-disaster, while offering little in the way of alternatives to safeguarding collections against damage in emergency situations.[10] Surprisingly, nowhere do the three articles above mention digitization at all as a method of preservation, displaying just how new the idea still was when digital history began to be utilized by New Orleans area institutions following the hurricane.

Early writing about digital history started to take shape in the late 1990s. Edward L. Ayers's 1999 article "The Pasts and Futures of Digital Histories" was almost prophetic in how it laid out the frameworks in which digital history would continue to be discussed in the years to come, raising topics such as access, new media in publishing, interactive online archives, and hypertextuality.[11] In Ayers's estimation "…history may be better suited to digital technology than any other humanistic discipline."[12] He declared digital history's greatest strength thus far to be the "deepening and broadening of professional conversation"[13] by way of the internet. He broadly commented on how the integration of new media was changing publishing, questioning how historical writing might take on more complex forms of narrative with the possibilities

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[10] Tom Clareson, and Jane S. Long. "Libraries in the Eye of the Storm: Lessons Learned from Hurricane Katrina." *American Libraries* 37, no. 7 (August 2006): 38-41. Accessed July 31, 2017.
[11] Edward L. Ayers, "The Pasts and Futures of Digital History." The Virginia Center for Digital History. 1999. http://www.vcdh.virginia.edu/PastsFutures.html.
[12] Ayers, "Pasts and Futures."
[13] Ibid.

afforded by digital new archives. But Ayers's foresight was also limited. For example, he lauds

the possibility of digital history to bring history back to the less developed parts of the world,

wherein users can "make connections for themselves"[14] using digital archives. However, in the

same article, he claims that "the great democratization of history over the past few decades has

not been accompanied by a democratization of audience."[15] The development of interactive

history websites discussed later in this article will prove him wrong in this regard. This very

democratization of audience would prove crucial to the realization of the interactive nature of

digital and online archives.

Historians after Ayers continued to grapple with the new technology's possibilities for

the discipline. In 2009 The American Historical Association provided the most bare-bones

definition:

> Digital history might be understood broadly as an approach
> to examining and representing the past that works with the new
> communication technologies of the computer, the internet network,
> and software systems… To do digital history, then, is to digitize
> the past certainly, but it is much more than that. It is to create a
> framework through the technology for people to experience, read,
> and follow an argument about a major historical problem.[16]

Historians and archivists both sought to distinguish digital archiving from digital curation (for

example, a historical exhibit online). For example, Adrian Cunningham's 2008 essay "Digital

Curation/Digital Archiving: A View from the National Archives of Australia" argues that the

often confusing and reductive use of these two terms downplays the individual importance of

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[14] Ibid.
[15] Ibid.
[16] Douglas Seefeldt and William G. Thomas, "What Is Digital History?" Edited by Phillarisetti Sudhir. *Perspectives On History* 47, no. 5 (May 2009). https://www.historians.org/publications-and-directories/perspectives-on-history/may-2009/intersections-history-and-new-media/what-is-digital-history#.

each different step in the "entire life of digital information."[17] Cunningham goes on to stress that digital archives are separate from digital libraries or digital museums, and that while both ends of that spectrum contribute to the life of digital historical information, they perform distinct duties.[18]

Others argued for a more ecumenical or dualistic approach. Daniel J. Cohen and Roy Rosenzweig's 2006 *Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web* presents this approach in the title itself. Discussion about the possibilities of digitizing history in an archival and preservation sense is presented alongside how to utilize these new digital resources in an internet-based setting.[19] This symbiotic relationship between preservation and access is at the heart of understanding the potential and problems posited by digital history.

In this way, Rosenzweig and Cohen list "seven qualities of digital media and networks that potentially allow us to do things better: capacity, accessibility, flexibility, diversity, manipulability, interactivity, and hypertextuality (or nonlinearity)."[20] They also set out what they termed the "dangers or hazards" of digital history: "quality, durability, readability, passivity, and inaccessibility."[21] Their discussion is a limited one, mainly focused on a more practical concern with regard to constructing useful websites. The authors argue, however, that the ratio of "possibilities and problems seems, on balance, to suggest a digital future worth pursuing."[22] And it is this "digital future" that Rosenzweig and Cohen seem to be working to write instructions for,

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[17] Adrian Cunningham, "Digital Curation/Digital Archiving: A View from the National Archives of Australia." *The American Archivist* 71, no. 2 (Fall 2008): 531, accessed February 21, 2017.
[18] Cunningham, "Digital Curation/Digital Archiving."
[19] Daniel J. Cohen and Roy Rosenzweig, "Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web." *Digital History: A Guide to Gathering and Preserving the Past on the Web*. http://chnm.gmu.edu/digitalhistory/.
[20] Cohen and Rosenzweig. "Digital History.".
[21] Ibid.
[22] Ibid.

if not necessarily argue in favor of. For example, their discussion of the advantages of storage capacity is presented alongside the problems it presents. In this case, they ask "why delete anything from the current historical record if it costs so little [to] save it? How might our history writing be different if all historical evidence were available,"[23] the latter being a question with potentially deep and wide-spread long term implications for the entire discipline of history. Our framework for understanding primary sources is in part defined by the fragmented historical record; how will this change as the historical record becomes much more complete? The sort of open-ended discussion of the questions and possibilities raised in Rosenzweig and Cohen's book defines digital history writing at large.

Rosenzweig's next work *Clio Wired: The Future of the Past in the Digital Age* (2011) is a posthumously published collection of essays that delve further into the questions posed in the previous book, in that the essays examine the application and effects of these new possibilities afforded by digital history. The introduction alone displays this new focus on the ramifications of the adoption of new digital technologies. Revisiting the potential problems presented by saving "everything," Rosenzweig does not propose a solution, but posits that the reason for lack of solution is "the assumption that these are 'technical' problems, which are outside the purview of scholars in the humanities and social sciences."[24] Rosenzweig is also quick to bring up a potential solution by thinking of this problem of abundance in a different way: Whose responsibility is it to preserve the past, and what pasts do the responsible parties preserve? This framework for the abundance question comes up elsewhere in digital history literature. Rosenzweig's answer to the question though, is a bit of a public call-to-arms, calling the

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[23] Ibid.

[24] Roy Rosenzweig, *Clio Wired: The Future of the Past in the Digital Age*. New York, NY: Columbia University Press, 2011, 6.

preservation of the past "a public responsibility."[25] Yet again, despite taking the question one step further and reframing it, the discussion fails to provide examples or study the actual application and outcome of the access, storage, and interactivity afforded by digital history.

Another key quality of digital history, hypertextuality, is given its own examination in a case study in *Clio Wired*. Co-authored by Steve Brier, the essay "Historians and Hypertext: Is It More Than Hype?" pointedly puts the hypertextual and nonlinear possibilities of digital history presentation and research to the test by examining Rosenzweig and Brier's 1993 electronic textbook *Who Built America? From the Centennial Celebration of 1876 to the Great War of 1914*. The "book" was actually a CD-ROM that utilized multimedia, interactivity, and hypertextuality to expand on the idea of what a textbook could be and engage students in new ways. Alongside the traditional format and narrative structure of a history textbook, it also contained deviations from the main text that the authors describe as excursions, which "contain about seven hundred source documents in various media that allow students as well as interested general readers to go beyond (and behind) the printed page and to immerse themselves in the primary and secondary sources that professional historians use to make sense of the past."[26] However Rosenzweig and Brier also problematize the necessity of hypertextualization as the historical record grows exponentially with digital storage. This increased access to a large volume of sources required a huge amount of curation. The items cannot simply stand on their own alongside the more traditional "book" design of the electronic textbook. The information must be selected and presented as part of the cohesive argument or story that the book is attempting to construct. In other words, Rosenzweig and Brier are arguing that increased

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[25] Rosenzweig, *Clio Wired*, 7.
[26] Roy Rosenzweign and Steve Brier. "Historians and Hypertext: Is It More Than Hype?" In *Clio Wired: The Future of the Past in the Digital Age*, 85-91. New York, NY: Columbia University Press, 2011, p. 86.

availability of resources does not necessarily increase the potential for learning. The information must be curated, as it is in an electronic textbook, if the newfound digital accessibility is to be successfully utilized.

Richard H. Ekman's 2000 article "Can Libraries of Digital Materials Last Forever?" takes the storage and capacity topic and questions it from three distinct perspectives, each working in tandem.[27] The first perspective is longevity. As the number of born-digital projects grows, more and more libraries are collecting materials that only exist in digital format, creating a problem wherein repositories do not have a physical copy of these items to fall back on or re-digitize, should the digital copy become corrupted or destroyed. Compare digital records to, say, microfilm, which has a predictable shelf-life if stored correctly. The volatilities of digital materials under various storage conditions are still unclear. Along with this problem is the need for "migration," i.e. converting outmoded digital media into more recent and usable formats. There is often going to be some loss when migrating from one format to another, yet this process is necessary to preserve access to digital content.[28] The second perspective for consideration is cost. Despite digital storage space becoming cheaper every day, an ever-increasing amount of digital materials to be stored raises questions of storage space and redundancy. As Ekman notes, increased cooperation between institutions may be necessary in order to mitigate costs of digitization and storage. He suggests that a group of libraries working together would be able to more effectively shoulder the costs by dividing up responsibility but sharing in the benefits.[29] Ekman's article provides brief examples of where these problems are cropping up, such as the University of Chicago Press blurring the line between traditional and digital publishing by

[27] Richard H. Ekman. "Can Libraries of Digital Materials Last Forever?" *Change: The Magazine of Higher Learning* 32, no. 2 (2000): 22-29, accessed February 18, 2017, doi:10.1080/00091380009601720.
[28] Ekman, "Libraries of Digital Materials," 24-25.
[29] Ekman, "Libraries of Digital Materials," 25-26.

utilizing multimedia components as supplement to the traditional text, but effective examinations of implemented solutions to these problems are not part of Ekman's discussion.[30]

In the first decade of the 21st century, concerns peaked about housing and distribution of historical sources and data on the internet and how this might change the way historians interact with "public memory." Putting history on the web allows users the chance to contribute to the historical record, be it by primary sources, or helping to shape the content of secondary sources. Websites like Wikipedia are built nearly entirely on the work of amateur and independent contributors, what we might now refer to as a crowd-sourced encyclopedia, albeit heavily moderated and edited. In 2007, Ekaterina Haskins tackled these questions of interactivity and crowd-sourced history in "Between Archive and Participation: Public Memory in a Digital Age." The article aimed to analyze how the internet might be used to change the way historians and the public create and interact with historical record. The primary strength of digital collections, in the author's argument, is that "'digital memory,' more than any other format, collapses the assumed distinction between modern 'archival' memory and traditional 'lived' memory" via the combination of archival-type storage and organization with the interactivity of new media and the internet.[31] Haskins asserts that institutionalized memory, such as that curated and presented by a history museum, "weakens the need for a political community actively to remember its past."[32] But the internet and new media provide an avenue by which public memory is an ever-changing creation shaped by those who provide the memory.

The debate over the internet's role in shaping public memory and popular historical understanding comes into focus in Rosenzweig's 2006 article "Can History Be Open Source?

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[30] Ekman, "Libraries of Digital Materials," 28.

[31] Ekaterina Haskins. "Between Archive and Participation: Public Memory in a Digital Age." *Rhetoric Society Quarterly* 37, no. 4 (2007): 401-402. Accessed February 3, 2017. doi:10.1080/02773940601086794.

[32] Haskins, "Between Archive and Participation," 402.

Wikipedia and the Future of the Past." In Rosenzweig's account, the primary reason for the

division between academia and Wikipedia derives from an early desire of the site's creators not

to allow the website to become a publishing platform for new research and discoveries, instead

intending for it to operate much more closely to a traditional encyclopedia and basing its entries

on research and findings published elsewhere.[33] Robert S. Wolff echoed some of these same

sentiments in his 2013 article "The Historian's Craft, Popular Memory, and Wikipedia." Wolff is

concerned with the shift in understanding about historical authority that comes with the

democratization of knowledge and history promoted by websites such as Wikipedia.[34] He echoes

Haskins's discussion of the blurring of history and memory, and how historians understand these

terms. Wolff quotes David Blight, saying "'Memory is often owned; history, interpreted.

Memory is passed down through the generations. History, revised.'"[35] In the context of online

history such as Wikipedia, alongside websites like the 9/11 Digital Archive, Wolff argues that

this blurringof history and memory is useful in understanding what are popular history

understandings and interests.

   Digital history literature largely revolves around speculation as to the costs and benefits

of utilizing digital history tools in research, teaching, and public history. While these questions

are useful in moving forward with any burgeoning advancement in a field of study or expertise

such as history, they also require practical application and evaluation to determine the merits of

these questions. This glut of questions and lack of answers have not gone unnoticed in the

literature. "Digital History's Perpetual Future Tense," by Cameron Blevins, tackles this very

[33] Roy Rosenzweig, "Can History Be Open Source? Wikipedia and the Future of the Past." *Journal of American History* 93, no. 1 (June 2006): 117-46. Accessed May 23, 2017. doi:10.2307/4486062.

[34] Robert S. Wolff, "The Historian's Craft, Popular Memory, and Wikipedia." In *Writing History in the Digital Age*, edited by Kristen Nawrotzki and Jack Dougherty. Digital Humanities. Ann Arbor, MI: University of Michigan Press, 2013. http://quod.lib.umich.edu/d/dh/12230987.0001.001/1:5/--writing-history-in-the-digital-age?g=dculture;rgn=div1;view=fulltext;xc=1#5.2.

[35] Wolff, "Historian's Craft."

topic, stating "in terms of using technology specifically to advance academic claims about the past, digital history has largely overpromised and underdelivered."[36] Blevins argues that this inability of digital history to live up to its promises is largely due to the fact that digital history has not been utilized to change the way we make arguments about the past, but instead has often been more utilized in public history efforts. In the 1960s, historians were already considering ways to use computers to help make quantitative arguments about the past with previously unavailable access to large amounts of data, but by the 1980s and 1990s, Blevins said the "culture and linguistic turn had eclipsed quantitative approaches."[37] From then on, digital history was more public-facing, and less about changing the way historical arguments are presented. Blevins presents examples of how he has used quantitative data provided by digital history tools to help construct arguments about the past, but these are personal accounts of outlying cases, and do not represent the norm for historical scholarship.[38]

The next section of this thesis evaluates these discussions of storage, access, longevity, hypertextuality, and interactivity in the contexts of New Orleans historical initiatives and online spaces that have embraced digital history tools in the wake of Hurricane Katrina.

Digital History in New Orleans After Hurricane Katrina

In a 2012 article, the late UNO history professor Michael Mizell-Nelson referred to the Deep South as a "digital desert."[39] An early advocate for digital history, as well as one of the principle architects of the Hurricane Digital Memory Bank (HDMB), the article served as an outlet for him to voice his frustrations at the lack of funding and support for digital history

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[36] Cameron Blevins, "Digital History's Perpetual Future Tense." In *Debates in the Digital Humanities*. 2016 ed. University of Minnesota Press, 2016. Accessed July 12, 2017. http://dhdebates.gc.cuny.edu/debates/text/77.

[37] Blevins, "Perpetual Future Tense."

[38] Ibid.

[39] Michael Mizell-Nelson. "Improvising Digital History in the Deep South Digital Desert." History News Network. December 21, 2012. Accessed July 12, 2017. http://historynewsnetwork.org/article/149867.

projects, tools, and education within his professional community of New Orleans. He lamented the role often attributed to faculty members working in the field as "the one in our department who does digital history,"[40] and hoped for the integration of more digital history into the curriculum.

In the article Mizell-Nelson recounts one experience wherein he was chasing an NEH grant that would provide $100,000 to help set up a multimedia lab for the history department at Delgado Community College in New Orleans where he was teaching at the time. While Mizell-Nelson believed he had made a strong case stressing the importance of students' oral history projects, "unfortunately, the college president ridiculed the concept and the paltry sum when the grants office had multi-million dollar grant awards to administer. …what better signal does one need to hasten completion of the dissertation and seek out another oasis?"[41] While his article was perhaps borne of fatigue, and not anger, at having to seek out meager funding to support digital history projects for himself and his students, even five years later the article nonetheless remains a relevant critique of the state of digital history in New Orleans.[42]

But there is reason to be hopeful about digital history in New Orleans as well. One of Michael Mizell-Nelson's projects, New Orleans Historical, exists now as both a website and a smartphone app that provides self-guided tours through New Orleans.[43] A number of New Orleans historical institutions and universities have partnered with others across the state of Louisiana to create the Louisiana Digital Library, a site whose purpose is to use the internet to

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[40] Mizell-Nelson, "Improvising Digital History."
[41] Ibid.
[42] Ibid.
[43] "About." New Orleans Historical. Accessed July 12, 2017. http://www.neworleanshistorical.org/about/.

make historical collections at Louisiana institutions available for access all around the world.[44]

The National World War II Museum has integrated digital aspects its visitor experience that

allows visitors to bring home a plastic card that gives them access to digital copies of artifacts,

documents, oral histories, and images that they encountered in the exhibits. And Michael Mizell-

Nelson's legacy lives on in the Michael Mizell-Nelson Digital History Lab at UNO, which

opened in the spring of 2017, providing the tools and resources necessary for history students to

undertake digital projects.

Three digital initiatives highlight how, since 2005 and Hurricane Katrina, institutions and

individuals have embraced digital history tools for both necessary preservation of materials and

success in increasing community of New Orleans' interaction with its own history.

The Archdiocese of New Orleans Archives

In light of all that has been written and said about digital history, online history, digital

archiving, and the consistent threats posed to archives, libraries, and other repositories, what

examples can we look to for information about archives and institutions that have actually

implemented these measures? Were they effective? How did they benefit these institutions, and

how were they a challenge? And in the end, could they be an example for other archives to

follow? The experience of the Archdiocese of New Orleans Archives and its efforts to go digital

and online following the devastation of Hurricane Katrina on the city of New Orleans is

illustrative. Its story is unique in that it bridges many of the concerns and questions about

digitization in history and archiving, such as considering online archiving and exhibits alongside

the threat posed by nature and other elements to the repository itself. As well, the experience of

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[44] Robert Russo, "Welcome to the Louisiana Digital Library." Louisiana Digital Library. Accessed July 12, 2017. http://www.louisianadigitallibrary.org/.

the Archdiocese Archives brings up new considerations and unforeseen benefits that extend beyond the pure preservation of archival holdings.

As related by Dr. Emilie Leumas, Archivist of the Archdiocese of New Orleans, the story of the Archdiocese of New Orleans Archives (referred to hereafter as Archdiocese Archives from here on out, unless otherwise specified) begins in Baton Rouge in 2005 in the months leading up to Hurricane Katrina, when Dr. Leumas was director of archives and records for the Baton Rouge Archdiocese.[45] The archives there had already implemented TRIM, a digital records management software created by Tower, an Australian software company. Initially, the purpose of this digital records management system was largely internal and administrative; it served as a way to more efficiently organize and access documents such as articles of confederation, student records and transcripts, etc. But, "after Katrina hit, all of New Orleans moved to Baton Rouge."[46] And with this collection a whole new set of problems for the Archdiocese Archives to overcome, which their nascent forays into the world of digital history and archiving would play a crucial role in overcoming.

Over the coming weeks, Archdiocese Archives workers from both Baton Rouge and New Orleans set to work on recovery and restoration. They went in to the Archdiocese of New Orleans Archives and rescued sacred objects, and began restoring records of their own and those of others affected by the storm. Representatives from Tower had contacted the Archdiocese Archives, asking how they could help, and provided copies of their TRIM software for free, to aid in the management and organization of recovered records. Thanks to this help the church, specifically the Archdiocese Archives, was able to help the affected Catholic New Orleans community in an interesting and unexpected way. After the storm, many people from New

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[45] Emilie Leumas, personal interview by the author, September 19, 2016.
[46] Emilie Leumas, interview.

Orleans were without important documents such as marriage licenses, birth certificates, etc., either lost or permanently damaged by the hurricane. However, an interesting law in Louisiana allowed for the church, specifically the Archdiocese Archives, to help solve this problem for countless people. In this state, a Catholic baptism certificate may be used as a birth certificate. The lives of members of the church are tracked in their sacramental records; essentially, a Catholic's entire life in the church is recorded via these documents, including baptism certificates, first communion paperwork, and marriage licenses. By providing to people affected by the storm these important documents, individuals were able to restore their identity and move on with things like insurance claims.. The archival services of the Archdiocese were able to serve an immediately practical purpose after the hurricane's devastation.

Recognizing the significance and positive feedback of providing public access to sacramental records, as well as the opportunity afforded by the integration of digital records management software into the archiving process, Dr. Leumas and the Archdiocese of New Orleans set out to not only digitize historical sacramental records, but make them easily and publically available on the web. Says Dr. Leumas of publishing the historical sacramental records in an online, digital archival setting, "there was a feeling by the New Orleans community as well as Louisiana that the Archdiocese of New Orleans was very close-handed with those records, and I wanted to change that."[47] In particular, she and the rest of the archival team were concerned with digitizing and making publicly available online the sacramental records of slaves, so that African Americans would be able to trace their ancestry and explore their roots, an opportunity previously unavailable to them. This service and opportunity extended beyond the African American community, to the academic world. In 2014, during the 50th anniversary of the

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[47] Emilie Leumas, interview.

Civil Rights Movement, "every grad student in the world looking at Civil Rights and integration, especially Catholic integration,"[48] wanted to get their hands on the Archdiocese's Archives holdings of the sacramental records of enslaved people. Feedback surrounding making available these sacramental records, particularly those of enslaved peoples, was largely positive in and around the New Orleans community. However, there was some unexpected pushback from the media and journalism world.

In 2011, Leumas and the Archbishop Gregory Aymond held a press conference about the releasing of the baptism certificates of enslaved people onto the internet. What they expected to be a ten minute briefing became a ninety-minute-plus question-and-answer session about the nature of the documents, why they were released, the church's history of compliance with slavery, and more. In the end, the Archbishop ended up apologizing on behalf of the church for the complicit role it played in slavery. [49]After this press conference, local newspapers, television talk shows, and radio shows wanted to interview Dr. Leumas about the digitization of baptismal records. She was warned that the media might be adversarial in its questioning, looking to find fault with the way the church has handled the documents, and adversarial they were. As Dr. Leumas puts it, on one radio interview she was met with the question of essentially "So what?" in regards to the importance of making the baptismal records of enslaved people publicly available on the internet, and in no time, "the phones were lighting up" with calls from the African American community, as well as historians, scholars, and others, telling the radio station

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[48] Emilie Leumas interview.

[49] Leumas claims that this phrase was used as a headline for an issue of *The Times Picayune*, New Orleans' local newspaper, shortly after. While a search for this headline yielded no results, an article detailing the above story was found, and a quote from Archbishop Aymond in the article reads "I apologize in the name of the church because we allowed some of these things to continue." Staff writer, Bruce Nolan. "Window into history - Baptismal records newly posted online put names to long-invisible faces of colonial New Orleans." *Times-Picayune, The (New Orleans, LA)* 2 Feb. 2011.

that it was important and beneficial that these records be made publicly accessible via the internet.[50]

This is not to say that the historical sacramental records are the only historical documents that the Archdiocese Archives have published online in a digital format. As of this writing, the Archdiocese of New Orleans Archives' website has three distinct collections: Online Sacramental Records; the Eighth Synod of the Archdiocese of New Orleans, 1987; and Pastoral Letters of Archbishops Joseph Rummel and James Blenk.[51] When the interview for this research was conducted, the walls outside of Leumas's office were lined with ideas and plans for an upcoming exhibit on Sister Henriette Delille, which is expected to transfer to a digital, online form after the physical exhibit has ended. In this light, the Archdiocese Archives website has made an effort to present its contents in a format more akin to an online exhibit than a strictly archival online setting.

The digital aspect of the archival work done by the Archdiocese of New Orleans Archives extends far beyond its public face. In fact, the primary focus of their digital efforts has been largely internal and administrative. Both the Tower TRIM software previously used by the Archdiocese Archives and its successor, HPRM8 (Hewlitt Packard Records Management), are records management software. Leumas, as director of archives and records management, recognized that the primary function of the digitization efforts has been to ease and consolidate the work done in retrieving records of the Archdiocese of New Orleans, particularly those of an administrative bent. These include school records, articles of confederation, property records for schools and churches within the diocese, emails, etc. In these many respects, the Archdiocese must operate like a business, as it has many employees and aspects, and owns a great deal of

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[50] Emilie Leumas, interview.
[51] Archdiocese of New Orleans Archives. Accessed July 12, 2017. http://archives.arch-no.org/.

property, all of which comes with a paper trail that must be filed away for safekeeping, yet also kept easily accessible. It is this function that the Archdiocese Archives must handle first and foremost, and the digitization of records has been massively beneficial to the Archdiocese. For one example, the Archives spent five years collecting and digitizing all of its property records. In 2010 after the BP oil spill, the Archdiocese staff was easily able to access and reproduce copies of property records for insurance claims purposes. It has also allowed many offices and departments around the Archdiocese to go "mostly paperless."[52]

Digitization has also increased redundancy for the Archdiocese Archives. As its email system is set up to automatically archive itself, the system also has integrated a security system that allows for multiple levels of access, as well as a thorough self-producing metadata set that keeps track of who has accessed what. This system of record keeping and security is particularly useful for emails and sensitive information, as any breaches of security are logged, but the system extends to the entirety of the archive holdings. In addition, digital formats afford the archives a liberal amount of redundancy, that is, duplicating and backing up data in off-site locations. The Archdiocese Archives currently are backed up on location, are backed up to another location in Metairie, Louisiana, and a third location in Monroe, Louisiana. Thanks to these procedures, in the event of another event such as a devastating hurricane, the entire digital holdings of the archives, which at this point have reached considerable size and grow every day, can be accessed remotely in an instant.

As is illustrated in the example of the Archdiocese of New Orleans Archives going digital after Hurricane Katrina, the benefits of digitization of archival holdings can be three-fold. Firstly, digitization of records allows for a method of preventing the loss of holdings in the case of

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[52] Emilie Leumas interview.

natural disaster or willful interference by man. And while the Archdiocese was too late to spare itself from the ravages of the storm, much headway has been made in its wake to prevent such substantial losses from happening in the future. Secondly, the internal administrative aspects have increased the ease and efficiency of the day-to-day operations of not just the Archdiocese Archives, but the operations of the Archdiocese as a whole. Third, digitization has allowed the Archdiocese Archives to branch out into the community around them, and serve a more public and beneficial role than was afforded them before the adoption of digital tools and methodologies in archiving. In the words of Leumas, these latter two benefits go hand-in-hand: without the internal, administrative service provided by the digitization of records, the Archdiocese Archives would not have the support, financially or otherwise, to fulfill its more public operations, which have clearly been a boon to the New Orleans academic world, and perhaps most importantly, the Catholic New Orleans community itself.

The Historic New Orleans Collection

The Archdiocese of New Orleans is a revealing example of how a traditional archival institution has embraced and utilized digital history methods to both its benefit and that of the community surrounding it. Not every institution can pursue such change with such a clear direction and goal in mind. Other, and presumably most, historical institutions working within the traditional confines of physical archives, published works, and exhibit creation, find the process of adopting digital history tools while staying true to their goals and mission to be challenging. The story of local museum, research center, and archive The Historic New Orleans Collection (THNOC) embracing and utilizing digital history, as told by its digital assets manager Kent Woynowski, sheds light on how an institution can successfully adopt and implement a

robust digital archiving process that helps to safeguard their holdings more efficiently, as well as to more successfully pursue their goals as an institution.

THNOC exists to preserve the culture and history of the South as a museum, archive, and publisher.[53] The entirety of the institution is comprised of ten buildings stretched across two campuses in the French Quarter, including galleries, research centers, a main museum campus for exhibits, and more. The collection houses roughly one million items across over two miles of shelves, and is largely free of charge for visitors and researchers. THNOC also publishes books as well as a quarterly magazine that "surveys the region's history as it relates to THNOC's projects and programs."[54] As far as digital history is concerned on the public end, THNOC is a member of the aforementioned Louisiana Digital Consortium and has links to the nine collections comprised of largely photographic content.[55] THNOC also offers self-guided tours via a smart phone app that plays audio content for the accompanying exhibits.[56] In addition to these, the institution has seen a more robust digital history methodology development on the back-end and in their archival practices. However, the use of digital tools at THNOC is still growing, and is both emblematic of many of the issues raised in the historiography, and an example of how these same issues have been overcome in a real setting.

Digital history has become an integral part of the archival process at THNOC. Its goal, Woynowski says, is to "digitize everything," including artifacts, documents, photographs, and more.[57] Every curatorial object that comes into THNOC is digitally photographed, so a digital

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[53] "About." The Historic New Orleans Collection. Accessed July 12, 2017. http://www.hnoc.org/about.
[54] Ibid.
[55] "Digital Collections." The Historic New Orleans Collection. Accessed July 13, 2017. http://www.hnoc.org/research/digital-collections.
[56] "Cellphone Tours." The Historic New Orleans Collection. Accessed July 13, 2017. http://www.hnoc.org/visit/cellphone-tours.
[57] Kent Woynowski, interview.

visual representation of the object is part of the archival record from the beginning. THNOC approaches digital archiving as it does analog archiving, operating with the understanding that the tools may be different, but the items, be they digital or analog, need to be treated the same. This attitude serves to promote the idea of the viability and necessity of digital archiving practices as being equal to traditional archival methods in the quest to preserve and provide access to historical materials.

THNOC's "digitize-as-you-go" policy can leave some collections sitting un-digitized for a considerable period of time. Priority for digitization is given to collections whose materials are in poor or worsening condition, or to collections that have had limited or no access to visitors and researchers. These accessibility roadblocks are exactly the sort of problem that digital history practices can help to mitigate and overcome. At the same time, an institution like THNOC keeps a close watch over its holdings. The content that THNOC has published online on the LDL is curated specifically for that outlet. It is the view of the institution, says Woynowski, that putting its holdings online opens up the archive to security concerns, and greatly increases the chance that these materials may be used in ways that are not in step with the institution's desires for them. Despite the fact that the quality of any THNOC content made available online is far below publishing or archival quality, the issues of security and interpretation remain.

The digital history practices that increase accessibility also present some of the same roadblocks presented in digital history scholarship. First and foremost is storage. Last year, says Woynowski, "we added 12 terabytes of data. That's a lot." Storage is but one component of the conservation and redundancy offered when using digital archiving. In addition to local backups on the computers themselves, which are more useful for restoring the computer and its files to a previous working state in the case of minor data loss or corruption, THNOC's digital archiving

and redundancy measures are three-fold. First the institution creates on-site physical backups on LTO tape (linear tape-open), a robust digital tape storage format used in a variety of storage and duplication procedures, from archiving to motion pictures. Second, there is an off-site tape backup, following essentially the same procedure but housed elsewhere and handled by a separate entity, in this case a Boston-based company called Iron Mountain. Third, THNOC uses a service and device called Quorum to manage its local emergency backup. As Woynowski describes it, the device is akin to a briefcase, complete with handle, which can be housed alongside the server for THNOC.[58] The server is mirrored on the device, which can be removed in case of an emergency that threatens the well-being of the building itself. Priority of digitization for conservation at THNOC is given to born-digital projects, as they do not have a physical counterpart that can be recovered, duplicated, or re-digitized. Born-digital projects are increasingly common, with research and publication becoming increasingly based on digital and online outlets.

The Hurricane Digital Memory Bank

The Hurricane Digital Memory Bank (HDMB) is an online repository set up in 2005 that utilizes the internet and new media to collect, preserve, and present the story of Hurricanes Katrina and Rita as told by those who experienced them. It was created as a collaborative effort constructed in direct response to the storms, and involving primarily the Roy Rosenzweig Center for History and New Media at George Mason University (CHNM) and the University of New Orleans, specifically under the direction of Michael Mizell-Nelson, with the help of a number of other institutions. The HDMB itself exists as a living web-based archival and exhibit space, wherein visitors to the site can explore, share, and upload artifacts and personal histories from

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[58]Woynowski interview.

their experiences during and after the storms by utilizing new media technologies and the Internet. Specifically, the HDMB utilizes the idea of "Web 1.5" as described by one of the architects of the site, George Mason history professor Mills Kelly, "collecting history online floats in a world between the uneditable, didactic Web 1.0 and the completely open and editable Web 2.0, leaving us with a place we are calling, 'Web 1.5.'"[59] It is within this place that institutions can most readily and successfully adopt online digital history tools to further connect communities with their history, as exemplified by the Hurricane Digital Memory Bank and other similar projects.[60]

Discussion of the history and success of the HDMB starts a bit further back in time than 2005. In 1998, the idea of this sort of online interactive repository was quite novel when the Roy Rosenzweig Center for History and New Media launched their first website in this style, The Blackout History Project. This project aimed to collect the experiences of those who lived through or remembered the Northeastern blackouts of 1965 and 1977. The method of the website was simple: visitors would fill out a lengthy survey in which they would also include their phone numbers. Historians working with the site would then follow-up with a phone call to the aforementioned visitor to collect their oral history. The transcript of this oral history would then be uploaded to the site under categories like "Blackout 'Survivors'" or "Electric Utility Employees," and presented alongside an audio clip of the phone call.[61] Also included on the site are numerous copies of news articles and other publications having to do with the blackouts, timelines, and other links. The site itself seems archaic when viewed today, and interactivity

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[59] T. Mills Kelly and Sheila A. Brennan, "Why Collecting History Online Is Web 1.5." Roy Rosenzweig Center for History and New Media. Accessed July 12, 2017. http://chnm.gmu.edu/essays-on-history-new-media/essays/?essayid=47.
[60] Kelly and Brennan, "Collecting History."
[61] James T. Sparrow, "Welcome to the Blackout History Project." Blackout History Project. June 27, 2000. http://blackout.gmu.edu/home.html.

suffers, at least from a contemporary perspective. The pages are somewhat difficult to navigate, with the site's main functional purpose of collecting surveys and oral histories being relegated to the "forum" portion on the site, which in today's web parlance is confusing.[62] In addition, grammar standards are spotty at best, unsuited to today's world of academic web presence. Despite these setbacks, however, the site must also be judged by its achievements for its time, when it was quite groundbreaking, setting the stage for similar endeavors in the future.

The next "Web 1.5" project undertaken by the CHNM wouldn't come about for another three years until the creation of the September 11 Digital Archive. The archive uses electronic media to collect, preserve, and present the history of September 11, 2001 and its aftermath.[63] The Archive

> contains more than 150,000 digital items, a tally that includes more than 40,000 emails and other electronic communications, more than 40,000 first-hand stories, and more than 15,000 digital images. In September 2003, the Library of Congress accepted the Archive into its collections, an event that both ensured the Archive's long-term preservation and marked the library's first major digital acquisition.[64]

Compared to the layout of The Blackout Project, the September 11 Digital Archive was a major improvement in terms of presentation, organization, and navigation.

The Hurricane Digital Memory Bank's online nature separates it from the two physical New Orleans history institutions examined previously in this essay. Yet the HDMB falls in with the discussion of digital history efforts in the city after Hurricane Katrina, born out of necessity and opportunity. As a project headed up by the institution bearing Rosenzweig's name, the

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[62] James T. Sparrow, "Forum / Interviews." Blackout History Project. June 27, 2000. http://blackout.gmu.edu/forum/interviews.html.

[63] "About." September 11 Digital Archive. Accessed July 13, 2017. http://911digitalarchive.org/about.

[64] September 11 Digital Archive.

HDMB also provides a unique opportunity to discuss the early digital history writing of one of the site's creators with the digital history work he did later in life. Additionally, it provides opportunity to examine questions regarding online history by Rosenzweig, Haskel, and others.

The initial goal for the HDMB was, according to Kelly and Brennan, to "attempt to collect and preserve as much of the 'instant history' of these events as possible,"[65] the ways in which people were using new media and technology like cell-phone cameras to communicate their immediate reactions and experiences following the storm, which was being shared and published by people on blogs, YouTube, and Facebook. HDMB creators were confident that their experiences in setting up the 9/11 Digital Archive would translate into a successful construction and management of a similar project and getting it running quickly to help collect these quickly disappearing sources. As such, the contribution process to the website is simple to complete and easy to understand. From the homepage, visitors can follow a link titled "Add to the Memory Bank" which brings them directly to the contribution page. Here users can upload images, audio, or just text (with optional photos or audio) alongside their contact information and a geolocation assigned to their contribution. Optional spaces for additional personal information are included, and then the item is uploaded to the archive. Site creators also set up ways to connect and hear from people who did not have internet access in the weeks and months following the hurricane, by both sending out postcards which people could fill out and send back as well as setting up a local telephone number via online telephone service Skype which could be used to digitally record and upload contributor's voicemail messages. It is clear via the provisions set up for the HDMB in the beginning prioritized contribution, storage and access in the form of their "Web 1.5" online archive idea. The content of the site is browse-able by items,

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[65] Kelly and Brennan, "Collecting History."

collections, tags (akin to a subject heading), and location. Items and collections can also be sorted by type: images, audio, video, or text submissions.[66]

The site features self-curated collections highlighting a specific theme, group, location, and more. These simple but thorough ways of organizing and searching the content reflects the information provided at upload, and keeps the hypertextualization and collection linking from becoming overwhelming. A site like the HDMB, where thousands of items are contributed by non-professionals, with only the minimum organizational and identifying information provided, can exhibit the primary drawback of hypertexualization: namely, without curation these archival items standing on their own don't have contextual significance. This is especially true of a site based around user-generated content. Without widespread oversight and curation, the items collected are just raw information without any connecting threads. This same complaint does not apply to traditional archives that utilize extensive cataloging and curating.

This problem is somewhat mitigated by the nature of the HDMB, given its specific event focus and targeted community. The items collected and housed by the site all relate in some way to contributors' experience in Hurricane Katrina, and had a considerably smaller audience than the September 11 Digital Archive. That project aimed to capture a variety of both experiences and responses to what was contextualized on the site as a largely national event; as such, contributions on that site are comparatively more disparate in form and especially content than the items contained on the HDMB.[67]

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[66] "Hurricane Digital Memory Bank," Hurricane Digital Memory Bank. Accessed July 13, 2017. http://www.hurricanearchive.org/.
[67] Kelly and Brennan, "Collecting History."

Another advantage of the HDMB over past CHNM "Web 1.5" projects is its immediacy. The site went live in November 2005, only three short months after Katrina made landfall.[68] Creators aimed to reduce the potential for the reactions captured on new media to disappear from social media and blog space as quickly as they arrive. It also allowed the archive to capture events and reactions as they happened, as opposed to later submissions that may be colored by hindsight. The archive's contents have an on-the-ground, immersive quality to them that fosters a community familiarity for visitors and encourages potential contributors.

The collections on the HDMB display the variety of responses that site architects were hoping to collect when they launched the site. "Katrina Kids Project Artwork" consists of 135 images of pieces of art done by hurricane evacuees located in the Houston area. The goal of this project was to give displaced children the opportunity to express their thoughts, experiences, and emotions.[69] Many of the images have captions written by volunteers who worked with the children in these shelters. These captions are not just descriptions of the image, or the child who drew it, but first-hand impressions and accounts of interacting with these children, their personalities, and sometimes the child's explanation of his or her drawing.[70] Another collection, "United States Coast Guard Released Photographs of Hurricanes Katrina and Rita," contains official photos with extensive descriptions, largely capturing the intricacies and efforts involved in cleanup from the hurricanes by the USCG.[71] These collections represent a success in the HDMB's stated mission.

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[68] Ibid.
[69] http://www.hurricanearchive.org/collections/show/21.
[70] http://www.hurricanearchive.org/items/show/2798.
[71] U.S. Coast Guard Public Affairs. "Vessel Recovery Efforts." Hurricane Digital Memory Bank. Accessed July 12, 2017. http://www.hurricanearchive.org/items/show/2431.

The HDMB is not without its shortcomings. Most notably, navigating a site like the HDMB, which has minimal curating, is no easy task. While some collections do feature extensive metadata for each item, much of the content on the site is user-uploaded with very minimal information included. The immediacy of its construction and implementation that proved so beneficial in constructing a community-focused archive was also a hindrance. The site's target audience was anyone who had a first-hand account or experience with the storm, be they citizens or first responders.[72] This audience, however, was largely either not ready to share, or not capable, in the immediate aftermath of the storm. This alongside the constraints of budget and underestimation of time are the primary factors that the site's builders feel it was less of a success than they had anticipated based on the success of the September 11 Digital Archive.

This comparison rings true in a number of ways. The number of items contributed to the 9/11 Archive dwarfs that of the HDMB, and the former's success has been honored by adoption into the Library of Congress. The 9/11 Archive is more well-organized, more visually appealing, and incorporates a much wider audience. But a closer analysis finds the strengths of the HDMB to lie elsewhere than ready comparisons to the 9/11 archive. The HDMB's community focus and intimacy has resulted in a more cohesive online archival experience that may not have the national recognition or bells-and-whistles of the other archive, but has achieved success in longevity and brevity. The Library of Congress decision to preserve the September 11 Digital archive also reflects the contrasting concerns of the U.S. government between the New York and New Orleans disasters.

A website like the HDMB is proving to be a unique resource for researchers and educators wishing to engage in public history of events such as Hurricane Katrina. University of

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[72] Kelley & Brennan, "Collecting History."

New Orleans and Midlo Center visiting scholar Celine Ugolini has found it valuable in her research into historical disasters as well as her lesson planning. In her summer course "Historical Catastrophes," she utilizes the HDMB not only to link the events of Hurricane Katrina back to the Irish famine and beyond, but also to teach her students how to do research and gather first-hand accounts of catastrophes in new ways.[73]

Ugolini originally came to New Orleans shortly after Katrina in 2006 from France by way of England, where she watched the event unfold on the news and wanted to help. Her interest into how and why such an event could occur brought her back four years later, in 2010, she took classes with Mizell-Nelson in which she was first exposed to the Hurricane Digital Memory Bank. Students in the class contributed in any way they could or felt comfortable to at the time, even Ugolini, who was separated from the event by the Atlantic Ocean. Her interest in studying Katrina, confronted with the glut of writing and research already happening around the storm, brought her to studying earlier catastrophes in both New Orleans history and elsewhere.

For someone teaching and studying disasters like Ugolini, the HDMB is invaluable because it provides a place for people to express their feelings and reactions to events like Katrina with an immediacy that has never before been available to researchers. Often, these responses and public reaction are written or produced a good deal after the event in question, and that temporal distance from the event can color the memory of it. The immediacy of the reactions and the lack of objectivity therein provide a useful link to the past, in that they highlight the disparity between official histories and public memories of these events, which Ugolini uses as the linking thread for these events in her class. The communities involved in past catastrophes as

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[73] Celine Ugolini, Interview by author, July 11, 2017.

well as Hurricane Katrina felt abandoned by their governments in these situations, and the Hurricane Digital Memory Bank allows for this to be shared and displayed like never before.

Ugolini does, however, voice concerns that "anyone can upload anything." And indeed, the lack of oversight and extensive curation in a user-driven, contribution-based online archive does allow for irrelevant content to be uploaded to the site and get in the way of real research. Additionally, the overwhelming amount of content often uploaded with minimal information can be a chore to sort through. The advanced search option is useful, but does not quite mitigate the problem. Even so, this drawback is part and parcel with the access and interaction enabled by utilizing the Web 1.5 model. The flipside of this, utilizing more curation of user-uploaded content, would inhibit the discoverability that is so valuable to this sort of archive. Beyond the linking thread of "Hurricane Katrina," there is often little to connect contributions to the site, outside of specific collections. This affords a self-curation hand-in-hand with often tedious discoverability and lack of organization that is unique to the Web 1.5 model.

Despite its shortcomings the Hurricane Digital Memory Bank is a unique and valuable resource not just for researchers, but for a community. The opportunities provided by digital history tools used as part of the "Web 1.5" model enable a community to share its experiences with itself, to reconstruct and rebuild its past while shaping history as it happens. And the record of personal reactions to an event like Hurricane Katrina, captured in its immediacy, provides a useful link to the relevant historiography for teachers and researchers like Ugolini. It may not have the size or national success as its sister project the September 11 Digital Archive, nor the organization of a more traditional archival structure, but its utilization of digital history alongside its community focus serve as an example of how this approach to the creation of a historical

record online can have a wide and meaningful impact on how the history of a community is studied, produced, and taught.

Conclusion

The embrace and application of digital history tools by New Orleans historical institutions after Hurricane Katrina was borne out of necessity, moreso than opportunity. The whole of human history has demonstrated the need for archival preservation in the face of destruction by man and nature, from the burning of the Library of Alexandria to World War II and beyond. But it is only recently by way of the digital revolution that viable solutions to the problems of duplication and preservation have at least partially been answered. Following the storm, historical institutions in New Orleans had to embrace and utilize available digital history tools to preserve and restore what had survived, to assist the New Orleans community in rebuilding its history, and to ensure conservation of holdings well into the future. The story of three such initiatives, one of which exists exclusively online, provide a comparative context in which to analyze the questions and possibilities posed by digital history literature, exhibit how these possibilities and limitations are applied in a real setting, and provide unexpected benefits of digital history to both the institutions themselves and their communities.

The story of digital history at the Archdiocese Archive in the wake of Hurricane Katrina provides a look at how an institution can widely adopt digital history and archiving tools to not only improve conservation of historical materials, but provide institution-wide digital records management benefits. Additionally, the unexpected public benefit after Katrina of the Archdiocese Archives being able to provide easy access to materials that helped individuals put their lives back together after the storm was further impetus to have a more public-facing archival presence both institutionally and on the web. For them, the problems presented by the

costs of storage and preservation of digital materials are mitigated by these wide-spread institutional benefits of digital archiving tools. These digital history tools have helped the Archdiocese Archives operate and preserve materials more successfully, and changed the way that the New Orleans community uses the archives.

The Historic New Orleans Collection's relationship with digital history is much more concerned with storage, preservation, and access. In many ways the institution has embraced digital history whole-heartedly. They have a "digitize everything" standing order for everything that comes into their archives, with an emphasis on digitizing older holdings for access and conservation. They migrate older digital-born materials or digitized materials to newer formats for increased long-term accessibility. And they have a robust redundancy program in place in case of disaster, with off-site backups for their entire digital holdings and local emergency backups for their most volatile digital items. Despite this thorough embrace of digital history on the back-end, THNOC has not presented its history online as an archival resource in the way that the Archdiocese Archives has. The institution remains concerned with the security and interpretation of their materials, and so their public access to digital materials remains largely curated. Yet the preservation and access provided by digital tools has become an integral success to the institution, and is a model for digital preservation efforts to be adopted by other archives.

The Hurricane Digital Memory Bank sits apart from the previous two institutions as an online archival space, but its role in the post-Katrina New Orleans community is innovative. Despite problems stemming from low user interaction with the site and under-funding, the HDMB has proven to be a long-term resource and repository for the remembrance culture of Hurricane Katrina and New Orleans. Concerns with hypertextualization and the blurred line between historians and the public are mitigated by the community focus that the website has.

And viewing the HDMB through the comparative lens of similar Web 1.5 websites displays not only why the creators' experiences with the site fell short of expectations, but why the more focused community audience has created a site that is ultimately easier to use and longer-lasting in its participation than similar projects. This community-focused Web 1.5 archival space can serve as a model for a successful online history space in the future.

The lessons learned from the example of these three New Orleans historical institutions do not result simply in a call for broad adoption of digitization tools, nor are they simply an outline for "best practices" for digital history work. The experiences of these institutions after Hurricane Katrina also highlight their key differences and changes in their respective missions. Be it storage and preservation, access, or interaction, the necessary adoption of digital history tools after Hurricane Katrina has caused the two preexisting institutions, as well as the post-Katrina Hurricane Digital Memory Bank, to expand their ideas of how an archival institution exists and acts in relation to its local community, and what its goals are. The Archdiocese Archives found new imperative to open up their holdings to the public both as a service in a time of crisis and as a way to reconstruct conversations about the church's, and New Orleans's, past. The Historic New Orleans Collection, though hindered in expanding public access to materials by disparate institutional goals, has utilized its substantial funding to implement a robust digital preservation process in its archiving that has resulted in the most disaster-ready archival institution examined in this paper. This has served to reinforce THNOC's existing mission as an archive, publishing house, and museum, in that it gives the institution greater security and control over the interpretation and distribution of their materials. The Hurricane Digital Memory Bank continues the online history repository model in response to disaster utilized by the Center for History and New Media, continuing the legacy started by the Blackout Project and the

September 11th Digital Archive. While the HDMB was not quite as successful as was expected based on the developers' past experiences with those other projects, it nonetheless has proved to be a valuable resource for researchers as well as a case-study in what worked and what didn't for the site's creators and managers, providing a better understanding of how to undertake similar projects in the future. Comparatively these three institutions display not only how and why adoption of digital history tools is becoming ever-more necessary to archives and other repository institutions, but that digital history can open up new avenues for these institutions to fulfill their missions in unexpected ways.

These stories and evaluations serve to examine the discussion frameworks of digital history literature in a real-world space, connected by a particular community working through a particular even. This type of case study is largely missing from the secondary literature, and exposes answers and solutions to many of digital history's questions. As digital history continues to open up doors of possibility for preserving and creating our historical record, the successes and challenges of digital history in post-Katrina New Orleans serve as a model for both how to implement digital history, and how to measure its successes.

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