Crisis Archives: Assemblage, Interaction, Participation

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Crisis Archives: Assemblage, Interaction, Participation

A dissertation presented

by

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to

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Crisis Archives: Assemblage, Interaction, Participation

Abstract

This study investigates a form of cultural production defined by the gathering of crisis-related media into public web environments. While it is clear that the many varieties of "digital crisis archives" can exhibit novel features—like rapid exploration, geotemporal visualization, and participatory curation—it is less clear what kinds of effects these features can have, by what means, and with what bearings upon research and memory practices around the crises they concern, and with what implications for thinking around media and memory more broadly. To pursue these questions, this dissertation aligns close readings of three instances: "*ARLIS*," a collection of over two thousand long inaccessible government and nonprofit photographs related to the Exxon Valdez oil spill (1989), digitized in 2009 and uploaded to the image sharing platform Flickr in 2010; the *Hurricane Digital Memory Bank*, a multimedia archive of "born-digital" media and user-contributed stories and imagery centered on Katrina (2005); and the *Japan Disaster Archive*, a "networked" archive that aggregates over one million items related to the triple disasters in Japan in 2011, and invites users to add to and curate these media. Each investigation concerns questions specific to the archive—"dynamics" of photographic assemblage in *ARLIS*, "modes" of visitor interaction with the *Memory Bank*, and "variable characteristics" in the participatory micro-publications of the *Japan Disaster Archive*—while also seeking out lessons for understanding the larger "genre" of the digital crisis archive. The study suggests that the ways these archives can intervene in post-disaster practices extend well beyond accumulation and dissemination. Digital crisis archives are insistently multivalent, and can serve as sites for imagination, interpretation, and collaborative learning as much as for

organization, preservation, and goal-driven research. Getting at the inner workings of these new

capacities depends on reference to fields we do not typically align, and carries ramifications for

how we think about more traditional medial responses to disasters, particularly digital

photographic ones. Throughout I argue that crucial to these archives' most distinguishing

capacities—and to the ways in which they can variously confound and contradict—are

permutations of documentary assemblage, visitor interaction, and active participation.

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For Natalie.

Acknowledgements

From start to finish I have felt deep gratitude for the many forms of support this project has received. I start by extending my thanks to Peter Galison for his unflagging belief in this dissertation in all its iterations, and for the many instances in which he reframed the ideas in these chapters such that they finally came to life. As an advisor and reader, Carrie Lambert-Beatty provided careful and thorough feedback at key moments in the project, and has taught me a great deal about the craft of research itself. I owe Jeffrey Schnapp my appreciation for many things in relationship to this dissertation, but in his role as advisor, I would especially note an integral impromptu coffee meeting at Darwin's Ltd. that solidified the choice of topic. The many intellectual communities I had the privilege of traveling among at Harvard provided a constant source of insight and encouragement. I extend my gratitude to the graduate students, faculty, and staff of Film and Visual Studies and Visual and Environmental Studies as well as the communities around Critical Media Practice, History of Science, and Studies of Women, Gender, and Sexuality. I owe especial thanks to Giuliana Bruno, Jimena Canales, and Eric Rentschler for their collegiality and support, and for introducing me to conceptions of media, information, and cinema that heavily influenced my research. Since I was first his student in Filming Science back in 2011, Robb Moss has been a delightful and generous friend and interlocutor. It was a joy working and laughing alongside Lindsey Lodhie. I would also like to thank Kaja Silverman for her mentorship and support since we first met at UC Berkeley in 2005.

This project would neither have existed nor been sustained without the unexpected privileges of community, experimentation, financial support, and project work in my role as doctoral researcher at metaLAB from 2011 to 2015. I extend my gratitude to those who founded this organization in 2011—James Burns, Kara Oehler, Robert Pietrusko, Jeffrey Schnapp, and

Chapter 1 | Introduction: Digital Crisis Archives

This dissertation concerns a form of cultural production for which we lack an agreed name. I will use the term "digital crisis archive."[1] Numerous and diverse instances deserve the categorization: web collections, interactive timelines, memory banks, networked archives, participatory documentaries. They share this common feature: they gather collections of digital media and data related to single crises or clusters of crises—natural and environmental disasters, political upheavals, military conflicts—and they present them online.[2] Though many of them do indeed have aims at accumulation, organization, and preservation, all contrast significantly with our ready-at-hand pictures of how archives look and function: dusty basement shelves, cotton gloves and finding aids, austere state buildings. Visitors can handle everything. They can navigate at relative speed. Beyond these common features, there is considerable variation. Some digital crisis archives consist of a couple thousand items; others consist in tens or hundreds of thousands. Media formats can range from one to a dozen. Some crisis archives have custom interfaces; others appear as sub-components of online libraries. A number of these archives stretch the bounds of the category "archive" much further. They gather and display materials from the first hours of a crisis onward. They de-emphasize concerns with preservation. Or they invite open-ended public participation: citizen contributions of written and visual materials, the submission of links to relevant websites.

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[1] The term "crisis archive" is not my own. I have encountered it in my involvement in projects and symposia in this area.

[2] Terms like emergency, calamity, crisis, catastrophe, and disaster have considerable overlap. For one discussion of terminology, see *What Is a Disaster?*, ed. E.L. Quarantelli (London: Routledge, 1998). As in other context, writers in the Quarantelli volume argue there are important policy ramifications in terms and definitions. Careful consideration of terminology relative to archival practices is certainly warranted, but beyond the purview of the present project. This dissertation uses the term "crisis" inclusively, indicating a range of events of extreme material and social disruption. I employ both "crisis" and "disaster" in describing the three central events under study.
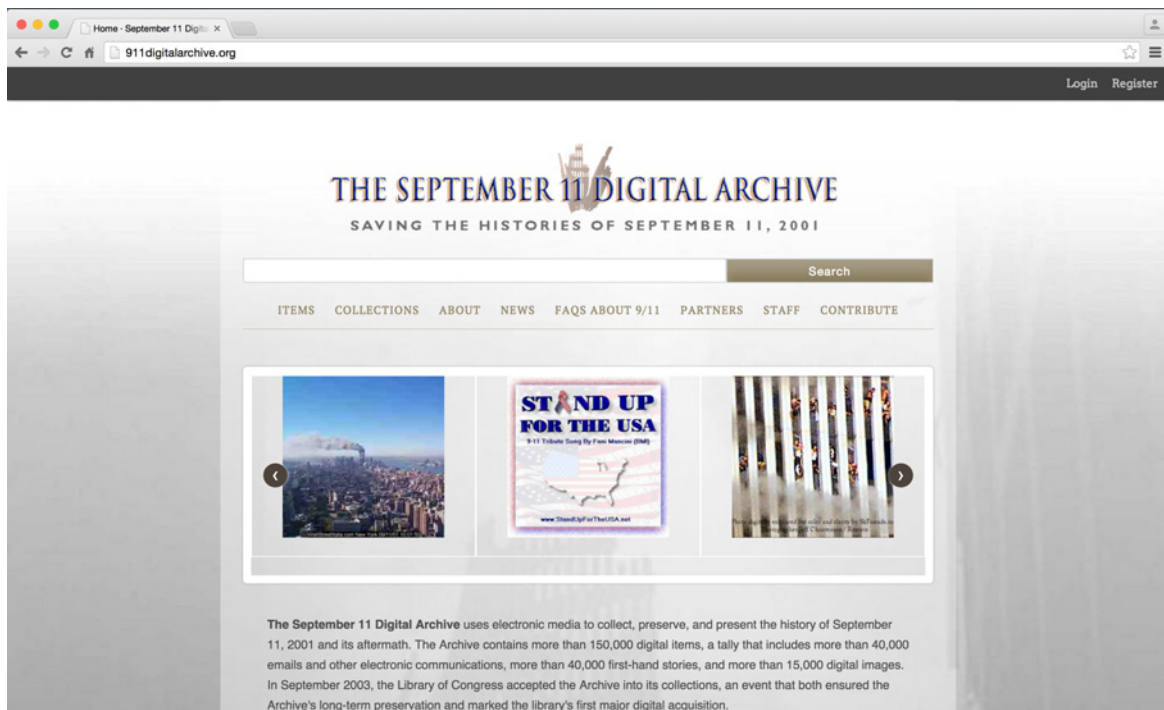
Figure 1.1: Homepage, *September 11 Digital Archive*, August 2015.

Figure 1.2: Homepage, *Hurricane Digital Memory Bank (HDMB),* February 2015.

A history of digital crisis archives has not been written. The "genre"—below, I will elaborate on this proposition of the digital crisis archive as a genre—is young. A rough timeline and set of illustrative examples could run hence. From roughly 2001 to 2006, the number of such archives was relatively few. Claiming center stage were the *September 11 Digital Archive* (2001) and the Katrina and Rita-centered *Hurricane Digital Memory Bank* (2005) (figures 1.1, 1.2).[3] Both combined active gathering of "born-digital" materials around these tragedies with solicitation of short-form stories and visual documentary media from citizens. From 2007 to 2015, tracking with expansions in technologies of recording and dissemination, the quantity and variety of crisis archives increased significantly. Some resembled the above two archives in the solicitation of authored material by broad publics. Yahoo! Japan, for instance, accepted and presented photographs of areas affected by the 2011 earthquake, tsunami, and nuclear meltdowns in Japan for their *Photos from Japan* project.[4] The self-described participatory documentary *Sandy Storyline*, a response to the 2012 "Superstorm Sandy," provided interfaces for writing stories or submitting media. Contributors were asked to tag their submissions with the "storylines" they imagined they had advanced.[5] Numerous other kinds of digital crisis archives appeared during this period as well. Dozens take the form of collections of websites preserved and presented through the massive online library Internet Archive's "Archive-It" service, many of them categorized as archives of "spontaneous events." These include collections around the Virginia Tech shooting of 2007, the Boston Marathon bombings of 2013, and the 2015 Nepal

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[3] *September 11 Digital Archive*, http://www.911digitalarchive.org. *Hurricane Digital Memory Bank*, http://www.hurricanearchive.org.

[4] *Photos from Japan*, http://photos-from-japan.com.

[5] *Sandy Storyline*, http://www.sandystoryline.com.

earthquake.[6] A handful of archival projects have been undertaken by government entities. These include an eventually defunct collection of photos, videos, and text by the United Nations around the 2010 Haiti Earthquake, and a "portal" by Japan's National Diet Library to materials related to the 2011 disasters.[7] Some archives aggregated links to materials from multiple other repositories alongside hosting media and metadata on their own servers. A consortium of organizations in New Zealand built *CEISMIC*, for instance. It is a "federated" archive that, in addition to accepting user-authored stories, allows visitors to explore tens of thousands of documents, photographs, and other media related to the 2010 and 2011 Canterbury earthquakes (figure 1.3).[8] *18 Days in Egypt*, a self-described participatory and interactive documentary, allowed users to weave assemblages of materials from their own social media feeds—videos, images, tweets— into web-accessible slideshows documenting the 2011 Egyptian Revolution.[9] Rounding out this provisional catalog, we could look to limit cases, particularly instances of Ushahidi, a "crisis mapping" platform that accepts and displays crisis communications submitted through desktop and mobile devices. Depending on one's definition, environments built with Ushahidi—around, for instance, the Gulf oil spill (2010)—were never archives, became archives when the crisis "concluded," or were, always already, also archives: *urgent* and *emergent* archives from the first (figure 1.4).[10] I will return to questions around the term "archive" below.

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[6] These collections are formed through partnerships. At least 60 have been constructed in conjunction with the Crisis, Tragedy, and Recovery Network, initiated by Virginia Tech after the 2007 shooting. "Virginia Tech: Crisis, Tragedy, and Recovery Network," *Archive-It*, http://archive-it.org/organizations/156. At least 15 have been constructed under the banner of Internet Archive Global Events. "Internet Archive Global Events," *Archive-It*, http://www.archive-it.org/organizations/89.

[7] *Haiti Quake Archive*, http://web.archive.org/web/20120308070450/https://haitiquake-archive.unlb.org/default.aspx. *NDL Great East Japan Earthquake Archive,* http://kn.ndl.go.jp/?language=en.

[8] *CEISMIC*, http://www.ceismic.org.nz.

[9] *18 Days in Egypt*, http://beta.18daysinegypt.com.

[10] Seth Hall, "Gulf Coast Solidarity," *Ushahidi Blog*, October 20, 2010, http://www.ushahidi.com/blog/2010/10/20/gulf-coast-solidarity.
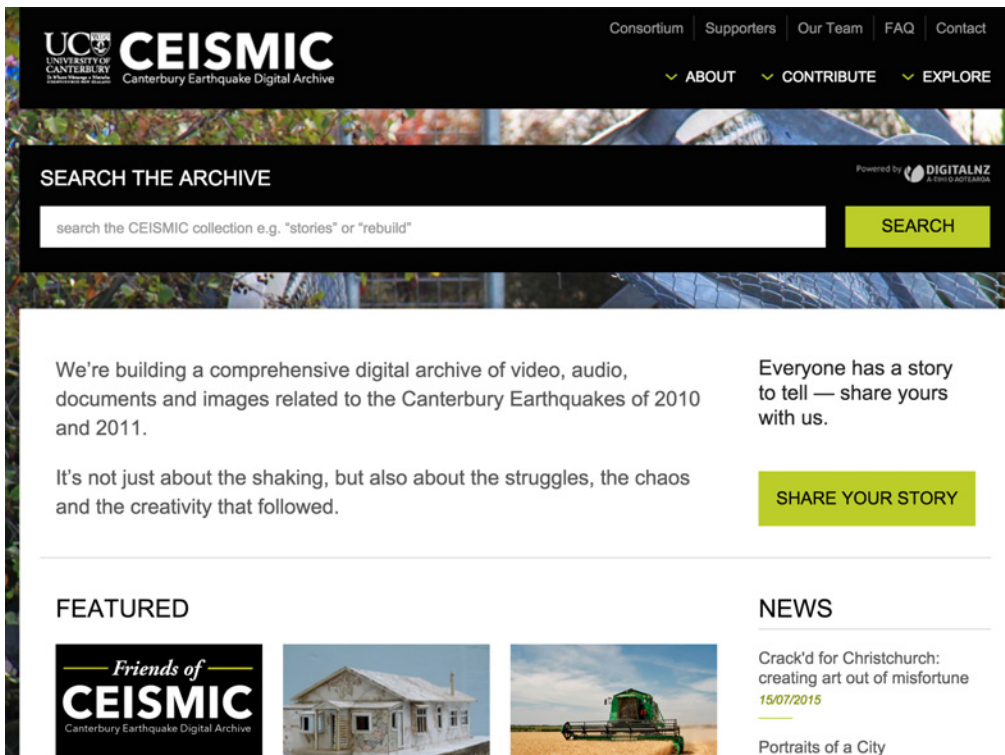
Figure 1.3: Homepage, *CEISMIC,* August 2015.
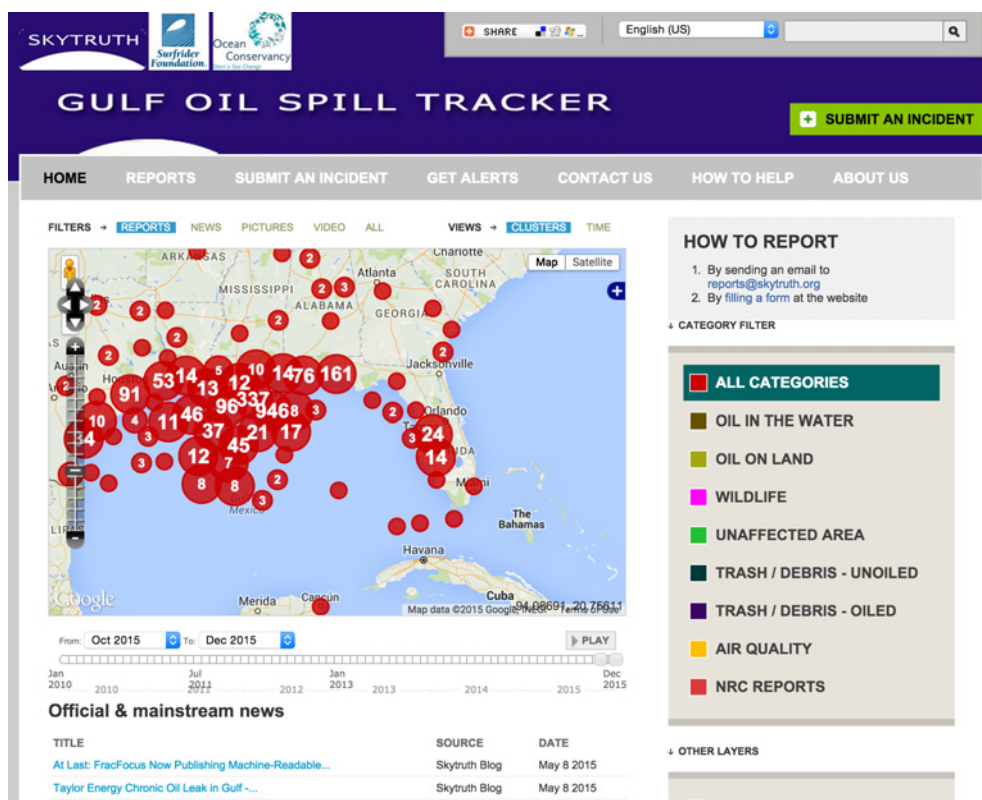
Figure 1.4: Homepage, *Gulf Oil Spill Tracker*, August 2015 (built with Ushahidi).

As I momentarily indicated, expansions in the quantity and variety of digital crisis archives have tracked with increased capacities for, and scales of, media production and dissemination—from the surge in blogging during Katrina to the unprecedented uses of social media for emergency communication in the minutes, hours, and days after the 2011 tsunami in Japan. Scholarship on such dynamics of crisis and media—before and after the arrival of the Internet—has been widespread, cutting across numerous disciplines.[11] Even the very category of crisis has been correlated with networked media.[12]

Have digital crisis archives received significant attention amid this rush? If we count crisis mapping as crisis archiving, then the answer is a qualified yes, as literature searches will reveal a variety of analytical responses to Ushahidi. But if we bracket crisis mapping, then the answer lies more in the negative. What literature does exist has taken important steps, however, and indicates potential paths for inquiry. Sophia Liu, for instance, includes digital crisis archives—albeit without the name—in her pioneering research into what she calls "grassroots heritage" and "distributed curation" undertaken in response to crises. Such distributed curation is, she argues, "a socio-technical practice involving a large number of ordinary people using emerging information and communication technologies...to preserve, manage and share digitally their memories and stories."[13] As another example, in a dissertation and subsequent article,

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[11] Important early studies of media and crisis not referenced below include: Luc Boltanski, *Distant Suffering: Morality, Media and Politics*, (Cambridge, England: Cambridge University Press, 1999) and Mary Ann Doane, "Information, Crisis, Catastrophe," in *The Logics of Television: Essays in Cultural Criticism*, ed. Patricia Mellencamp (Bloomington: Indiana University Press, 1990): 222-239. It is worth noting texts in this area can combine analytical ambitions with concepts for practice. Consider, for instance, Lisa Potts, *Social Media in Disaster Response: How Experience Architects Can Build for Participation* (New York: Routledge, 2014).

[12] Wendy Hui-Kyong Chun, "Crisis, Crisis, Crisis, or Sovereignty and Networks," *Theory, Culture & Society* 28.6 (2011): 91-112.

[13] Sophia B. Liu, "Socially Distributed Curation of the Bhopal disaster: a Case of Grassroots Heritage in the Crisis Context," in *Heritage and Social Media: Understanding Heritage in a Participatory Culture*, ed. Elisa Giaccardi (Cambridge, UK: Routledge, 2012): 31.

Courtney Rivard defines a general practice of "disaster collecting," and interprets the *September 11 Digital Archive* and the *Hurricane Digital Memory Bank* through the lens of national belonging and exclusion.[14] Scholar of rhetoric Ekaterina Haskins, in a lucid article, examines the *September 11 Digital Archive* in terms of the apparent advantages and shortcomings in utopian visions of digital memory projects. She observes, for instance:

> Online memorializing, thanks to technology's capacity for virtually unlimited storage and potential to engage many diverse audiences in content production, appears to mitigate the against ideological ossification associated with official memory practices and the fragility of vernacular memorial gestures…At the same time, in exploring the internet's promise as a medium of public memory, it is important to realize that the contemporary Western obsession with recording traces of the past is an ambivalent cultural trend—it signals not only the "democratization" of memory work but also the acceleration of amnesia. Moreover, the very features of electronic communication that make the technology friendly to popular participation in cultural politics can also abet political fragmentation.[15]

Haskins' concern with "political fragmentation" is echoed in dissertation chapters and a subsequent article by sociologist Timothy Recuber.[16] In the *September 11 Digital Archive* and the *Hurricane Digital Memory Bank*, Recuber sees a danger of "atomized" contributions that "forestall" dialogue, and that teach "that the mass suffering brought about by catastrophes like September 11 and Hurricane Katrina is something to be overcome through many disparate acts of individual healing, rather than an unacceptable injustice requiring bold transformations in the social structure."[17] I will return to these different critiques in the third chapter.

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[14] Courtney Rivard, "Archiving Disaster: A Comparative Study of September 11, 2001 and Hurricane Katrina" (PhD diss., University of California, Santa Cruz, 2012). Courtney Rivard, "Archiving Disaster and National Identity in the Digital Realm," in *Identity Technologies: Constructing the Self Online*, eds. Anna Poletti and Julie Rak (Madison: University of Wisconsin Press, 2014), 132–143.

[15] Ekaterina Haskins, "Between Archive and Participation: Public Memory in a Digital Age," *Rhetoric Society Quarterly* 37.4 (2007): 418.

[16] Timothy Recuber, "Consuming Catastrophe: Authenticity and Emotion in Mass-mediated Disaster" (PhD diss., City University of New York, 2011).

[17] Timothy Recuber, "The Prosumption of Commemoration: Disasters, Digital Memory Banks, and Online Collective Memory," *American Behavioral Scientist* 56.4 (2012): 547.

Beyond the work of these scholars, analytical responses to digital crisis archives have taken place in distributed fashion, in blog posts and presentations, and in a handful of symposia. Should we be surprised there is not more scholarship? Should there be more studies? In some sense, the relative lack is understandable. The practice of responding to crises through digital archival means is relatively new. And the aforementioned archives and a range of others not mentioned are not only individually complex but also quite disparate media artifacts. But I would argue that a closer look at digital crisis archives will reveal a number of issues worthy of further scholarly attention—for studies of media and memory especially—and a number of practical challenges requiring creative response. Put more emphatically, I would assert we are presently in a position of unsustainable lack of understanding in relationship to these entities. How do we make sense of the proposition of accumulation of tens of thousands of items to a common interface? What occasions the construction of these archives? How will concerns with preservation be balanced with concerns with immediate gathering? What use should we make of these archives? These are only some of the questions in need of addressing. There is yet further merit to deeper study in this area. For one, digital crisis archives would appear to hold important lessons for endeavors outside of scholarship and practice directly concerned with digital media and disaster—for media history and theory, digital and experimental humanities, new media art, sociology, political theory, to name a few fields. Second, as Haskins, Recuber, and Rivard indicate, the potentials for these archives to do good are matched by the potentials to fail or fall short—whether in practical terms of not meeting their ambitions, or in political terms of their embedded values. Opportunities to build such archives are only likely to increase, not only because of expansions in technical capacities for aggregation and presentation, but also because the scales of communication, data production, and recording around crises will increase as well.

As the long-term catastrophe of climate change worsens, we might well witness a growth in the frequency and severity of environmental crises as well.

Background, Foci, Structure

Studies of digital crisis archives will take shape through disparate paths of evolution, and will depend on unconventional mixings of disciplinary perspectives and methodologies. This dissertation would not have existed without my chance engagement in a crisis archive project. In June of 2011, I began to work with members of the Reischauer Institute of Japanese Studies at Harvard University on an archive that, like the aforementioned *CEISMIC*, was primarily based around aggregating links rather than storing material. The *Japan Disaster Archive* (*JDA*) is a self-described "networked" and "participatory" archive (figures 1.5, 1.6). It aggregates over one million items related to the triple disasters in Japan in 2011, and invites users to add to and curate these items through different means.[18] My involvement in the *JDA*—in design, project management, grant writing, presentation, and teaching—was occasioned through my affiliation with a recently founded digital design and research group at Harvard University called metaLAB, which had worked with the Reischauer Institute on conceiving the project within less two than months after the earthquake, tsunami, and nuclear crisis. My realization of the potential value in a sustained research project in this area would not come until January 2013, when the Reischauer Institute hosted a one-day conference called "Opportunities and Challenges in Participatory Archives: Lessons from the 2011 Great East Japan Earthquake." I had been asked to write a "field report" on the conference for the online journal *Contents*, and therefore took

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[18] *Japan Disaster Archive*, http://jdarchive.org/en/home.

Figure 1.5: Search results, *Japan Disaster Archive (JDA),* July 2015.
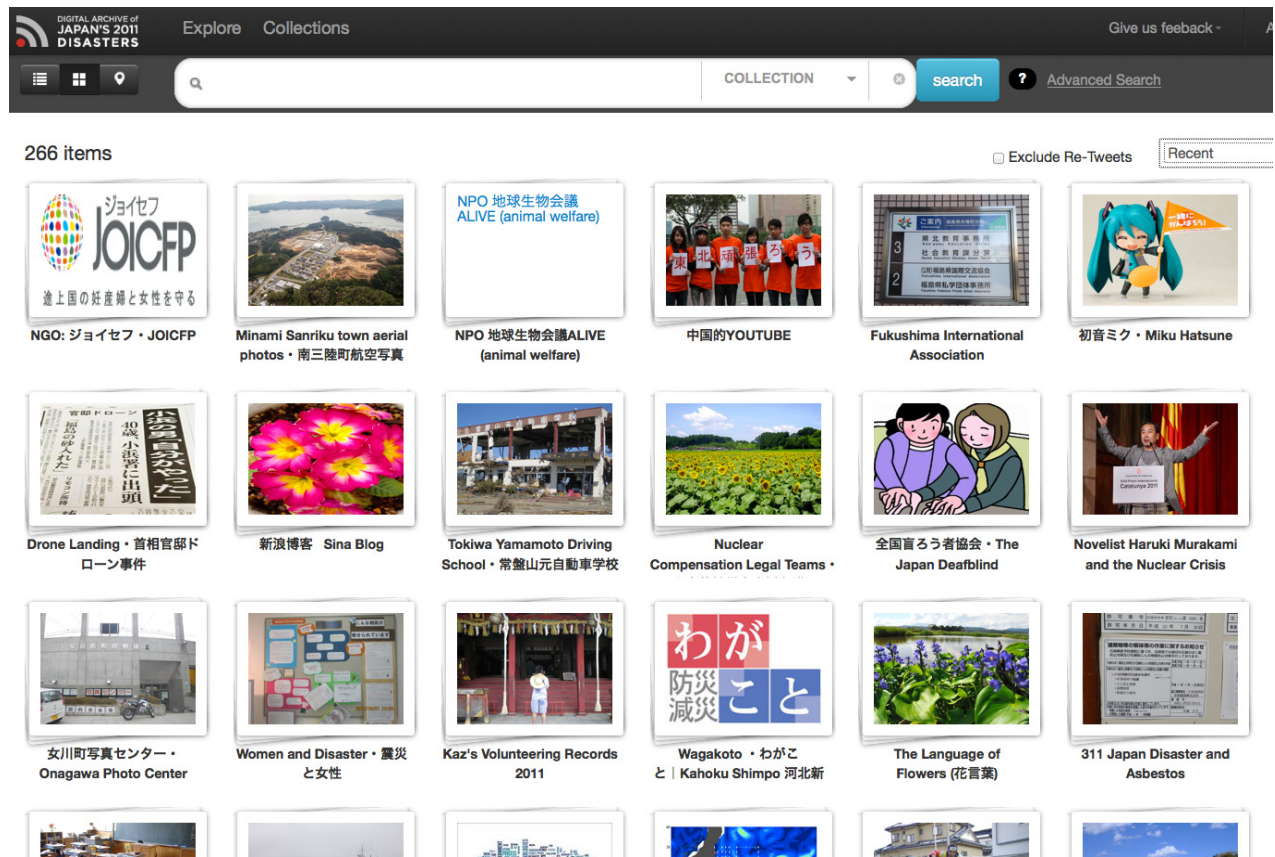
Figure 1.6: User-curated collections, *JDA,* July 2015.

ample notes on the diverse presentations by representatives form the projects.[19] Within a week, I had switched my dissertation concept entirely. I would try to discover what a basis in film, media, and visual studies and a willingness to work across disciplines could bring to the discussion. Research would benefit from my continued work on the *JDA,* and from the context of experimental project-based research at metaLAB, which had a stake in questions around crisis archives, and around digital collections broadly speaking.

Research ultimately crystallized around two nested analytical projects, the results of which are presented in this document. The first project has concerned the very proposition of the digital crisis archive as a category of media. There were two important problems I saw in need of addressing. The first is one of description: though many practitioners in this domain of cultural production refer to a common practice of archiving—and many projects name themselves as such—it is far from obvious what kinds of projects should count as included within the category, what the virtues of inclusion are, and through what means we should speak about their various common features and qualitative differences. I have thus sought to construct frameworks, for lack of a better term, through which to speak about and across digital crisis archives. As I will elaborate in a moment, crucial to analytical work in this area, I argue, is the concept of the digital crisis archive as a "genre" of digital media. I argue that imagination and conversation around such a genre demands an expansion, necessarily provisional and imperfect, in the meaning of the term "archive" and an analytical admission of complexity and ambiguity in account of digital media artifacts that carry significant "family resemblances" but do also vary drastically, as my opening account indicated. The second problem around the digital crisis archive I saw as in need of addressing was the lack of historical perspective: should we indeed accept the value in an

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[19] Kyle Parry, "Notes from the Participatory Digital Archives Conference," *Contents*, 5, January 2013, http://contentsmagazine.com/articles/notes-from-the-participatory-digital-archives-conference.

assertion of a genre of the digital crisis archive, we might then expect a capacity to narrate origins, trends, and futures. We do not yet have this capacity, and this dissertation offers an initial but by no means exhaustive response along these lines.

The second line of research occupies the majority of this document's attention. Its central concern has been with, to use a shorthand, digital archival possibility. While the novel features of digital crisis archives are certainly traceable and nameable—such as rapid accumulation, participatory curation, capture of ephemeral material—it is significantly less evident and articulable what range of effects these features can have, by what means, and with what implications for research and memory around the events they concern, and with what new suggestions for thinking around media, memory, networks, and representation, i.e., around the many topics that convene at the intersection of crisis and archive. Archival projects themselves often offer language for what they achieve in About pages, presentations, or blog posts. They often point to big picture goals of preservation, accumulation, and democratization. Direct studies like those cited above have taken important steps toward discerning the workings and implications in archives, identifying the manifestly constructive—surfacing of the marginal, open-ended exploration—and the potentially negative—excluding voices, generating fragmentation. But these languages often fall short of the inner complexity in any digital archival context, and too often maintain emphasis on the digital archive as at base a site for storage and retrieval and, by extension, cultural preservation and historical research. They do not attend to the manifestly novel dynamics of media and memory at work in many digital crisis archives, nor to the actual situated exercise of exploration of these sites, nor, where appropriate, to the often highly creative work of contributors.

Consequently, in pursuing this dissertation's core analytical project, I have posed a general question around what digital crisis archives can do and what they can facilitate—for

those who would visit and use them, and for those who would build or contribute to them—as well as the ways in which they fall short or disrupt and foreclose. I have asked: Why do these archives matter? What do they accomplish? Where do they go wrong? Given the scales and diversities in this genre, no study could pretend to answer such questions with sufficient depth and coverage, and I make no such claims here. I have instead pursued the following proposition: I would pursue mutually informed close readings of certain individual instances in the genre, and do so with attention to concerns for broader understanding in the genre. Crucially, I would be willing to articulate more faint or inchoate functions and processes within these archives—what they hold in potential or at their margins as much as what they manifest most readily.

By way of previewing those findings, I can say that in doing so—I will elaborate the specificities below—I construct an alternative vision of digital crisis archives as presently and potentially enabling experiences and actions novel in their kind, or in their degree, or in their density. I also offer ways of describing those digital archival potentials while also maintaining awareness of contradictions, shortcomings, and difficulties, some of these familiar to discourse on archives—around their powers to discipline and exclude—and others newer, around, for instance, their suggesting experiential potentials they cannot fully realize. I consistently find that for all the ways in which digital crisis archives appear to exceed and expand, they also fall short and reduce. In pursuing this primary line of research, I have therefore been concerned with making sense of digital crisis archives as contexts for multiple, multivalent, and overlapping disaster-related practices undertaken by a potentially widely diverse array of audiences. I have investigated archives as sites at which—or apparatuses through which—multiple things of significance and consequence can take place, often in forms we would not expect. Crucial to the exploration has been an emerging awareness that many of the most novel and important bearings of digital crisis archives—the ways they move, instruct, and engage—depend upon permutations

of the three phenomena in the subtitle of the dissertation: *assemblage*, *interaction*, and *participation*. I will elaborate upon these in a moment, and discuss them in depth in the chapters to come.

These two analytical projects—around genre, and around digital archival possibility—were undertaken without obvious disciplinary guidelines and involved extremes of scale—in archives consulted, media encountered, severity and enormity of events, questions raised. They also posed issues—around photography encountered in large quantity, for instance—that are applicable to other analytical projects and practical engagements. Furthermore, as with other studies in this genre, this research had a close connection with practice. I understood what I observed and articulated as having the potential to inform the use, contribution to, and construction of digital crisis archives. (As will be clear in the fourth chapter, the feedback between research and practice was essential to my involvement with the *Japan Disaster Archive*.) For all these reasons, for sake of readability, the very form and approach of this dissertation requires some introduction ahead of further elaboration of the vocabularies, questions, and claims just introduced.

As just described, there are two analytical projects represented in this document: around the genre's theory and history, and around digital archival possibility. While these overlap, I do somewhat confine them. Discussion of the ideas and conclusions of the former project have already gotten underway, will continue in the next section, and are picked up in the Conclusion, as I contemplate the histories and futures of the genre. The second analytical project is the heart of this document, and is the focus of the three "core" chapters. Each of these is a close study of an individual archive.

Here are truncated summaries of those archives and the crises they concern. *ARLIS* is the name I have attached to an untitled archive of 2,494 digitized slides documenting the *Exxon*

Valdez oil spill uploaded to the image sharing platform Flickr in 2010 (figure 1.7).[20] This

preventable 1989 calamity released over 11 million gallons of oil into Prince William Sound in

southern Alaska, setting off a multi-billion dollar cleanup operation and capturing the attention

of mass media and the American public. The spill caused among the worst environmental

disasters ever, killing tens of thousands of animals and devastating local communities, leading to

lawsuits in the hundreds of millions of dollars. Alaska Resources Library and Information

Services (ARLIS) digitized the photographs, which were produced by government and nonprofit

documentarians, and long stored as slides in their Anchorage library. The aforementioned

Hurricane Digital Memory Bank gathers together user-generated writing and imagery with

heterogeneous "born digital" media—including excerpts from blogs as well as emails—related to

Hurricanes Katrina and Rita (figure 1.8). Katrina, which is the focus of my engagement, names

both the devastating 2005 hurricane and the unprecedented socio-technological disaster which

unfolded in its wake, the flood of New Orleans. The *Memory Bank* was a collaboration of the

University of New Orleans and the Center for History and New Media at George Mason

University, and was started in 2005. The third archive is the *Japan Disaster Archive* or *JDA*—the

archive with which I have been involved, which I described above. The triple disasters

responsible for its existence were unprecedented in their scale and simultaneity: an earthquake

among the most powerful ever recorded; an enormous tsunami that reached as far as six miles

inland; and a nuclear meltdown that caused the evacuation of over 200,000 people. As indicated,

these events generated unseen scales of media production.

Beyond my own involvement with the *JDA—*which made it a likely candidate for

inclusion—motivations for the selection of these three archives were simultaneously theoretical

and historical. In theoretical terms, the archives have sufficiently rich similarities and marked

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[20] *ARLIS Reference*, http://www.flickr.com/photos/arlis-reference.
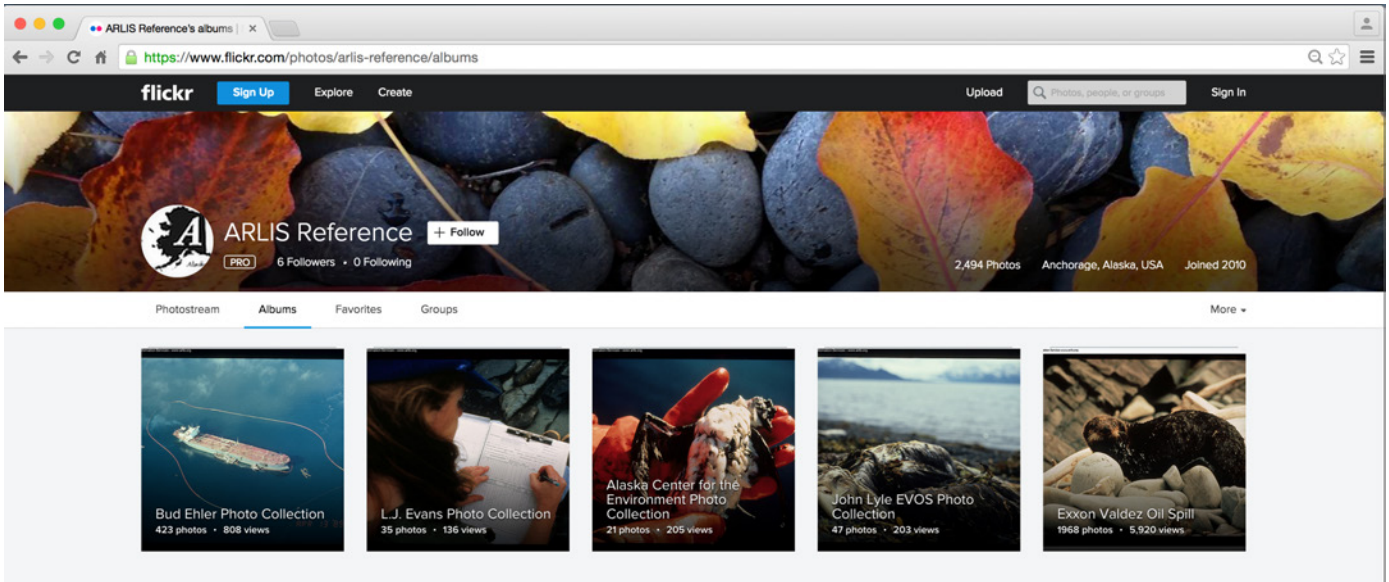
Figure 1.7: View of *ARLIS* albums, August 2015.
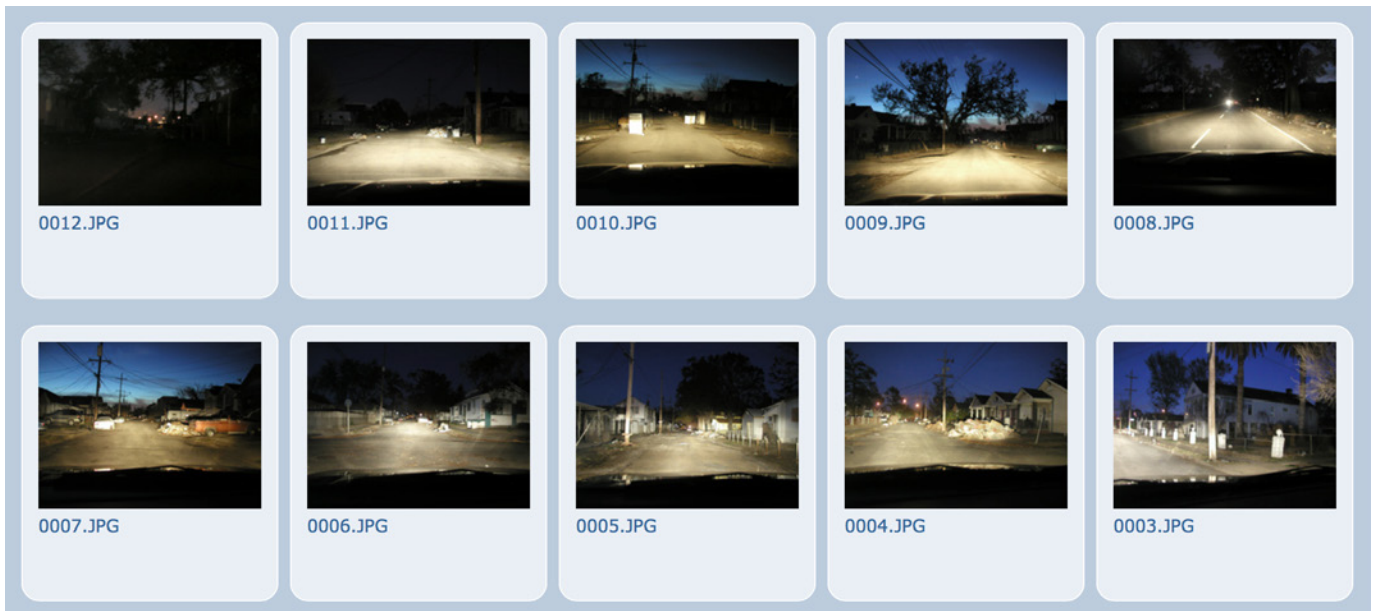
Figure 1.8: Thumbnail view of *Hurricane Digital Memory Bank* sub-collection. Mark Rayner, "121 Days in Darkness," Hurricane Digital Memory Bank, http://hurricanearchive.org/items/browse?collection=50.

differences in form and function in order to enable productive comparisons in studying genre and in pursuing digital archival possibility. In terms of similarities, at an overarching level, each of them is a site rich with digital archival possibility that extends beyond access, accumulation, and dissemination, while also raising important questions around usability, inclusivity, and the responsibilities of their curators. Each of them also either implicitly or explicitly invites use and exploration by audiences beyond the historical researcher. And each involves high quantities of visual material. In terms of differences, they offer a range in total content from 2,494 *(ARLIS)* to 25,000 *(Memory Bank)* to over 1 million (*JDA*); they offer a range of constituent media from, respectively, strictly photographs to multiple media types stored on a single server to even more media types largely not stored but called into the system as previews; and they offer a range in degree and form of participation, from, again respectively, no participation to individual submission to the production of micro-publications through collocation. The historical motivation reinforced the selection and arrangement. Each of these disasters involved—massive and ultimately unimaginable—both environmental violence and global awareness, and each took place at what appear now as moments along an arc of recording and dissemination: from analog photography and video recording in a pre-web broadcast setting (1989); to the emergence but not saturation of digital recording and social media (2005); to the saturation, at least in certain geographic contexts, of these technologies and cultures (2011). Consequently making sense of *ARLIS*, the *Memory Bank*, and the *JDA* is, in part, making sense of shifting material possibilities and cultural expectations around the production, dissemination, and use of disaster data and media, and around the documentation of environmental devastation and reconstruction.

As the foregoing comparisons likely indicate, investigations of digital archival possibility within and between these archives could address a seemingly endless number of questions, and could involve multiple modes of research including user interviews and automated analysis. I

have researched and composed each chapter in such a way as to follow similar sets of issues while also attending to the specificity of the given case. To use terms which will not yet be familiar, these distinct areas of focus are as follows: dynamics of photographic assemblage in *ARLIS*, the modes of interaction with the *Memory Bank,* and the workings and potentials in modes of participatory micro-publication in the *Japan Disaster Archive*. The common questions include the following: What are the consequences of configuring data and media together into common online architectures? What novel materials and means for post-crisis practices of understanding and imagination do these archives offer? In what ways can we describe the conditions and potentials in acts of contribution? The method of description in the three chapters is common. In each case, I begin by offering further background on the archive and outlining the terms of the chapters' inquiry; I then share the results of that investigation through a combination of close reading and theoretical development—including references, for instance, to comics studies or political theories of photography—and, in the case of the *Japan Disaster Archive*, through reference to experiences and documentary legacies from development and teaching around the archive. I conclude each chapter with discussion of the "lessons" the archive carries for understanding around the genre of the digital crisis archive more broadly, and touch upon other issues, including broader indications for understanding digital media as well as the ethics and aesthetics of crisis photography.

Such is an overview of the background, foci, and scope of the dissertation. Four sections follow from now through the start of the chapter on *ARLIS*. They are: a discussion of genre and archive; further clarification on the exploration of digital archival possibility, including definitions of assemblage, interaction, and participation; a note on the dissertation's contributions around crisis photography; and chapter summaries.

Genre and Archive

The "genre" of the digital crisis archive: I have used this term liberally so far. The questions are: What is this genre? Why use this term? What counts as included? How is it defined? Addressing these questions will provide further background on the very category of the "archive" which instances in the genre mobilize, either self-consciously or implicitly, and which I, along with many of these projects, am employing in unconventional fashion.

In the remarks above, ahead of a short history of such archives and notes on existing literature, I offered the sketches of a core criterion for inclusion: the instance gathers and presents collocations of digital media related to single crises or clusters of crises in an online context. There are several things that need clarification. The first is the very proposition of a "genre" of digital media. This is not an intuitive claim. "Genre" is a term we readily associate with forms of artistic production: genres of cinema, genres of drama. What does it mean to make a claim for genre around archives and crises? The question of "genre" in relationship to digital media has occasioned a variety of debates and discourses.[21] These are well worthy of further attention. For present purposes, I assert the concept of genre as analytically useful. Stine Lomborg nicely articulates this sentiment about the functional uses of genre in a chapter on social media and genre. She writes that "conceptualizing" social media—her concern is not archives—in terms of genre is useful because it:

> ...provides 'social media' with a much-needed defining and conceptual framework that captures how different texts within the social media environment resemble one another, and are differentiated from other texts by their communicative characteristics and social functions. The concept of 'genre' has a comparative advantage over 'media' in this respect. It is a much more dynamic and flexible concept, well-suited to describing the

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[21] Stine Lomborg provides an extremely useful overview of genre debates in *Social Media, Social Genres: Making Sense of the Ordinary* (New York: Routledge, 2013). One useful resource is Inger Askehave and Anne Ellerup Nielsen, "Digital Genres: A Challenge to Traditional Genre Theory," *Information Technology & People* 18.2 (2005): 120-41.

shifting environment, and the emergence and decline of forms of online communication, as shaped by the communicative practices and social needs of the users.[22]

Her point about a "dynamic and flexible concept, well-suited to describing the shifting environment" is crucial. Other scholars of media have picked up on this. In fact, in proposing disparate media based in digital *collections* as constituting a genre, I am not alone. Although neither addresses the advantages of use of the term "genre" explicitly, both Lev Manovich and Carole Palmer use the term in describing forms of cultural production that, like digital crisis archives, are characterized by the collocation of discrete data and media into common network architectures. In "Database as a Genre of New Media," Manovich defines a genre or "form" of cultural production called the "database" in the following way:

> Different types of databases—hierarchical, network, relational and object-oriented—use different models to organize data…New media objects may or may not employ these highly structured database models; however, from the point of view of user's experience a large proportion of them are databases in a more basic sense. They appear as collections of items on which the user can perform various operations: view, navigate, search. The user experience of such computerized collections is therefore quite distinct from reading a narrative or watching a film or navigating an architectural site. Similarly, literary or cinematic narrative, an architectural plan and database each present a different model of what a world is like. It is this sense of database as a cultural form of its own which I want to address here.[23]

In an article called "Thematic Research Collections," which I will draw upon significantly in the chapter on the *JDA*, Palmer writes:

> There are no firm parameters for defining thematic research collections but there are characteristics that are generally attributable to the genre. John Unsworth…describes thematic collections as being: electronic; heterogeneous data types; extensive but thematically coherent; structured but open-ended; designed to support research; authored or multi-authored; interdisciplinary; collections of digital primary resources.[24]

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[22] Lomborg, *Social Media, Social Genres: Making Sense of the Ordinary*, 16.

[23] Lev Manovich. "Database as a Genre of New Media." *AI & Society* 14.2 (2000): 177.

[24] Carole Palmer, "Thematic Research Collections," in *A Companion to Digital Humanities*, eds. Susan Schreibman, Ray Siemens, John Unsworth. (Oxford: Blackwell, 2004). http://www.digitalhumanities.org/companion.

Why should the use of "genre" matter? Both Manovich and Palmer rely upon the concept to

enable flexible discussion of characteristics—of content, form, effect, implication—across

diverse instances that grow in both quantity and variety over time, and do so unpredictably. I

argue we do well to adopt such a perspective for comparative discussion of digital crisis

archives. Doing so will enable us to think together what are indeed quite distinct entities, like a

collection of websites built through Archive-It and a community-authored participatory

documentary, or, as I offer here, a photographic collection, a multimedia memory bank, and a

participatory aggregation-based archive of indefinite expansion. But it will also allow us to

maintain important distinctions, and accommodate change going forward.

Let us say we accept the relevance of "genre" as a category for conceptualizing these

varieties of web-based projects. How do we then make sense of the use of the term "archive"?

How can we employ this term without mentioning preservation in the same breath? I do not

pretend to an easy resolution of this problem. Palmer's essay on thematic research collections, a

category in which she would likely place several digital crisis archives, again provides a useful

reference. She writes:

> Scholarly thematic collections are a new addition to the array of existing and emerging
> research collocations. Interestingly, many thematic collections created by scholars refer
> to themselves as *archives*, but conventional archives differ in important ways, especially
> in terms of their mission and the methods they use to organize materials. The collections
> held in archival repositories document the life and work of institutions or individuals. An
> archive's role is to "preserve records of enduring value that document organizational and
> personal activities accumulated in the course of daily life or work" (Taylor 1999: 8).
> Archival collections are collocated according to provenance—the individual or corporate
> originator—and organized in original working order. As accumulations of materials from
> regular daily life, these collections may contain print and electronic documents and
> artifacts of any kind, including meeting minutes, annual reports, memoranda, deeds,
> manuscripts, photographs, letters, diaries, printed books, and audio
> recordings…Thematic collections are more analogous to the *subject collections*
> traditionally developed in research libraries than they are to archives.[25]

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[25] Palmer's reference is Arlene Taylor, *The Organization of Information* (Westport, CT: Libraries Unlimited, 1999).

Such an account of archives, which we could discover many times over in other contexts and in ordinary language, would seem to militate against its use for any of these instances. But Palmer goes on to recognize something else in the category of "archive":

> As with most thematic collections, the actual goals of the [*William Blake Archive*] project reach beyond those of a traditional archive, where the central aim would be to preserve the physical record of production. Here the notion of the archive has been extended to include the catalogue, scholarly edition, database, and tools that work together to fully exploit the advantages of the digital medium.

That something else Palmer touches upon in the term "archive" is its ironic flexibility in meaning, and its openness to revision and repurposing which, I would argue, is only amplified in the digital and networked sphere. I say it is ironic because, as Palmer identifies, institutional physical archives, in their traditional form, rely on coherence in intention and definition. They are primarily apparatuses for preservation of and access to cultural material. There are protocols, directives, and methods that make them successful in doing so. And yet in both cultural production—in art and in writing, in networked media production—and in scholarship, the category of the archive has been variously expounded and expanded. (It is as though the archive were itself a massive, diverse genre.) Actors have found means of critiquing established understandings of the natures and implications of traditional archival practices. They have found creative opportunities in the term. Indeed the figure of "the archive," beyond its longstanding discussion in archival theory, has been the subject of considerable scholarly reflection, and

inspired a range of artistic practices.[26] As an index of the extent to which we have departed in

thought from more readily imagined ideas of the archive, consider claims made in a trio of

theoretical texts, each of which associates the archive with possibility and impossibility. In a

2003 essay, Arjun Appadurai argues that digital media are responsible for the democratizing of

the concept/practice of the archive, and that the "non-official actor" can now choose "which

documents and traces shall be formed into archives." He goes onto release the archive from its

attachment to any site at all, suggesting an archive of "lives": "the only new fact in the world of

electronic mediation is that the archive of possible lives is now richer and more available to

people than ever before."[27] Michel Foucault, writing decades earlier, likewise injects the sense of

the possible into the archive and discards the feature of location. In *The Archaeology of*

Knowledge, he suggests we understand the archive not as the "sum of all texts that a culture has

kept upon its person as documents attesting to its own past," but as the "law of what can be said,

the system that governs the appearance of statements as unique events."[28] We speak within this

archive's "rules"; we can only uncover its regulatory powers in fragments. With comparable

levels of theoretical ambition, Jacques Derrida, in his book *Archive Fever,* generally retains a

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[26] This literature is vast, and ranges from the managerial to the political to the aesthetic. I would point out several texts beyond those referenced in what follows that have helped me in thinking about archives: Arlette Farge, Thomas Scott-Railton, Natalie Zemon Davis, *The Allure of the Archive* (New Haven: Yale University Press, 2013); Mike Featherstone, "Archive," *Theory, Culture & Society* 23.2-3 (2006): 591-596; Robin Kelsey, *Archive Style: Photographs and Illustrations for US Surveys, 1850-1890*, (Oakland, CA: University of California Press, 2007); Charles Merewether, ed., *The Archive* (London: Whitechapel, 2006); Sven Spieker, *The Big Archive: Art from Bureaucracy* (Cambridge, MA: MIT Press, 2008); Carolyn Steedman, *Dust: the Archive and Cultural History* (New Brunswick: Rutgers University Press, 2002); John Tagg, "The Archiving Machine; or, The Camera and the Filing Cabinet," *Grey Room* 47 (2012): 24-37. In addition to many online compendiums of archival literature, useful overviews of theories of the archive can be found in Marlene Manoff, "Theories of the Archive from Across the Disciplines," *portal: Libraries and the Academy* 4.1(2004): 9-25, and John Ridener, *From Polders to Postmodernism: A Concise History of Archival Theory* (Duluth, MN: Litwin Books, 2009).

[27] Arjun Appadurai. "Archive and Aspiration. *Information is Alive: Art and Theory on Archiving and Retrieving Data* (Rotterdam: NAI Publishers, 2003), 14-25.

[28] Michel Foucault, *The Archaeology of Knowledge*, Trans. A.M Sheridan Smith (New York: Pantheon Books, 1972), 128–129.

vision of archives as located, but asserts they manifest radical contradiction, and that they are shot through with dimensions of psychic and social power: "…*every* [his italics] archive…is at once *institutive* and *conservative*. Revolutionary and traditional. An *eco-nomic* archive in this double sense: it keeps, it puts in reserve, it saves, but in an unnatural fashion, that is to in making the law (*nomos*) or in making people respect the law."[29]

In their simultaneous expansion of the modalities through which to understand archives, and their placement of power at center stage, Foucault and Derrida have proven especially influential in the expansion in interest in the topic of the archive in scholarship as well as in art. I will here present a set of some instances of these expanded visions of the archive that seem directly salient to digital crisis archives, and which have influenced the studies ahead. Doing so can serve to indicate the associations the term carries, and the dynamics of practice and power into which the genre's constituents enter—but it will work best to set the stage for direct defense of its use in naming the genre of the digital crisis archive. Consider claims made in art criticism around the emergence of a form, or genre, called "archival art." The curator Okwui Enwezor claims that archival art—defined by the use of the document—can generate "new pictorial and historiographic experiences against the exactitude of the photographic trace."[30] Hal Foster, in an essay called "An Archival Impulse," writes that such art can "expose different audiences to alternative archives of public culture" and let proliferate the energies and ideas latent within them. [31] Foster quotes the artist Thomas Hirschhorn: via forms of archival art, and through the forms of practice and relationship they suggest, "excavation sites" can turn into "construction

[29] Jacques Derrida, *Archive Fever: A Freudian Impression* (Chicago, IL: University of Chicago Press, 1996), 7.

[30] Okwui Enwezor, *Archive Fever: Uses of the Document in Contemporary Art*, (Göttingen: Steidl/Edition 7L, 2008), 11.

[31] Hal Foster, "An Archival Impulse." *October* 110 (2004): 6.

sites."[32] Consider an analogizing of archives and comics by Hillary Chute, which I will seize

upon in the second chapter on *ARLIS*. She writes that "the architectonics of comics is the process

of archiving" and that comics serve to make "a location for ordering information to express

history and memory."[33] Consider permutations of archive and moving image in a book on

Katrina media and memory. Bernie Cook writes in one instance, "Katrina documentary can be

understood as a form of collected memory of the storm and flood. Both individual

documentaries, and the archive as a whole, speak to the experiences of Katrina with multiple

voices, sharing distinct perspectives."[34] He writes in another instance: "Documentary films

speaking from and of multiple perspectives form a crucial archive of the lived experiences of the

storm and flood."[35] Consider the small poem "The Archival Birds," written by Melissa Kwasny

for the volume *Season of Dead Water*, published one year after the *Exxon Valdez* ran aground:

"Notice, how the meat/ from its bones/ has shrunken and lodged/ like rocks/ in the elbowed

roots/ of a tree. Notice,/ the feathers dissolve/ and the eyes, only sockets,/ and where its wings,/

still stretched,/ are a relic of flight.'[36] Finally, consider reflections on the web as archive.

Wolfgang Ernst, in a book called *Digital Memory and the Archive*, writes:

> Is the World Wide Web simply a technique of recall from a global archive, or does it
> mark the beginnings of a literally *inventive* [author's italics] relationship to knowledge, a
> media archaeology of knowledge that is dissolving the hierarchy traditionally associated
> with the archive?[37]

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[32] Ibid., 22.

[33] Hillary Chute, "Comics as Archives: MetaMetaMaus," *e-misférica* 9.1–9.2 (2012). http://hemisphericinstitute.org/hemi/en/e-misferica-91/chute.

[34] Bernie Cook, *Flood of Images: Media, Memory, and Hurricane Katrina* (Austin, TX: University of Texas Press, 2015), xxii.

[35] Ibid., xix.

[36] Melissa Kwasny, "The Archival Birds," in *Season of Dead Water*, ed. Helen Frost (Portland, OR: Breitenbush Books, Inc., 1990): 49.

[37] Wolfgang Ernst, *Digital Memory and the Archive*, ed. Jussi Parikka, (Minneapolis, MN: University of Minnesota Press, 2013): 138.

A wide range—is there anything that unifies these uses of "archive" and those of Appadurai, Foucault, and Derrida? Albeit demanding considerable willingness to accept analogy and conceptual expansion, in some sense, each of these uses has roughly in common a conception of the archive as constituted by features of collection, location, and action. Any of these uses is a mix of the what of the collection, the where of the location, the manner and impact of archive-based action. The common picture, in this heuristic account, imagines the archive as historical objects, physical sites, and actions as careful, object-by-object cataloguing and reading room, research-driven examination. Among the above examples, we find an array of other permutations: in art, collection as assembled media, location as museum, and archival action as viewing; in comics, collection as frames, location as pages, and archival action as both composition and reading. Through Cook's account, we find location can stretch time and space: the distributed archive of Katrina documentaries, hypothetically possible to consolidate. We find the aspect of archival action can even elude our attention entirely, pervading the air we breathe, as in Foucault's extravagant imagination of distributed interaction with an invisible apparatus of the sayable. Even flesh can enter: the decomposing organs of a bird.

Two options appear open to us if we accept the value in a conceptualization of a "genre" of *something* that gathers the diverse array of instances cited above and hypothetical others. On the one hand, we can decide not to use "archive" as the defining term and opt instead for something else. This could be a term with less complex history like "collection" or "aggregation" or "assemblage." Doing so, we would avoid understandable criticisms that too many of the proposed constituents of the genre lack apparently defining features of archives—like protocols of preservation—or that they do not name themselves as such—like the self-described "participatory documentary" *Sandy Storyline.* On the other hand, we can assert the use of the term as yet another expanded sense of "archive," joining the examples just offered. What would

be the virtues in doing so? A necessary first assertion is that no word will suffice; if indeed we seek to pursue the use of genre, then we have to accept the imperfection of the term we use. From here, I would suggest the following. At one level, there are more instrumental concerns. For one, the term "archive" has the virtue of naming both collection *and* institution or project: it accommodates the ways individual instances are both archives as objects and archives as endeavors. Second, a number of these projects are self-described as archives or as having at least some archival ambitions. But there are other reasons, less straightforward. For one, as the quote form Bernie Cook around Katrina begins to indicate, the term archive tightly links these artifacts with questions of memory, accumulation, and forgetting. It puts us at the nexus of terms like "collected" and "collective" memory. The second concern is political: the archive is an institution of power historically, and by calling these archives we can cue the aspect of power that necessarily suffuses them, and we can also attend to the ways in which they challenge established archival politics and expectations. The third reason, the last I will suggest, is that the "archive" has a dual sense of past and future. The collection and location of traces of the past, whether they have accession numbers or remain invisible, is at once a connection with the past and a suggestion of futurity. These projects locate history and memory. But they also inherently suggest potentials for expansion and addition, even when preservation is not central or when it is not present at all. Further, their contents can, at least hypothetically, be rearranged and redescribed. These dual qualities of the archive would appear in part as what archival artists have picked up on, and which is contained in Appadurai's idea of the "archive of possible lives" and in Hirschhorn's concept of the excavation site as a construction site. Digital archives seem especially poised to intensify the futural, inventive, and emergent nature of gathered event media. Even instances that do not name themselves as archives, and which we might first give other names, can have these qualities of simultaneous pastness and futurity that the model of the

archive appears to index. Derrida is willing to state the matter directly: "The archive is never closed. It opens out of the future."[38]

It is with these justifications in mind that I offered the above list of archives, and presented them as a genre under the title of the digital crisis archive. I will assume these premises in the chapters that follow. But before moving on, I should make note of two things. First, we have to ask, with such an expanded view of archive, what would not count? The results of a Google Image search around "Katrina" would seem like provisional, algorithmic archives. Even a blog post or a news article would seem to embody a permutation of collection, location, and action, if only in the collocation of text and information. But I argue here for the genre as constituted by instances actively produced, appearing relatively bounded, and constituted by discernible individual elements. (For cases like the Google Images search, we might need terms like *provisional*, *ephemeral*, or *proto-*.) A question then emerges: Is it possible to construct a typology, which could take the form of a list of sub-genres? We would have to answer two ways. On the one hand, there are indeed discernible kinds: networked archives, crowd-sourced maps, participatory documentaries, interactive timelines. Individuals and organizations can conceive of their contributions in these terms. On the other hand, individual instances can manifest considerable hybridity. They can combine instances of the general kinds just listed—an archive that both aggregates media across the web *and* is participatory (the *Japan Disaster Archive*) or a participatory documentary that contains an interactive timeline (*Sandy Storyline*). They can also perform widely disparate "functions" in the same space. The *Memory Bank* is a paradigm instance of this, in serving the expression and sharing of highly personal reflections on Katrina memory as much as preserving things like official military documentation and scholarly research. The use of "genre" should not, I argue, lead to practical and analytical commitment to

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[38] Derrida, *Archive Fever*, 68.

stringent categories. Precisely the opposite: it should enable thinking across extremes of analogy and difference. It is worth noting on this count that we could well call these archives "networked" rather than "digital." I see good reason for the former. These sites manifest in the network; their materials are linked and linkable. But I maintain digital here because these sites have couched themselves in these terms, and in order to maintain dialogue with questions around digital archives broadly.

Assemblage, Interaction, Participation

Archives and futures—the concluding section's chapter summaries will provide detailed descriptions of what I argue each of the three archives offers to the investigation of digital archival possibility. Ahead of doing so, however, it is necessary to offer more detailed background for this line of inquiry. I will thus offer further reflection on the dissertation's crosscutting premises and general claims about both the reality and study of digital crisis archival possibility. I will then elaborate on the meanings of the three guiding terms of *assemblage*, *interaction*, and *participation*—these three mechanisms of archival intervention in post-crisis discourse, mediation, and practice.

I begin with the premise that our current language for digital crisis archives is inadequate. Even where our language is grand and ambitious, it falls short of the complexity, potential, and contradiction in extant archives and in the proposition of future versions. Digital crisis archives are indeed, in one manner of approach, contexts for the storage and retrieval of historical data at unprecedented speed and scale. But even the most apparently straightforward instance—like a collection of archived websites in Archive-It—is an insistently multivalent memory apparatus open to approach by wider audiences than professional researchers. Amid conditions of both enabling and disabling informational and medial surfeit, these archives can serve as means of

imagining, communicating, and transforming as much as they can of indexing, organizing, and evidencing. The three archives under study here indicate as much. In *ARLIS*, the gathering of photographs in the Flickr platform reveals meanings and potentials for spectatorship latent within the collection, and not yet visually manifest in the history of visual representation around the spill. In the *Memory Bank*, actual close engagement with the interface produces affects aesthetic, affective, and catalytic. In the *Japan Disaster Archive*, visitors travel interfaces that provision access to materials while also conceiving micro-publications approachable from multiple angles, open to many uses.

What vocabularies do we call upon in articulating these qualities? As noted momentarily above, and as the chapters will show in depth, from the perspective of visitors, digital crisis archives can have as much affinity with circulating cultural productions—like comics, exhibitions, films, and photo books—as they do with brick and mortar archives and libraries—which gather materials and offer physical and electronic means of access like finding aids and catalogs. They can as much serve in the production of familiar media artifacts—books, essays, documentaries—as perform communicative work of comparable intensity and value. I have found that making sense of the workings and implications of digital crisis archives in these terms benefits, even requires, reference to thinking and practice in such areas. I assert that we need to remain cognizant, for instance, of investigations in archival art around the democratic meanings of expansions and perversions of archival practice, and take seriously connections between sites like *ARLIS* and the *Memory Bank* and the work of archival artists who, to quote Enwezor again, "turned to the photographic archive in order to generate new ways of thinking through historical events and to transform the traditional ideas surrounding the photographic document."[39] At the same time, I assume from the first that in both practical and analytical engagement with these

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[39] Enwezor, *Archive Fever*, 11.

archives, we need to remain cognizant of shortcomings, risks, and thwarted ambitions. Digital crisis archives can confound and mislead. We can assert, for instance, that certain user-generated "collections" in the *JDA* have affinities with commemorative sites, but we cannot ignore the relevance of their apparent framing as means for academic and journalistic research nor their bare appearance—the way they can easily appear as strictly instruments and not as places. Further, crucially, it is necessary to avoid overly optimistic descriptions of the impacts even the most apparently novel features in digital crisis archives can have. We have to ask: Can web contexts truly support sustained engagement, or is the browser an generally attention deficient platform? Do crisis archives overwhelm with their multiple meanings and uses? Still further, as the discourses on "the archive" referenced above remind us, we must remain attentive to archives as intersections of power and authority. We have to ask: Can digital crisis archives pretend toward exhaustiveness? Do they tend toward representation of the visible and immediate versus the invisible and elusive?

Each of these chapters addresses the above array of issues in dialogue with the heterogeneous mix of materials, histories, and interfaces that constitute each archive. I engage each in its multivalence and specificity while maintaining an eye toward lessons in the genre. There are further commonalities. I consistently observe across the cases that essential to many of their greatest democratic potentials, as well as their perils and disappointments, are three classes of digital archival phenomena, and relationships among them: *assemblage*, *interaction*, and *participation*. I can use this space to elaborate a basic definition of each of these terms. I will move through them in reverse. "Participation" concerns the involvement in these archives of users other than their builders and keepers. Citizens have a say in the objects and metadata that make them up and, in some cases, the arrangement of those materials. Against some existing accounts, I argue for the sophistication and significance in extant contributions to digital crisis

archives and the potential in this feature of digital crisis archives going forward. Indeed, digital

crisis archives deserve the attention of the widespread literature on participatory culture.[40]

Sophia Liu, whose work I mentioned earlier, has gone some way to introducing such archives to

these discourses. "Interaction" will strike some readers as redundant with "participation." The

two are certainly used interchangeably in the digital realm. In an article I reference at the

conclusion of the fourth chapter, for instance, Roger Simon asserts in the same breath that social

media platforms "offer new ways in which heritage practices constitute an arena of participation

in the formation of collective memory [of crises]," and that they provision "a productive space

for assembling diverse groups to engage in an interactive practice of *'remembering together'* [his

italics]."[41] But "interaction" need not only take the form of a directly participatory endeavor. It

can take place between the "user" and the media content and interface: interaction with the

materials making up a website, interaction with the arrangements of an "interactive" timeline. In

the case of digital crisis archives, it is the sense of interacting with the materials and interfaces of

digital crisis archives to which I primarily seek to draw our attention—this actual situated

exercise of engagement. Such interaction takes place at different scales of time: from the

momentary interactions of selecting and scrolling and scanning to longer processes, made up of

these mechanical interactions, of exploring a sub-collection, or following a line of inquiry. I

argue that visitors can experience and use digital crisis archives in rich ways beyond access,

including scanning, imagining, and reframing—albeit with risks and contradictions.

"Assemblage" is the least familiar of the terms and an essential concept for the questions

and ideas this dissertation pursues. For some readers, the term will have associations with art—

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[40] For a useful introduction to writing on participation and media, see Aaron Dewliche, Jennifer Jacobs Henderson, eds., *The Participatory Cultures Handbook*, (New York: Routledge, 2012).

[41] Roger I. Simon. "Remembering Together: Social Media and the Formation of the Historical Present." *Heritage and Social Media: Understanding Heritage in a Participatory Culture* Cambridge, UK: Routledge (2012), 89.

the production of mixed-media assemblages of found objects, for instance—or with different

kinds of philosophy and social theory.[42] In fact, the term is highly proliferative and malleable.

These very qualities have been the object of reflection:

> Put bluntly, there is no single 'correct' way to deploy the term, nor does any one
> theoretical tradition or style hold an exclusive right to it. That said, there are some
> commonalities in how assemblage is being deployed that hint at what the term might
> enable us to do. [Assemblage] is often used to emphasise emergence, multiplicity and
> indeterminacy, and connects to a wider redefinition of the socio-spatial in terms of the
> composition of diverse elements into some form of provisional socio-spatial formation.
> To be more precise, assemblages are composed of heterogeneous elements that may be
> human and non-human, organic and inorganic, technical and natural.[43]

I welcome the linkages between assemblage as thing and assemblage as social phenomena, and

am interested to pursue linkages between archives and assemblages in philosophical terms in

future research. For the purposes of this dissertation, the term defines the ways in which the

"heterogeneous elements"—individual media, interfaces, data—of archives come into

relationship with each other, both within the interface and in the reader/visitors' imagination. I

put forward a picture of digital crisis archives as machines of assemblage, both assemblage as

noun/product (such as a field of user-generated tags) and assemblage as verb/process (such as a

user gathering a set of items into a collection). Formal effects we can gather under the umbrella

of assemblage—forms like juxtaposition, montage, sequentiality, consolidation, visual-textual

configuration—appear throughout digital crisis archives, and indeed any online digital archive.

As I have indicated, crucial to understanding the workings and implications of these forms of

assemblage is reference to seemingly divergent media forms. The next chapter, for instance, will

involve sustained exploration of "dynamics of assemblage" in *ARLIS*—of ways in which

photographs in the collection come into often rich and affecting association—with reference to

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[42] See, for instance, the work of Jane Bennett and Manuel DeLanda. Jane Bennett, "The Agency of Assemblages and the North American Blackout." *Public Culture* 17.3 (2005): 445–465. Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (New York: Continuum, 2006).

[43] Ben Anderson and Colin McFarlane, "Assemblage and Geography," *Area* 43.2 (2011): 125.

comics studies and writing on photo books. As I will seek to show throughout the chapters to follow, permutations of assemblage, interaction, and participation play essential roles in what digital crisis archives make possible. Platforms built for curatorial participation in the *Japan Disaster Archive*, for instance, invite contributors to explore roles of documentary and data assemblage in knowledge production—to heighten the stakes and effects in otherwise seemingly strictly research-driven forms of navigational interaction. Their work leads to practices of recombination, to the generation of "scaffolding" for future research—and can occasion opportunities for collaborative co-learning.

Crises, Archives, Photography

I offer a final note of preparation before turning to the chapter summaries and on to *ARLIS.* There emerged a third line of inquiry in researching this dissertation. It concerns crises, archives, and photography, and turns in particular around the politics of crisis photography and around photography encountered in large quantities. Regarding the former, both *ARLIS* and the *Memory Bank*, in my account, push back on too ready dismissals of crisis photography as gratuitous and non-efficacious. We have developed much warranted skepticism around problems of prurience and feigned civil engagement in our encounters with photography of atrocity and violence. (Nowhere is this more poignantly voice than in the work of Susan Sontag.)[44] Both *ARLIS* and the *Memory Bank* suggest the necessity for more nuanced accounts. They suggest we can simultaneously acknowledge the limits and potential harms in visual disseminations of violence and make sense of the work of civil imagination, perceptual capacity building, and world disclosure they perform. (In using those three phrases, I am drawing on the work of

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[44] Her most often cited critiques are found in Susan Sontag, *On Photography* (New York: Picador, 1977).

scholars like Ariella Azoulay, Judith Butler and James Johnson, and Kaja Silverman, respectively.)[45] In the *Memory Bank*, contributors directly affected by the storm have found value in committing their documentation to a shared memory field. Two instances of photographic assemblage, which contain difficult scenes of affected landscapes in post-Katrina New Orleans, are especially poignant in providing means for study of the conditions into which lives and environments were thrust by the flood.

The second concern around photography this dissertation engages concerns the formal properties and cultural implications of large quantities of digital photographs. The dissertation, particularly in its engagement with *ARLIS*, suggests that digital architectures, even a generic platform like Flickr, can generate active and meaningful interaction with large sets of images, enabling modes reminiscent of cinema, comics, and photo books. The gaps between images, associations among them, the short-term memories developed—these become as important as any broad level claims about the collection, or any computational operations of visualization or otherwise one would seek to perform upon them. Transit and process—plural photographs as moving images—become essential and meaningful objects of spectatorial and critical attention. Among those engaging this topic is art historian Kate Palmer Albers. To take just one example, in an article for *Exposure*, Albers aligns a number of artists who have worked with large sets in the contemporary period of what she calls digital photographic "abundance." She writes:

> …the abundance of imagery in the digital era is also grounds for a critical and aesthetic investigation of how social media and digital technologies enable the making, storage, and distribution of vast quantities of photographic images.[46]

[45] Ariella Azoulay, *Civil Imagination: a Political Ontology of Photography* (London: Verso, 2012). Judith Butler, *Frames of War: When Is Life Grievable?* (London: Verso, 2009). James Johnson, "Aggregates Unseen: Imagining Post-Katrina New Orleans," *Perspectives on Politics* 10.03 (2012): 659–668. Kaja Silverman, *The Miracle of Analogy* (Stanford, CA: Stanford University Press, 2015).

[46] Kate Palmer Albers, "Abundant Images and the Collective Sublime," *Exposure* 46.2 (2013): 4. I thank Matthew Battles for pointing me to Albers' work.

The artists she explores tend toward aesthetics of accumulation: printing and arraying thousands of sunsets drawn from Flickr by Penelope Umbrico, printing and piling up every photograph uploaded to Flickr in a twenty-four hour period. In making sense of these practices, Albers rightly looks back to pre-histories of photographic abundance in the work of, for instance, artists Gerhard Richter and Jamie Livingston.[47] I see great importance in these lines of inquiry, and am particularly interested to explore aesthetic strategies and analytical vocabularies both "analog" and digital around the photographic plural that have gone beyond repetition and accumulation toward interleaving, multivalent dynamics of visual assemblage. Contemporary crises redouble the reality and urgency of developing critical vocabularies in this arena of photographic surfeit.

ARLIS, Hurricane Digital Memory Bank, Japan Disaster Archive

I now distill the investigations of each chapter in turn. The first of the three studies concerns *ARLIS*, which, as described above, is a 2,494-item collection of digitized slides produced by government and nonprofit documentarians in the aftermath of the *Exxon Valdez* oil spill. *ARLIS* is, by one account, an event of expanded visual archival access and dissemination. To this point, available imagery on the web around the *Exxon Valdez* oil spill was nearly entirely restricted to the shock of oil violence and the spectacle of the cleanup operation. *ARLIS* includes imagery of a wider, albeit necessarily non-exhaustive and biased range: press conferences, community meetings; extraction infrastructures; the handling of waste; dangerous protests; fishing practices. Many of these photographs are the legacy of a unique documentation program started in the wake of the spill by then Governor Steve Cowper. The program's impetus was, in large part, to contest Exxon's messaging around the success of its cleanup operation. The chapter

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[47] For more extended reflections in this area, see Albers' 2015 book *Uncertain Histories: Accumulation, Inaccessibility, and Doubt in Contemporary Photography*. Oakland, CA: University of California Press, 2015.
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does not focus on individual photographs, or on the collections' origins, however. It is a close engagement with the actual manifestation of the collection in the Flickr platform. The convergence of the navigational affordances of the platform with the unique qualities of the images has a number of effects. *ARLIS* becomes a space for sustained exploration of the disaster through extra-narrative means. The multivalent visual archive is populated by an array of "dynamics of assemblage"—ways in which photographs come into generative association through user movement and reading. Drawing on the work of Hillary Chute and Allan Sekula especially, I argue visitors can interact with the archive as a complex, multimodal visual documentary form. They can engage in modalities of reading reflective of those undertaken with comics and photo books. Visitors can also engage thematic vectors across the collection that variously intersect with existing representation and memory around the disaster, though they do so amid conditions of uncertainty, and are forced to confront challenging extremes of scale. I examine thematics of oil and place, oil and communication, oil and resistance, and oil and nature. As an archive to think with, among other things *ARLIS* provides lessons in the potentials and pitfalls in digital crisis archives as sites of imaginative and interpretive exercise, and constitutes a paradigm instance of relational as much as quantitative photographic abundance.

The second study—the third chapter—centers on the *Hurricane Digital Memory Bank*. As noted above, this multimedia, participatory archive of some 25,000 items, started in 2005 in the aftermath of Hurricane Katrina, is distinguished by thousands of user-generated contributions. Unlike *ARLIS* and the *JDA*, it has been the object of interpretation. Several of these accounts have focused on its shortcomings as a project, or on its apparently negative political implications: falling short of ambitions in scale; by virtue of its paucity of submissions from "indirect witnesses," serving to reinscribe politics of exclusion characteristic of the disaster and its mediation; or, as I quoted Recuber claiming above, participating in a politically suspect

practice of atomized self-reflection. I make two contradictory claims. On the one hand, I assert there is some merit in such criticisms and furthermore that the archive problematically leaves unframed the flood of New Orleans in favor of centering materials around the hurricane. On the other hand, I assert the distinction and importance of what the various participants—builders, contributors—have generated. Here is a multivalent memory apparatus that, among other things, enables researchers and publics to respond to and exceed entrenched public memories of the first week of the disaster and the response. In necessarily heuristic terms, in dialogue with thinkers like Judith Butler and James Johnson around imagination and apprehension in response to large-scale crises, I argue the *Memory Bank* enables three "modes of interaction" variously enriched by or dependent on forms of media assemblage. In *facing memory*, visitors encounter contributors' reflections upon personal and social memory as they have been addressed to an overall project around crisis memory. In *scanning memory*, visitors engage in multimodal, open-ended exploration of the archive as a collective mapping of the events and their aftermaths. And the mode of interaction of *engaging frames* involves interpretive and spectatorial exploration of selections out of post-disaster material, perceptual, and symbolic fields, as offered through photographic collections that deploy sequencing and visual-textual configuration. Among other things, the *Memory Bank* suggests that a digital crisis archive can simultaneously support the production of transformative post-crisis media artifacts—providing materials for research and production—and itself count as such an artifact. Its photographic collections offer further turns on thinking around digital crisis photography, and the archive overall suggests considerable creative capacity on the part of would-be public participants in the genre.

The third study centers on the *Japan Disaster Archive*, which I introduced above. Out of an array of topics of potential concern—including the challenges of meeting ambitions for widespread use of the platform and the politics of cross-national memory construction—I focus

on the workings and implications of three platforms for user curation generated over the period of summer 2011 to summer 2015. The collection editor enabled the gathering and sharing of items within or added to the *JDA*; the presentation editor enabled the production of "networked slideshows" populated by user-generated text and archival materials; and "waku," which can be translated as "frame," enabled the production of hybrids of textual narrative and object annotation and presentation. The chapter conceptualizes current and future publications built with these platforms as constituents of a proto-genre of digital media production—the crisis archival sub-assemblage—also instanced in the participatory productions of the aforementioned *18 Days in Egypt.* Following on the work of Carole Palmer around thematic research collections, which I referenced above, I examine the "basic features" and "variable characteristics" of this proto-genre. The basic features are shared across all cases. The variable characteristics are not always manifest or not always to the same degree. I argue the variable characteristics of process and function in sub-assemblages depend upon permutations of assemblage, interaction, and participation, and take a number of forms, including generating connections among swaths of content with anticipation of their future use, and co-learning through the process of critical reflection around gatherings of archival materials under a shared topic. Among other things, the micro-publications of the *Japan Disaster Archive* introduce distinctive modes of communication and engagement into the genre while also leaving open questions around the viability and value of those modes. Ultimately they indicate the potential for new ecologies of archival participation that interweave scholarly, public, and pedagogical forms of assemblage-based interaction.

Chapter 2 | Dynamics of Assemblage: *ARLIS* and the *Exxon Valdez* Oil Spill

Over the spring and summer of 1989, picturesque Prince William Sound in southern

Alaska became the scene of a multi-billion dollar, multi-institutional "cleanup" operation. At

midnight on March 24th, the tanker *Exxon Valdez* had ran aground on Bligh Reef, ultimately

releasing at least 11 million gallons of northern Alaskan crude oil. Fishing boats circled slicks;

workers fired boiling water and sprayed the controversial detergent "Corexit"; volunteers

scrubbed rocks one by one; incinerators erased oily debris. Meanwhile America looked on with

grief and anger as the botched response effort by Exxon and Alyeska Pipeline and the shocking

sights and sounds of dead and dying birds and otters set off extraordinary amounts of imaging

and storytelling. Consequences were dire: native communities could not gather and hunt

subsistence food; fishermen could not fish and waited on payments from Exxon; mental health

issues and domestic violence increased significantly in some communities; tens of thousands of

birds, fish, and mammals died.[1] In September 1989, in spite of considerable pushback, Exxon

ended its major cleanup operations. As I write more than two decades later, a number of species

still have not recovered, including the ecologically and commercially crucial Pacific herring.[2]

Through the 2008 court case *Exxon Shipping Co vs. Baker*, Exxon has succeeded in avoiding

hundreds of millions of dollars in punitive damages. Meanwhile, although surpassed in scale by

the 2010 *Deepwater Horizon* oil spill, or blowout, which was some 210 million gallons, the

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[1] For a thorough and moving narrative of community struggle and resilience in the wake of the spill, see Riki Ott, *Not One Drop*: *Betrayal and Courage in the Wake of the* Exxon Valdez *Oil Spill* (White River Junction, VT: Chelsea Green Publishing Company, 2008).

[2] "Status of Injured Resources and Services," Exxon Valdez *Oil Spill Trustee Council*, 2014, http://www.evostc.state.ak.us/index.cfm?FA=status.injured

grounding of the *Exxon Valdez* persists in discourse in image and number, consistently referred to as a measure of destruction.[3]

A turn to this event might at first seem unusual for a study of digital crisis archives. When captain Joseph Hazelwood uttered the once infamous words "evidently…we're leaking some oil," few semblances of digital archives existed. Amid the spreading violence and spectacle of the cleanup response, photographers replaced rolls of film; documentarians carried large video cameras; physical archives filled with letters, reports, and faxes. But my original reason for turning to the spill was precisely this disjunction: the spill having taken place in a period of considerably divergent documentary and archival conditions from the networked, digital present. The disasters' records—I will refer to it as a "disaster," as this is the common term for what took place—have undergone and continue to undergo digital and networked archival transmissions.[4]

That hypothesis around media historical contextualization was supplanted due to encounter with an anomalous archive: an online collection of 2,494 digitized slides uploaded to the image sharing platform Flickr in 2010 by Alaska Resources & Library Information Services

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[3] There is a great deal of scholarly literature and journalism around this disaster. Beyond the texts referenced in what follows, I have found these publications useful: Alaska Oil Spill Commission, *Spill: the Wreck of the* Exxon Valdez, (Juneau, AK: State of Alaska, 1990); Art Davidson, *In the Wake of the* Exxon Valdez*: the Devastating Impact of the Alaska Oil Spill* (San Francisco: Sierra Club Books, 1990); Angela Day, *Red Light to Starboard*: *Recalling the* Exxon Valdez *Disaster* (Pullman, WA: Washington State University Press, 2014); John Keeble, *Out of the Channel: the* Exxon Valdez *Oil Spill in Prince William Sound* (Cheney, WA: Eastern Washington University Press, 1999); Ann Larabee, *Decade of Disaster* (Urbana, IL: University of Illinois Press, 2000); Riki Ott, *Sound Truth and Corporate Myth$: the Legacy of the* Exxon Valdez *Oil Spill* (Cordova, AK: Dragonfly Sisters Press, 2005); Steven J. Picou, Duane A. Gill, and Maurie J. Cohen, *The* Exxon Valdez *Disaster: Readings on a Modern Social Problem* (Dubuque, IA: Kendall/Hunt Publishing Company, 1997); Conrad Smith, *Media and Apocalypse: News Coverage of the Yellowstone Forest Fires,* Exxon Valdez *oil spill, and Loma Prieta Earthquake* (Westport, CT: Greenwood Press, 1992).

[4] We find a corollary in the Bhopal chemical disaster, another 1980s environmental disaster which has persisted in public memory and whose archival records have been transmitted into digital archives and displayed—or not—in web-based sites of summary and retrospection. For an illuminating discussion, see Sophia B. Liu, "Socially Distributed Curation of the Bhopal disaster: a Case of Grassroots Heritage in the Crisis Context," in *Heritage and Social Media: Understanding Heritage in a Participatory Culture*, ed. Elisa Giaccardi (Cambridge, UK: Routledge, 2012): 30–55. In addition to the a chapter on the *Exxon Valdez* oil spill, Ann Larabee discusses the Bhopal disaster in her book *Decade of Disaster*.

(ARLIS).[5] (I will refer to the archive as "*ARLIS*," as it is without title or evident curatorial voice,

being instead under the account of the library, "ARLIS-Reference." As of August 2015, the

account only hosts these photographs.) Part of the anomalous nature of this archive is the novelty

of its origins. Four out of the five collections consist in the work of government

documentarians—the other is by the Alaska Center for the Environment—and the largest of

these five collections is the legacy of a remarkable program without obvious precedent. As part

of an "Oil Spill Documentation Team" started by then Governor Steve Cowper, over the course

of 1989 and 1990, a handful of young men helicoptered around Prince William Sound recording

a wide variety of scenes in both still and moving image: public information meetings;

incinerators burning oil debris; dangerous attempts at blockades; dead animals floating in the

waves.[6] A 1990 news release announcing the establishment of an oil spill archive claims the

Governor's program had three core motivations: to provide information to the media; to gather

documentation for litigation; and to provide a historical record.[7] Turning to an article in the

Anchorage Daily News written at the one-year anniversary, and viewing the materials held in the

documentation team's video collection, we find that the distillation is misleading.[8] Certainly the

program had these three aims, but the act of "providing" information to the media was in fact

[5] A blog post on the ARLIS site from 2010 describes the collection: "This collection, more than 2,400 color slides, covers the early days of the oil spill and subsequent clean-up efforts, and includes photos of oiled wildlife, the tanker leaking oil, public meetings, protests, the Trans-Alaska Pipeline and Prudhoe Bay…Originally available only in the form of 35mm slides, ARLIS has produced high resolution digital scans of these photographs. More than 2,000 images are now available as a photo stream on Flickr. The files are public domain and may be copied without infringing on copyright." Steven P. Johnson, "*Exxon Valdez* oil spill collection," *Alaska Resources Library & Information Services*, August 20, 2010, http://www.arlis.org/collection-spotlight/exxon-valdez-oil-spill-photo-collection.

[6] Exxon Valdez Oil Spill Tapes, 1989–1991, Series 612 Public Information Files, Alaska State Archives, Juneau, Alaska.

[7] "State Library Offers Spill Videos," *Anchorage Daily News*, January 3, 1991.

[8] George Frost, "Putting a Spin on the Spill: Number and Images Become Chess Pieces in Battle to Control Coverage," *Anchorage Daily News*, March 27, 1990.

explicitly rhetorical. The emerging video archive constituted material for "video news releases"

or VNRs, meant to appear like news reports.[9] Grisly posters of dead animals and oiled beaches

would sit behind the Governor as he questioned Exxon's actions in press conferences. On top of

gaining footage for rhetorical ends, the hired documentarians appear to have exceeded their basic

charges. They delight in their filming. In one sequence in the video archive, for instance, one of

the passengers in a helicopter chooses the 1960s psychedelic song "White Rabbit" as a

soundtrack for a flight over a vast glacier field.[10] The shot holds for two minutes.

As interesting and worthy of further study as this history is in its own right—I hope to

produce a study—it is a second distinguishing feature of *ARLIS* that occasions this chapter's

investigation: the consequences of the collection's appearance in the Flickr platform. As of

August 2015, Flickr is among the dominant social media platforms for sharing images. The site

hosts billions. Users form groups around topics of shared interest. Alongside given images are

tallies of the quantity of views to date. Users can comment and favorite. Meanwhile, the means

of viewing images are relatively familiar to anyone who has used online and offline programs for

viewing collections of photographs. One can view images in a collection either individually,

cycled through in sequence, or in aggregate as thumbnails, as in these two screenshots from

ARLIS (figures 2.1, 2.2).[11] In the thumbnail view, the images tile into different sizes, and text

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[9] Brian S. Akre, "State-Produced TV Coverage of Oil Spill Questioned," *Associated Press*, October 18, 1989.

[10] Tape 78, Exxon Valdez Oil Spill Tapes, Series 612 Public Information Files, Alaska State Archives**.**

[11] A note on the visual materials in this chapter and their citation: All screenshots are taken of *ARLIS* over the course of 2014. Neither the collection nor the view changed during that time. I have included citations beneath each. For individual photographs, I have cited their location as Flickr, rather than the physical archive. I have them each the title that appears in Flickr; those titles correspond with their naming in the physical slide collection. It is my understanding that those with the title "Exxon Valdez Oil Spill" were produced for the Governor's program, and do not have credits to individual authors. All the others have the photographers name in their title. For screenshots of multiple images, I have cited the page within Flickr. There are multiple screenshots for some pages. In all cases, I have noted the date of the object as 2010, when these materials were published to Flickr. For individual photographs that appear with dates (in 1989 and 1990), I have included these dates within the caption.

Figure 2.1: Viewing Flickr images in sequence (screenshot).
ARLIS Reference, "Exxon Valdez Oil Spill - 0831," 2010,
http://www.flickr.com/photos/arlis-reference/4908425963.
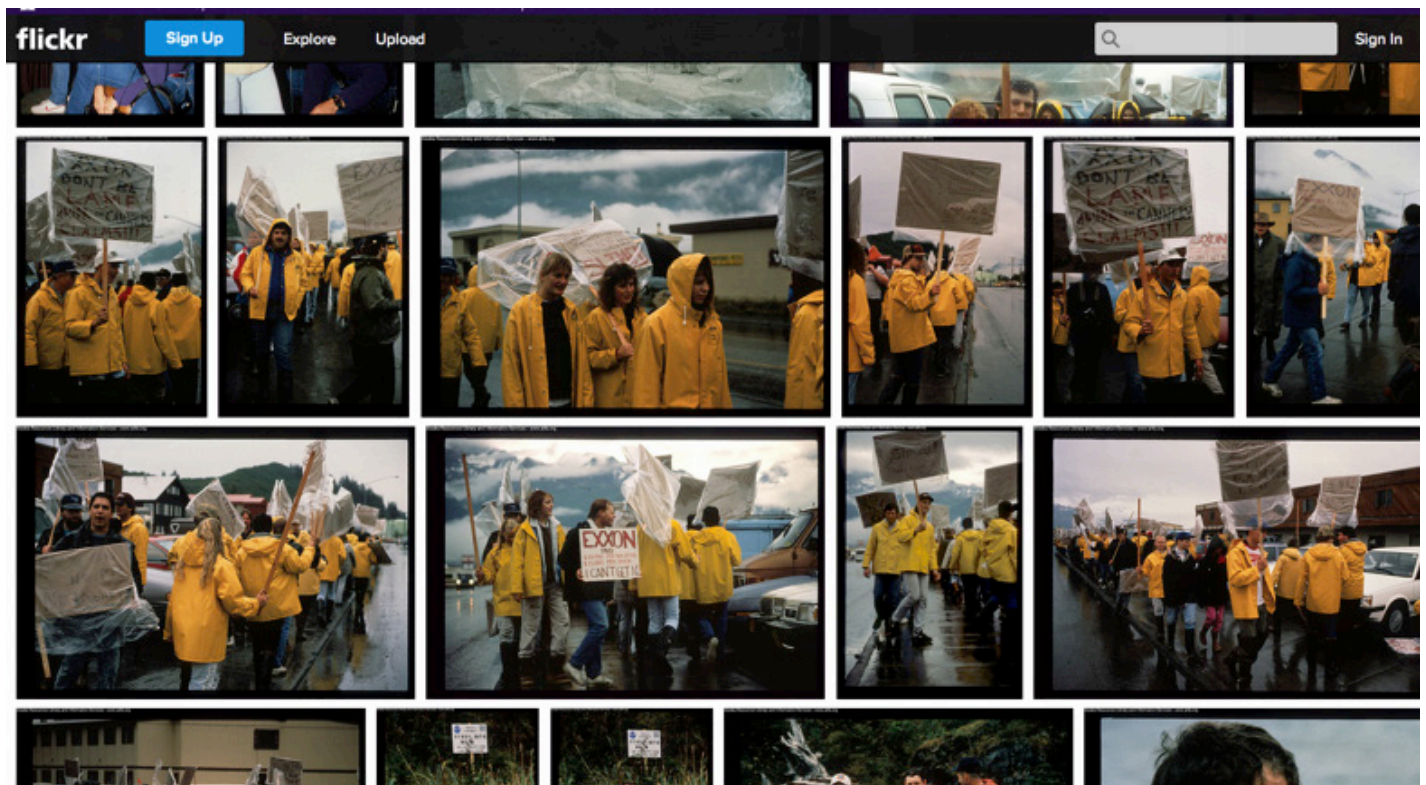
Figure 2.2: Viewing Flickr images as thumbnails (screenshot).
ARLIS Reference, "Page 14," 2010, http://www.flickr.com/
photos/arlis-reference/page14.

appears only on scrolling over individual images. In both the individual/sequential and thumbnail views, visitors can undertake rapid scanning and visual comparison. Scanning and comparison can proceed with especial speed in sequential view, creating illusions of movement with appropriate constituent images, like shots taken from a helicopter within seconds of each other.

Why pay attention to the specificity of the collection's appearance in Flickr? It is not the photographs as social media and public domain repository that interest me, although these are important topics. By the counts next to the photographs, as of August 2015, only a couple thousand visitors at most have explored even a piece of the collection, and there are little to no comments on the images. I have only been able to discover a handful of instances of the photographs' transits beyond Flickr: a photograph of Governor Cowper on his Wikipedia page, and a handful included in photo galleries by newspapers at the twenty-fifth anniversary of the spill.[12] It is the site as a whole—in its actual manifestation online, as actually explored—that forms the focus of this chapter. By way of preview, consider these two extracts from the archive. What can we say of the significance of these photographs? To all but a handful of people, these are never-before-seen: the first is of an anonymous man working on the spill response through the NOAA (National Oceanic and Atmospheric Administration); the second is of a man holding a seal, which is being tagged. Imagine the first pair clicked back and forth (figure 2.3). Imagine viewing the second as a set in thumbnail view, amid other photographs (figure 2.4). In both cases, the union of the photographs would appear to make possible effects of "trans-photographic"—"trans" as in between or across—reading that no constituent photograph could

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[12] "Steve Cowper," *Wikipedia, The Free Encyclopedia*, http://en.wikipedia.org/wiki/Steve_Cowper (accessed July 10, 2015). "*Exxon Valdez* oil spill – in picture," *The Guardian*, March 24, 2014, http://www.theguardian.com/environment/gallery/2014/mar/24/exxon-valdez-oil-spill-in-pictures (accessed July 10, 2015). "Remembering the *Exxon Valdez* Oil Spill, 25 Years Later," *Huffington Post*, http://www.huffingtonpost.com/2014/03/24/exxon-valdez-oil-spill-photos_n_5020845.html (accessed July 10, 2015).

Figure 2.3: A pair of *ARLIS* images juxtaposed (1).
Left: ARLIS Reference, "Ehler 9-19," 2010, http://www.flickr.com/
photos/arlis-reference/5021853492.
Right: ARLIS Reference, "Ehler 9-18," 2010, http://www.flickr.com/
photos/arlis-reference/5021246249.

Figure 2.4: View 1 of Page 2, *ARLIS* (Bud Ehler).
ARLIS Reference, "Page 2," 2010, http://
www.flickr.com/photos/arlis-reference/page2.

on its own, or not to the same degree or in the same way. We do not have good language for what takes place here. (I will return to these two sets of images.)

My interest in the actual online manifestation of *ARLIS* ballooned as I recognized it was full of sets like these: assemblages of images, sometimes handfuls, sometimes spread over several pages, for which trans-photographic reading affords distinctive opportunities for interpretation and experience well outside the images and narratives (and time scales and effects) readily available around this disaster. Meanwhile, I also recognized, individual photographs retain their powers. There were unfamiliar scenes, skillfully composed; there were unexpected choices of subject (figures 2.5, 2.6). Indeed, we can suggest that transit through *ARLIS*, as it manifested in Flickr through August 2015, is shifting between individual, juxtaposed, and in-motion views of photographs, and, as I will show, shifts in ways of reading. That transit is at once confounding and transformative. *ARLIS* remains under-viewed, and will likely remain so. This is an equally intractable and engaging archive.

My questions were: What to do with all these images and experiences? How to make sense of what we find here? How to form a response? For one, *ARLIS* raises questions around the ways digital crisis archives can intervene in the contingent and unfolding public imagination of a large-scale environmental disaster. In this case, for a long time, available photographic documentation of the *Exxon Valdez* oil spill has been remarkably limited in scope and nuance, even with the transmission of materials into the digital sphere. Photographs available to online search and through proprietary archives like Getty Images and Corbis focus on the shock of oil violence, and on the spectacle of the cleanup operation. In other words, the distributed digital photographic archive of the spill has tracked with what we could argue are the dominant modes

Figure 2.5: Exxon Valdez Oil Spill - 1583 (September 7, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1583," 2010, http://
www.flickr.com/photos/arlis-reference/4969662256.

Figure 2.6: Exxon Valdez Oil Spill - 1251 (December 12, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1251," 2010, http://
www.flickr.com/photos/arlis-reference/4930880830.

of public reference to the disaster. Writing at the fifteenth anniversary, a journalist chronicling the effects of the disaster on fishing communities suggests:

> For a few months, the disaster was imprinted on the national consciousness. But as time passed, it was reduced to a few stubborn media images: an oiled otter, a tar-covered seagull, men in haz-mat suits spraying boulders with boiling water. An out-of-work commercial fisherman was never among the emblems. But the fisherman were long-term victims too. [13]

To visitors who would turn their attention to *ARLIS* with relative awareness of the history of the spill, there is meaning and implication in transit through its pages, even its naked and uncurated form. Traveling to *ARLIS*, imagination and memory around the spill will expand and transform in unpredictable ways beyond the "few stubborn images." While the site will also confuse, bore, and frustrate, even for those exposed to nothing, or strictly to the dominant, it will also likely afford some transformation. Further engagement with other materials around this disaster, conversation with those affected and with witnesses, will likely increase one's spectatorial dialogue with the site.

I argue we can approach *ARLIS* as a laboratory for understanding potentials and issues around digital crisis archives in general, and the photography-centered form of the crisis archive specifically. This chapter takes this opportunity. It performs the work of thinking with this archive. I will argue *ARLIS* estimates a general form of digital crisis archive that warrants and rewards interaction and engagement by more than goal-driven researchers, and thus complicates a more ready-at-hand picture of the digital archive as a site of augmented storage and retrieval. It is a site where things can take place—where multiple media-dependent crisis-related practices converge. The next chapter's subject, the *Hurricane Digital Memory Bank*, is another instance of such a site—the crisis archive as multivalent memory apparatus. I will further argue that *ARLIS*

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[13] Ashley Shelby, "Whatever It Takes," *The Nation*, April 5, 2004, 18.

instantiates a *distinctive* model for the digital crisis archive: an image-centered context for sustained and distinctive study of the disaster as a whole, and of various constitutive thematics. Those thematics are by no means exhaustive of what could or should receive retrospective attention. I am influenced in using this language by the literary theorist Hillary Chute, whose writing I will further consult below. Writing of Art Spiegelman's tremendously influential comic series *Maus*, Chute proposes a concept of the "visual materialization":

> There had not been a visual, narrative text of the Holocaust published widely before *Maus*—what I think of as a visual materialization, for instance, of Auschwitz: something that is not a still photograph that captures a single moment, or a moving series of film frames that whisks a viewer along, but is rather a visual materialization that is a sequence that creates a world that can be studied and engaged at one's own pace.[14]

I treat *ARLIS* as just such a "world" in what follows. I seek to understand the workings and implications of this world, with its particularities of content and the particularities of the architecture. What are the "dynamics"—actual motions among, emergent relationships between—that manifest across assemblages of photographs here? What forms of interaction do they invite and afford? How do we make sense of the implications of viewing these images, individually and in relationship? I will argue *ARLIS* provides an especially rich and complicated context for understanding how digital crisis archives can exceed models of the physical archive, and I will illustrate the alternative modes of crisis conceptualization and imagination—around dimensions and thematics rather than storylines and numbers—the photographic aggregation appears especially poised to afford. As will I argue is the case with the *Hurricane Digital Memory Bank* and the *Japan Disaster Archive*, new meanings surface through permutations of assemblage—relationships among media—and interaction—active visitor engagement with the

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[14] Hillary Chute, "Comics as Archives: MetaMetaMaus," *e-misférica* 9.1–9.2 (2012), http://hemisphericinstitute.org/hemi/en/e-misferica-91/chute.

interface. Broad publics can find varying uses, including, in this case, the aesthetic, affective, and interpretive. But they can also find obscurity and confusion—anonymous events, unexplained occurrences. The challenge I set in this chapter is forming vocabulary for how such a complicated object might be approached, understood, and learned from, and with what implications for visually-mediated relationships to this disaster of extreme consequence.

I. Modalities

The chapter proposes a complicated and unusual theoretical investigation without obvious signposts or precedents; as such, it is worth persisting in the preparatory mode a moment longer in order to ground the reader in the structure of the discussion. There are two main sections followed by concluding reflections. Both of the main sections examine a set of vocabularies for understanding what emerges through the digital aggregation of these images: the formal effects generated, the potential consequences for understanding and imagination, the apparent gaps and limitations. The first section—the present section—is concerned with three ways in which a visitor might read *ARLIS*. I call these "modalities." The term suggests the mode or manner in which something is experienced—a chosen or unchosen way of proceeding—and implies the co-existence of others. There are three modalities. The first generate effects comparable to those available through physical media artifacts like photo-books and comics. We encounter quasi-cinematic effects as well. The second section—the one after the present section—is called "Thematics." It argues *ARLIS* enables exploration of four thematic areas variously present or absent from existing imagination and narrative around the spill: oil and place, oil and communication, oil and resistance, and oil and nature.

Archives as Photo Books

Visitors call *ARLIS* to their screen through a URL. The photographs populate the browser window. The visit is a moment in whatever trajectory of web engagement taking place. The site is interactive in architecture, and the photographs enhance the appeal of lively interaction. From the first, the visitor faces a range of choices: not only what photographs to view and for how long, but in what way. As noted earlier, Flickr provides a finite but highly generative nest of possible ways of navigating and reading images. One can survey in pages through scrolling and clicking, or one can view single images, in sequence. One can move between the thumbnail view and the single image view (please see figures 2.1, 2.2). Throughout any given encounter, one can alter the speed of the exploration. The opportunity to download is ever-present. Accompanying descriptions are also viewable. The interface also includes a map feature.[15] Browser zoom can alter the scale and quantity of thumbnails. As noted above, there are five separate sub-collections in *ARLIS*, one by photographers working with the Alaska Center for the Environment, four of them produced by government documentarians. One of the latter was produced as part of the Governor's program. Those typically carry a few sentences of description and notes on date, as originally entered into the Oil Spill Archive.

The first modality is "archives as photo books." Scanning materials quickly, taking time to contemplate individual photographs—these have become highly familiar experiences to those in possession of imaging technologies or moving through the results of image searches. Typically the activity is goal-driven—a searching exercise. If I am a researcher, I do this with direction, a means-ends relationship with interface and collection. (I could, for instance, go to another context of digital aggregation around the spill, the State of Alaska's Alaska Digital

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[15] At least 100 of the photographs were tagged with locations, and can be explored through Flickr's map interface.

Archives, in search of photographic material.[16] I could try to discover what kind of imagery was the Oil Spill Documentation Team taking in September 1989. I could try to discern how the team appeared to approach representing a given press conference.) I am claiming a difference with *ARLIS*: a density and intensity of interaction akin to movement through physical media artifacts that have been aimed at broader audiences and perform work other than that which we expect from physical research archives. *ARLIS* is, as one consequence of aggregating disaster-related media, a virtual photo book. It does not appear this way. It is not like Walker Evans' *American Photographs*, introduced with an admonition to view the photographs in sequence.[17] There are no pages, no introductory text or accompanying essays. Instead, it is imagined and mobilized into being as such through interaction, generating effects that both mimic and exceed the photo book, all the while enabling suites of other interactions, like downloading and "favoriting." It is a multivalent and indeed messy visual memory apparatus.

What can we say of the workings and implications of *ARLIS* as photo book? We find a rich resource in an essay by the photographer and critic Allan Sekula entitled "Photography Between Labour and Captial," the introduction of which was later published as a standalone essay called "Reading an Archive."[18] The essay was written for a photo book—he calls it a "picture book"—published in 1983 called *Mining Photographs and Other Pictures, 1948–1968.* *Mining Photographs* shares a basic feature with *ARLIS.* It is a publication of an archive of photographs, although those photographs do not represent the work of multiple photographers.

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[16] *Alaska's Digital Archives*, http://vilda.alaska.edu/cdm/search/searchterm/exxon%20valdez/order/nosort.

[17] Walker Evans and Lincoln Kirstein, *American Photographs* (New York: Museum of Modern Art, 1938).
[18] Allan Sekula, "Photography Between Labour and Capital," in *Mining Photographs and Other Pictures, 1948–1968: A Selection from the Negative Archives of Shedden Studio, Glace Bay, Cape Breton*, ed. Benjamin Buchloh and Robert Wilkie (Halifax, NS: Press of the Nova Scotia College of Art and Design and the University College of Cape Breton Press, 1983): 193–268.

They are the work of Leslie Shedden, a commercial photographer and owner of Shedden Studios in Glace Bay, Cape Breton, Nova Scotia, working in the middle of the twentieth century. Half of the photographs were produced for the local mining company Dominion Steel and Coal Corporation (Dosco). These document things like crouched miners, heavy machinery, demolitions, group shots. The other half of the photographs were produced for individuals and groups in the communities of Glace Bay. We encounter storefronts, weddings, parades, family portraits. (*Mining Photographs* feels partly like a collection of items from personal albums.) Sekula's essay is one among several embedded within the book. In its concern with the political economies of photographic production and the histories and vagaries of modern and contemporary art, the essay matches the tone of the introductory text by one of the editors, art historian Benjamin Buchloh.

I do not think Sekula would have imagined his work being mobilized in describing the transformative potentials embedded within an online archive of institutionally-produced photographs: his writings are among the most cited in critical accounts of archives as regulatory regimes.[19] But his essay provides important insights that we can then adapt, and indeed helps to temper too ready of a celebration of *ARLIS* as a laboratory of meaningful photographic engagement with crises.[20] In effect, he offers language for implicit "dynamics of assemblage" in archives and photo books—for the powers that derive of the acts of aggregation upon which both cases depend. Far and away Sekula's essay focuses on dynamics of risk, misperception, and potential harm. For one, he argues historical picture books can give the illusion of deriving from

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[19] See, for instance, Allan Sekula, "The Body and the Archive," *October* 39 (1986): 3–64.

[20] Sekula's 1995 collection *Fish Story* includes a photograph of the *Exxon Valdez* in San Diego, repaired and awaiting sea trials, rechristened the considerably balmier *Exxon Mediterranean.* I have often thought of how the reception of that photograph has shifted over time, what people have called to mind in internal memory. Allan Sekula, *Fish Story* (Düsseldorf: Richter Verlag, 1995).

a set of materials that is authoritative and unbiased—particularly problematic given the apparent

quantity and coverage. Sekula writes: "photographer, archivist, editor and curator can all claim,

when challenged about their interpretations, to be merely passing along a neutral reflection of

already established state of affairs."[21] Second, archives and photo books can appear to

adequately and responsibly distill the lives and histories they concern. Third, they can serve to

aestheticize the lives and worlds that emanate from their photographs. And, lastly, partly by

virtue of the placement of photographs in "abstract visual equivalence," photo books built out of

historical archives simultaneously suggest and maintain silence around the meanings their

photographs once held when in production and circulation. Photographs become reduced to

"purely visual" value, and "the underlying currents of power are hard to detect."[22] Of this latter

proposition, we can say, for instance, that the rhetorical aims of the Governor's documentation

program fall away.

One could easily come away from Sekula's essay imagining photographic archives and

historical picture books as fundamentally fraught and problematic. But there is an implicit

second story at work that appears to have been sacrificed in favor of the trenchant criticism of

unreflective appreciation of photographs and photographic collections as neutral and transparent.

This second story concerns photographic archives and their attendant publications as sites of

experiential and interpretive possibility and indeed volatility. Consider passages like the

following:

> In an archive, the possibility of meaning is "liberated" from the actual contingencies use.
> But this liberation is also a loss, an *abstraction* from the complexity and richness of use, a

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[21] Sekula, "Photography Between Labour and Capital," 198.

[22] Ibib., 194.

loss of context…new meanings come to supplant old ones, with the archive serving as a kind of "clearing house" of meaning.[23]

Despite the powerful impression of reality (imparted by the mechanical registration of a moment of reflected light according to the rules of normal perspective), photographs, in themselves, are fragmentary and incomplete utterances. Meaning is always is directed by layout, captions, text, and site and mode of presentation…Thus, since photographic archives tend to suspend meaning and use, within the archive meaning exists in a state that is both residual and potential. The suggestion of past uses coexists with a plenitude of possibilities.[24]

The viewer of standard pictorial histories loses any ground in the present from which to make critical evaluations. In retrieving a loose succession of fragmentary glimpses of the past, the spectator is flung into a condition of imaginary temporal and geographic mobility. In this dislocated and disoriented state, the only coherence offered is that provided by the constantly shifting position of the camera, which provides the spectator with a kind of powerless omniscience.[25]

Though the grain of Sekula's remarks runs toward the litany of cautions I just outlined, nevertheless he sketches in passages like these a picture of photographic assemblage that deserves recognition as well. Encounters with photographic assemblage are highly active and productive; to use his term, they carry "a plenitude of possibilities." That production spawns from the relationships the photographs make between each other, and from the dynamics of assemblage the reader-viewer introduces. By this account, *ARLIS,* as a hybrid between archive and publication—and other conceivable photographic digital crisis archives—is especially poised to provide space for a "plenitude of possibilities." That potential for plenitude is all the

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[23] 194.

[24] 195–197.

[25] Sekula, 199. Sekula continues, in what I see as hyperbolic but nevertheless adaptable terms: "Thus the spectator comes to identify with the technical apparatus, with the authoritative institution of photography. In the face of this authority, all other forms of telling and remembering begin to fade. But the machine establishes its truth, not by logical argument but by providing an experience. This experience characteristically veers between nostalgia, horror, and an overriding sense of the exoticism of the past, its irretrievable otherness for the viewer in the present. Ultimately then, when photographs are uncritically presented as historical documents, they are transformed into esthetic objects. Accordingly, the pretense to historical understanding remains, although that understanding has been replaced by esthetic experience."

more intensive by virtue of the central subject matter: a large-scale event, and one which has received considerable documentation, which the viewer might already have encountered, or which she could seek out. Furthermore, what textual additions do exist with photographs provide opportunities for connection forming and imagination.

What could we then say of the workings and implications of the "modality" of reading *ARLIS* as photo book? The third passage just quoted provides a suggestive starting point: "imaginary geographic and temporal mobility." Paging through *Mining Photographs* is imaginary movement through two-dimensional registers of a coherent time and space: twenty years in Glace Bay, Nova Scotia. The reader-viewer passes chaotically through scenes underground and above ground, from the fifties and sixties, from street scenes to interiors. With *ARLIS*, the space is southern Alaska (with brief trips to Prudhoe Bay in northern Alaska) and the time less than two years, spring 1989 through mid-1990. But there are amplifications and deeper complexities in *ARLIS*. There is the imaginary time and space of the crisis. There is the scale of the photographs. And there is the rapid scanning and nonlinear movement enabled by the platform. The geographic and temporal mobility and disorientation is redoubled. (In fact, in some sequences, actual travel is documented or made virtual, as with multiple shots in succession from a helicopter. This is an emanation of a flipbook.) Meanwhile shots of oil violence intervene between scenes of serenity, beauty, and humanity—and vice versa. Is this geographic and temporal mobility as disorienting as Sekula suggests? What effects for post-disaster practices—research, memory, interpretation—can such mobility have? Does the visitor imagine herself as getting at historical truth through such passage, or does the profusion of images and the repetition of photographs undercut claims to authority?

In Sekula's account, photographic "mobility" through the documentary surfeit of photo books and photographic archives is "geographic" and "temporal." Are there other conceivable kinds? Building on his framework, I would argue *ARLIS* makes manifest the potential for a third. We can call this "dimensional" mobility. This effect comes through acts of rapid open exploration, but also exists across any experience of interaction with the archive. We can turn to closer reading of the archive. Dimensional mobility opens from the first pages of the "photostream" (Flickr's terms for the collection of images under an account), which consist entirely of photographs by National Oceanic and Atmospheric Administration (NOAA) photographer Bud Ehler. Likely having been exposed only to those stubborn images of dead animals, oil slicks, and cleanup labor, the first-time visitor might read the first photograph as out of place: an unnamed man with a wedding ring on the phone with styrofoam cups in the foreground (figure 2.7). The ensuing five photographs might seem out of place as well: aerial shots of snow-capped peaks in a vast sea of clouds. A more conventional matrix is restored for the next sixty odd photographs, which offer familiar aerial views of boats and oil slicks. One then moves through several photographs of workers conversing among computers, close-ups of those computers, the snapshots of a man's embrace of a seal presented above, back to the offices, past a triptych of photographs of jars of water, through images of government workers in jumpsuits casually posing for the camera in front of deposits of oil, then back finally to familiar aerial shots of boats and oil slicks (figure 2.8). In one sense, the visitor can have a largely surface or mystified encounter, discovering gaps in memory and awareness of elements of the spill exposed. But moving through these pages and the twenty-three others, one also travels through a chaotic repository of micro-, meso- and macro-dimensions of the events, as though through a catalog of visual symbols of the crisis and aftermath, the speed of scanning drawing attention

Figure 2.7: View of page 1, *ARLIS* (Bud Ehler).
ARLIS Reference, "Page 1," 2010, http://
www.flickr.com/arlis-reference/page2.

Figure 2.8: View 2 of Page 2, *ARLIS* (Bud Ehler).
ARLIS Reference, "Page 2," 2010, http://
www.flickr.com/photos/arlis-reference/page2.

away from realities rendered through snapshot—that geographic and temporal mobility—toward signs produced through frames. The photographs as much provide virtual glimpses of times and places as beckon reading for interconnected dimensions of the disaster and its complex aftermaths, dimensions one could, with time, name, interpret, and compare—or opting for speed, gather into a flickering consciousness, or ignore. Among those images pointed to above, for instance, a visitor could find in rapid succession the romance of the Last Frontier (by way of the snow-capped mountains); intimacy with wildlife (seal embrace); mapping, calculation, and computing (office scenes). These pass by quickly, but they can remain in memory. Reading *ARLIS* in these ways, we have arrived somewhere other than the single still image of disaster on its own or appended to an article, and we have exited the directionality and intention of narrative. The digital crisis archive offers an alternative structure of engagement.

A final note: there is documentary reflexivity embedded in the experience of transit through *ARLIS* as well. Scanning the collections, it becomes evident that the government documentarians as much produced individual windows onto the Sound as engaged in a distributed process of event cataloguing or mapping, not unlike the work of photographers for the Farm Security Administration. The physical photographic archives to which they committed their work embedded assemblages of the dimensions found worthy of inclusion in retrospection around the shared reality and historical construct of the *Exxon Valdez* oil spill. Indeed, moving through Ehler's photographs in sequence, one might imagine he interpreted his documentary charge as the accumulation of a collection of visual symbols: these images of this scene will stand for this, these images of these people will stand for that. Moving through *ARLIS* as a whole, one's sense of encountering dimensions grows still further, as does the sense of encountering the work of documentarians intending to accumulate documentation of dimensions.

Figure 2.9: View of Page 20, *ARLIS*.
ARLIS Reference, "Page 20," 2010, http://
www.flickr.com/photos/arlis-reference/page20.
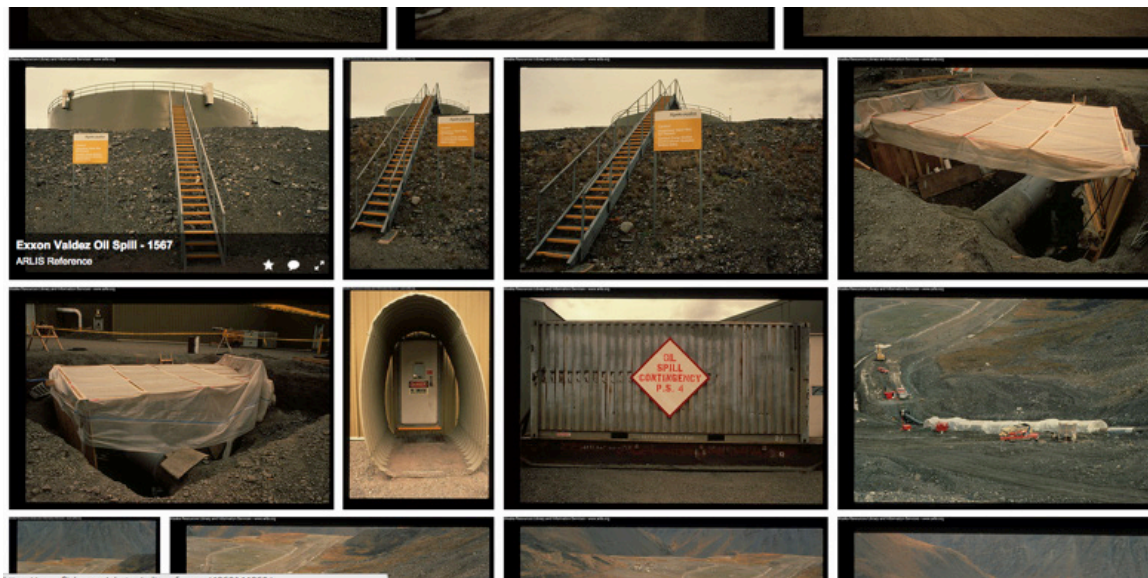
Figure 2.10: View of Page 10, *ARLIS*.
ARLIS Reference, "Page 10," 2010, http://
www.flickr.com/photos/arlis-reference/page10.

As one clicks from page to page, one finds that almost inevitably given scenes or subjects are rendered in more than one photograph. Consequently, not merely glimpsing these scenes and subjects, one sees them reiterated, turns on them put on display, often in evocative and thorough fashion. One journeys through arrays of juxtaposed, thickly rendered, and sometimes overlapping dimensions: government interventions alongside scientific testing alongside environmental harm alongside communication networks alongside physical labor (figures 2.9, 2.10, 2.11). Twenty year later, Flickr has animated the photographers' collective event mapping. It offers a considerably wider spectrum than what researchers and publics find in searching images related to the spill online (figure 2.12).

Archives as Comics

As is evident, I am putting forward digital crisis archives as open to reading—by researchers and citizens—through diverse means and to diverse ends. Of course, any medium invites multiple modalities of interpretation and experience, but digital crisis archives can make available modes that overlap quickly and variously, causing, as we will again see in the studies of the *Hurricane Digital Memory Bank* and the *Japan Disaster Archive*, the generation of whole contexts—whole archives—and parts of archives—like sub-collections—that serve equally in provisioning information and object as generating opportunities for experience and interpretation. Examining *ARLIS* in a second modality, as comic, we will recognize forms and consequences of interaction distinctive from those just described for *ARLIS* as photo book.
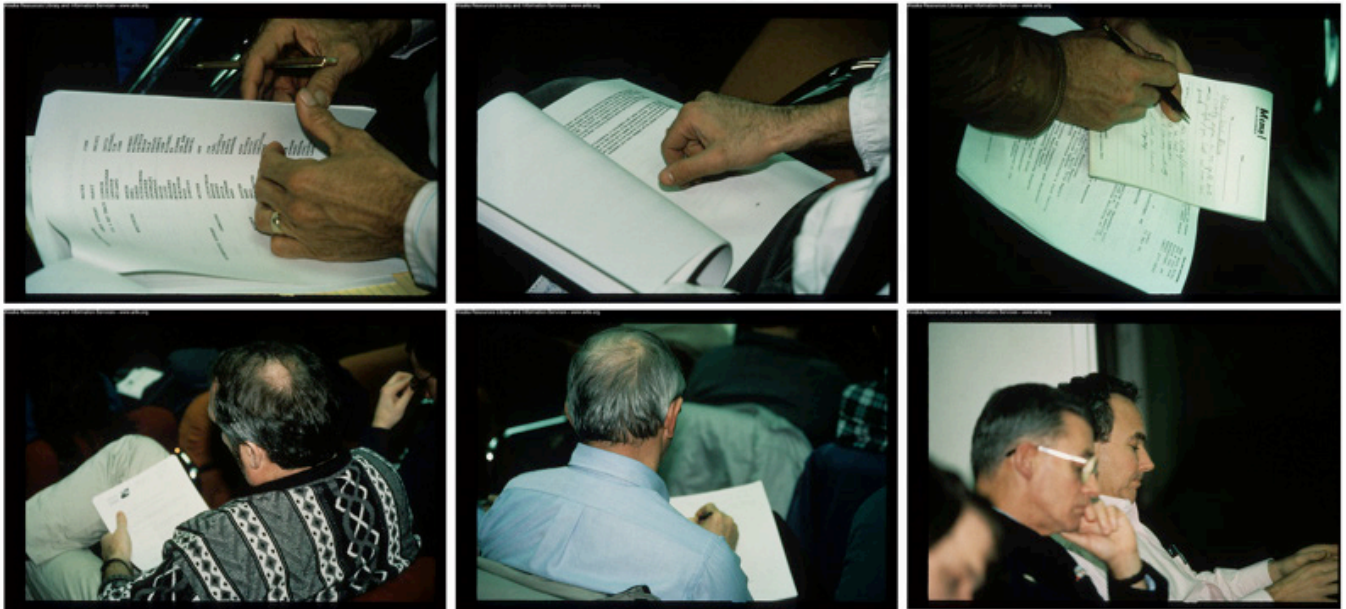
Figure 2.11: View 1 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://
www.flickr.com/photos/arlis-reference/page13.
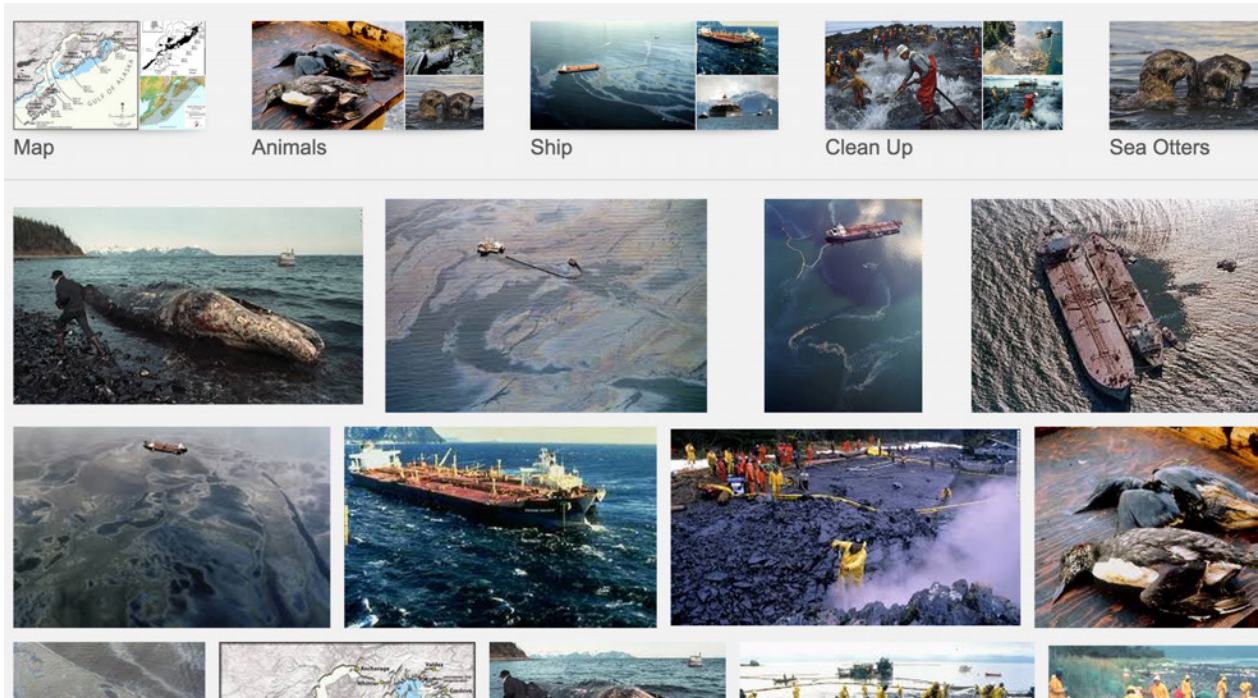
Figure 2.12: View of Google Images search "exxon
valdez oil spill," August 2015.

"Archives as comics" is a translation and inversion of the title of an article by the graphic literature scholar Hillary Chute, "Comics as Archives," from which I quoted above.[26] I do not mean to suggest Chute has the inversion incorrect—far from it. Chute opens a highly productive two way street. (We will see comics again serve as useful references in the second chapter.) In her case, her program is an elaboration of the essences of the medium of comics—she speaks of the medium in the plural as "comics" rather than "comic," as I will here—and a contemplation of visual, material event memory. The central protagonist—Spiegelman's *Maus* series—defines the endeavor. For Chute, comics as much consist in narrative unfoldings and illustrative display as they do in the display of personal and historical memory. We can listen in:

> Comics makes the process of selecting, ordering, and preserving intelligible in a way few forms can: its very narrative syntax is an interplay of presence and absence, in which moments of time are selected and boxed (separated conventionally by bands of white space called "the gutter"). The actual juxtaposition of frames on the page calls overt attention to the basic grammar of comics as selection—to the rhythm of the displayed and the evacuated, and how they constitute each other. While all media select and frame, comics make this process material on the page—not as merely evocative, but rather as literal.

> Comics inscribes its information in boxes on the page in order to preserve and commemorate, but also to disseminate, to circulate, to produce an interaction.

> The architectonics of comics *is* the process of archiving. It makes a location for ordering information to express history and memory.

ARLIS, I would argue, suggests an inversion of Chute's metaphorical expansion: to see archives as comics. In the space of a physical archive, presumably in the reading room, the metaphor is difficult to sustain. How would laying out materials—presumably one by one—on a desk or a light table, wearing white gloves, furnish formal relationships and experiences reminiscent of graphic literature? But engaging the kinds of subsets identified in the introductory section of this

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[26] Hillary Chute, "Comics as Archives: MetaMetaMaus," *e-misférica* 9.1–9.2 (2012). http://hemisphericinstitute.org/hemi/en/e-misferica-91/chute.

chapter, the inverted metaphor proves highly enabling. The combination of the distinct qualities

of the photographs and the Flickr interface serves to provide Chute's instance of a "visual

materialization," which I introduced above: a world of sequences and assemblages open to

study.[27] As we expect of published volumes, engagement with *ARLIS* furnishes an experientially

and cognitively rich unfolding. Photographs connect in meaning; learning takes place;

confusions arise; judgments form. Instances where scenes are documented in multiple

photographs are especially receptive to reading qua comics. I will return to this in a moment.

For the moment I must momentarily diverge to elaborate on her mention of the "gutter"

in comics, the gap between frames. The term is doubly applicable to *ARLIS* and helps to

articulate what takes place there. First, in well-known comics theory, advanced most famously

by Scott McCloud in *Understanding Comics*, the gutter is a formal feature that serves in

narration and imagination.[28] McCloud demonstrates that the gutter, when given the right

imagery, compels the reader to complete in her imagination the actions which take place

implicitly between frames: a frame of a raised knife then a frame of a body lying on the floor, to

use an example of McCloud's. This is "closure." We can witness closure at work in both of the

examples referred to at the outset of this chapter (please see figures 2.3 and 2.4). To take the pair

first: in the image on the left, the NOAA worker—his apparent ambivalence at being

photographed notwithstanding—is responsibly carrying out his duties, likely documenting the

extent of oil on this beach, or recording his colleagues' work by government protocol (figure

2.3). In the image on the right, he is apparently caught in a moment of play. (The thumbnail view

makes these two photographs too small to view side by side, so we should imagine clicking back

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[27] Chute also quotes Spiegelman describing comics as "mental zones." This is a productive term for crisis archives
as well.

[28] Scott McCloud, *Understanding Comics: The Invisible Art* (New York: Harper Perennial, 1994), 67.

and forth in sequential view.) Bound together these images form a catalytic unit which spurs one to recognize and imagine actions taking place between them: the man turning toward the oil, stick in hand, lowering his arm. In the second example one finds repeated closure at work as one scans from above or clicks through the images in sequence (figure 2.4). Even if one does not fully conjure a moving image in one's mind, one still recognizes the links between the frames and may find images of intervening moments flicker in and out: tightening the grip, cameras clicking.

Gutter is crucial to *ARLIS*, but we must attend to a second linkage between *ARLIS* and comics that more tightly links with Chute's account, and is more suggestive for our purpose: the way these photographs serve to, as she says, make a "location for ordering information"— broadly construed—to "express history and memory." Along these lines, units like the above stand open as sub-fields, or small worlds, that can be "studied and engaged." Consider again the two units. (We will have occasion to consider several more below in exploring thematics.) Both stand open to approach in the more familiar terms of closure, but also in Chute's simultaneously interpretive and oneiric sense. Performing the archive as comic or "visual materialization," a visitor not only find sites for closure in subsets of *ARLIS* imagery; she also finds sites for co-constructing readings, for finding history written and configured, or reconfigured. How would we then re-describe trans-photographic reading of these two sets? In the case of the pair of photographs of the NOAA worker pointed to above, one finds a surprising history rendered in a diptych: here is an act of spectacularization in the flesh, performed amid precarious labor, surrounded by the stench of oil. These are its meanings and histories, embedded within the overall assemblage of frames of the events—the overall world. In the case of the array showing the handling of the seal, one could engage in a cascade of generative explorations. One could

focus in on the far right image in the middle row, the other images blurring as one feels the man's empathy; one could dart from this image to another and still another in nonlinear fashion, noting variations in hand positions that comfort and constrain the seal; and one could take in the array as an expressive visual collage. One could subsequently interpret the collage as containing and displaying memories of public monetary and emotional investment in the wildlife suffering the effects of oil and as holding a place for the spill's making possible scene after scene of human-nonhuman intimacy. A single photograph would indeed convey some of this, but here, in the multiplicity of images, there is an insistence, and a visitor can actively participate in the interpretation and animation of the visual composite. To open this out beyond these two examples, consider a third (figure 2.13). Here, quite other types of viewing experiences await the visitor. The subset works more in the mode of the aesthetic than the documentary. Transported to an oilrig, one finds otherwise invisible labor both made visible and obscured. The consolidation of photographs renders more mystery than clarity, more deflection than revelation.

Archives as Sequences

A third modality of movement through *ARLIS* appears to combine archive as photo book and archive as comic. It is moving through a sequence of images, as if scanning the negatives on a film reel, or clicking through a series of projected slides.

Consider an account of what takes place in examining a sub-sequence of NOAA photographer Bud Ehler's work in *ARLIS*. (We looked at his photographs in examining dimensional mobility above.) They are all of one day: April 27, 1989, a little more than one month into the response effort. At one level, browsing the several dozen photographs from start to finish we follow the silent visual narrative of an itinerary no doubt executed time after time

Figure 2.13: View of Page 11, *ARLIS*.
ARLIS Reference, "Page 11," 2010, http://
www.flickr.com/photos/arlis-reference/page11.

Figure 2.14: Ehler 6-07.
ARLIS Reference, "Ehler 6-07," 2010, http://
www.flickr.com/photos/arlis-reference/5015911149.

during the spring and summer. We start in an operations center where the day's activities are being planned; we exit and travel past fishing docks and an otter rescue center; we arrive at the USCG Marine Safety Office and board a helicopter; we fly over boats contending with slicks; and from there we visit several beaches—the first has dozens of cleanup workers, another has only a boom, a final one has nothing but oil. Moving through these photographs, we also linger with Ehler's documentary endeavors. In one sense Ehler's photographs from this day appear to represent similar goals to the others in the set and to conform with the state's goal of generating documentation for evidence and historical record: they offer thorough, publication-appropriate illustrations of actions of the NOAA, only in greater detail. Standing out, however, are several photographs for which greater care is taken in composition, and which appear to express a quasi-anthropological, quasi-artistic attention to the actual situated exercise of cleanup response. They frame event dimensions. Consider the beginning of the day: A man in wide shots talking to a team, probably about the plan for the day—his garb is distinct, sets him apart as leader. We step away for a moment to several shots around the office, workers in jumpsuits at their computers, one of them of a pair of workers sitting on stacked chairs—Ehler attending to meso- and micro-dimensions for his own interest, or for the archive (figure 2.14). The date is posted on the wall at center frame. Clicking or scanning ahead—depending on the view—we return to another medium shot of the man leading the discussion of the day. Two images take us closer (figure 2.15). In the first, the man leans forward, his white sweater and shirt melding into the white wall and the map behind him. The color map highlights presumably oiled shoreline alongside the northwestern side of Knight Island. In the second, he leans back and a telephone emerges into the frame. We feel continuity between the man and the objects with which he speaks and with which, by extension, he dictates the day's efforts. We have a room of people confronting floods

Figure 2.15: A pair of *ARLIS* images juxtaposed (2).
Left: ARLIS Reference, "Ehler 6-09," 2010, http://
www.flickr.com/photos/arlis-reference/5015911903.
Right: ARLIS Reference, "Ehler 6-10," 2010, http://
www.flickr.com/photos/arlis-reference/5016519418.

Figure 2.16: Ehler 8-36.
ARLIS Reference, "Ehler 8-36," 2010, http://
www.flickr.com/photos/arlis-reference/5021231553.

Figure 2.17: Ehler 9-07.
ARLIS Reference, "Ehler 9-07," 2010, http://
www.flickr.com/photos/arlis-reference/5021845018.

of image and data arriving and leaving, actors attempting to meet the environmental upheaval out in the Sound. [29] After taking us past the docks and up into the helicopter, Ehler again displays sensitivity in attending to response workers in the actual practice of their labor (figures 2.16, 2.17). Here oil does not register in its dominant guise as aggressor nor as the object desperately kept at bay—instead a greater complexity of interleaving creation and destruction, and the forcing of novel modes of interaction. Now oil has become something that places us somewhere unexpected, which generates conversation. Ehler asks the team he documents to act out their actions or catches them unaware. The camera registers times out of time, expressive gaps in the attempts at cleanup, workers contemplating the oil in its material presence. The day's photographs end with successive shots of the *Exxon Valdez*. The captions indicate the ship is still hard aground a month later, not yet on its way to dry dock in San Diego (figure 2.18). Shots of a jar, staged for view, begin another sequence: response activities on June 3rd.

Ehler's sequence reinforces the assertion that digital aggregations of photographs are open to several forms of reading and interpretation at once. Here we can see in a single collection both the marginal and the dominant imagery of the disaster interwoven. The interface allows those photographs to come into plural dialogue. Through this experience of transit whatever existing internally or externally held dominant images come into conflict or see reinforcement. In this case, there is not simply a chaos of snapshots nor a disorienting geographic and temporal mobility. In fact the collection is rife with suggestiveness and embedded meanings, affordances and absences—seeing infrastructures, aiding imaginations of scale, establishing the scene in Prince William Sound, belaboring the visuals of slicks.

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[29] This scene reminds me of Bruno Latour's concept of "immutable mobiles"—data and communication in stable media—serving as means of and control from remote sites. Bruno Latour, "Drawing Things Together," in *The Map Reader: Theories of Mapping Practice and Cartographic Representation*, eds. Martin Dodge, Rob Kitchin, Chris Perkins (Oxford: Wiley Blackwell, 1990): 65-72.

ARLIS as photo book, *ARLIS* as comic, *ARLIS* as sequence—heuristic comparisons with other forms of media and close looking sensitize us to parallel processes of interpretation and exploration occurring together—the scanning of dimensions of the events occurring alongside momentary contemplation of faces and lives. Crucially, I should emphasize I am not proposing a pre-constituted, conscious visitor opts for one or the other modality and engages the archive as such. Exploration is multi-faceted; lens switches happen on the fly; dynamics of assemblage and ways of interacting overlap. And the archive can confound as much as illuminate.

II. Thematics

Let us step back to consider where we have gone and where we are going. Within the program of the dissertation, this chapter engages *ARLIS* as an instructive instance of a digital crisis archive as exceeding a picture of digital archives as amplified storage and dissemination. It centrally concerns dynamics of assemblage and modes of interaction, their inner workings and their implications. We learn how the pluralities of imagery in the collection instance and facilitate forms of visual archival experience and meaning-making situated within a broader history of archival, documentary, and visual life of this event and its histories. The foregoing section aimed to provide basic vocabularies and orientations while also getting at the modalities of reading as photo book, comics, and sequence. The present section builds on these established vocabularies and inverts the driving force of the discussion—from concern with theorizing the forms of encounter and reading toward examining the specificities of what *ARLIS* offers to memory and understanding around the spill. There is a theoretical claim underneath the discussion which I can state up front: In addition to enabling different modalities of reading— these pages experienced in geographic, temporal, and dimensional mobility; that cluster of

Figure 2.18: View 3 of Page 2, *ARLIS* (Bud Ehler).
ARLIS Reference, "Page 2," 2010, http://
www.flickr.com/photos/arlis-reference/page2.

Figure 2.19: View of Page 3 of Exxon Valdez Oil Spill album, *ARLIS*.
ARLIS Reference, "Exxon Valdez Oil Spill - Page 3," 2010, https://
www.flickr.com/photos/arlis-reference/albums/72157624387162740/
page3.

images read together like the frames of a comic; those sequences followed with attention to the documentary endeavor—*ARLIS* also enables study, consolidated in a stretch of viewing or undertaken in disconnected fashion, of "thematics." This is a significant and novel invention. But what is a "thematic" and what does the reading of thematics involve? Recall Chute's concept of Spieglman's comic as a "visual materialization" of Auschwitz:

> …something that is not a still photograph that captures a single moment, or a moving series of film frames that whisks a viewer along, but is rather a visual materialization that is a sequence that creates a world that can be studied and engaged at one's own pace.

"Thematics" would constitute intensities of concern amid this study and engagement—aspects of the world of the disaster that the visitor discovers within the virtual world of the photographic assemblage, and about which she develops anew or reinforces understandings and imaginations. They are emergent areas of concern rather than particular crafted narratives, or individual moments in time, although such individual moments might exist. They develop and grow in the mind through both cross-collection transit, and through lingering in individual photographs and clusters of photographs. As thematics examined through study, they are not precisely identifiable. One cannot quote the thematics in an archive as a world of study—although at least one crisis archive, *Sandy Storyline*, does explicitly try to catalog facets of crisis and aftermath with the idea of tagging items as constituents of "storylines." Here I offer a selection among the thematics which I discover engaging *ARLIS,* and which, I would argue, are of strongest implication for exceeding views of the disaster that turn strictly around the shock of oil violence or concern with the abstraction of the event into unimaginable numbers: oil and place, oil and communication, oil and resistance, and oil and nature. I will move through these in turn to show how the thematic appears in diverse ways, and to ring differences in the dynamics of assemblage at work in given examples.

Oil and Place

Of a thematic, we can say that it has purchase and presence in publicly available documentation and discourse and in public imaginations and memories of the disaster and its aftermaths—or that it has generally eluded contemplation. "Oil and place" is exactly an instance of the latter, an aspect of the disaster of minimal importance in public conversations around the spill—I am not speaking of those directly affected, of course—and not substantially manifest in visual media. (One *can* find oil and place in profound ways in writing, in books like *Season of Dead Water*, *Out of the Channel,* and *Not One Drop.*)[30] General conception of the Sound and the disaster is of a "pristine" environment invaded by oil, the scene of mass violence to nonhumans. Marginal attentions are given to fishing communities and to the histories of mineral extraction as well as oil traffic. Rarely if ever do Native communities enter into visibility. What would it mean to begin to see the convergence of oil and features of "place"? That is, what would it mean to begin to reckon with Prince William Sound not as pristine nature but as a network of communities—the shores, islands, and waters of the Sound as sites of life, culture, and economy? Would we have a renewed capacity to understand this event as one of both environmental and social violence?

Ehler's collection, through which we made our transit, certainly contains "place" as an element, but the thematic is generally muted and highly provisional there, as we occupy interiors or travel to makeshift sites, or out to distant beaches. Let us consider instead the Oil Spill Documentation Team's photographs. The point of emergence of this thematic is identifiable. For roughly the first 300 photographs of the sub-collection—we work through large scales—we see

[30] I cited the latter two in a footnote in the introductory section. *Season of Dead Water* is a collection of writing released at the one-year anniversary of the spill, a mix of poetry, memoir, and journalism. Helen Frost, ed., *Season of Dead Water* (Portland, OR: Breitenbush Books, Inc., 1990).

Figure 2.20: Exxon Valdez Oil Spill - 0307 (July 18, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 0307," 2010, http://
www.flickr.com/photos/arlis-reference/4888166741.

Figure 2.21: A pair of *ARLIS* images juxtaposed (3).
Left: ARLIS Reference, "Exxon Valdez Oil Spill - 0308," 2010,
http://www.flickr.com/photos/arlis-reference/4888764166.
Right: ARLIS Reference, "Exxon Valdez Oil Spill - 0309," 2010,
http://www.flickr.com/photos/arlis-reference/4888764624.

turns on oil violence: this oiled beach, that oil slick. The profusion of oily types persists to the point of numbness. A shift happens, however, from a high aerial of oiled beaches to a photograph with the caption, "Moon on the horizon over water and fishing boats - Kenai Penninsula [sic] (Cook Inlet)" (figure 2.19). Three apparent attempts to get the right shot appear—or three options provided by the photographer—then there is a new image with the caption, "House in a field of grass with blue skies - Kenai Penninsula [sic] (Cook Inlet)" (figure 2.20). Habitation—attention to habitation—and the appearance of a home: this contemplation either holds or we can move immediately forward, again returning to the marina, now at a different time, with a different light, in two images (figure 2.21). Here is a lived and inhabited Prince William Sound: the assemblage brings this world into partial visual presence, allows for imagination. The next photograph is framing of a mountain, a scene. The next is of a road. The metadata tells us considerable time has passed between these two images—we are engaged in "geographic and temporal mobility." But the sense of time's passage is not necessarily jarring. Succeeding photographs are of natural wonders and beautiful scenes, then an aerial shot appears again. This time it is the city of Valdez: "High aerial showing Valdez, harbor, and Alyeska Terminal - Prince William Sound" (figure 2.22). Human intervention is already evident, albeit apparently contained: the blight on the landscape, or the beauty of industry, depending on one's perspective. Soon, on the ground again, there is a harbor, a short tower measuring the height of the water, two shots of the same boat. Place melts into natural beauty, and dozens and dozens of photographs follow: glaciers, sunsets, moons. Some hundred and fifty photographs later the effects of the disaster return: a rescued otter in a pen.

I am offering two things in the above description: assertion of the presence of a thematic—rendered through assemblage and known through interaction—and the demonstration

of collocations of images' functions. Images appear alongside images. The visitor experiences these temporal switches and has, conceivably, an enduring and meaningful interaction with this photographic archive. The instances of "oil and place" take on especial meaning embedded within images of oil violence and natural beauty, as brief ruptures. Over the next 1200 images from where I left off—while these scales are large, moving through sequences and scanning thumbnails facilitate quick movement—the archive functions as photo books, comic, and sequence, and dimensional mobilities coincide with encounters with history and memory. Meanwhile, opportunities for contemplation of alternative thematics suggest themselves. But eventually place—inhabitation, culture, history—returns, again at a marina. The thematic comes into more complex expression, both in the forms of the images' assemblage, and in their substance. Communities, individuals, nonhumans now enter our picture of Prince William Sound. Getting at sense of place here requires attentiveness, clicking in to view the images in succession, moving back and forth. As ever, different visitors would find different things, and we have to acknowledge the potential for quantity to repel engagement. No strict intention defines the meanings expected or extractable. Consider a unit of images at a conveyor belt, seeing a turn on place, and seeking lessons for potentials in dynamics of visual archival assemblage (figure 2.23). How to analyze a unit like this? We are at a point of close proximity now, deep inside of an otherwise invisible moment. In video documentation of this day in the Governor's video archive, this scene appears with classical music playing in the background, a calm July day, set apart from scenes of disaster—though, as we learn from the interviews, fishermen and women here faced months of not being able to fish.[31] Here it is six images, three distinct pairs: two

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[31] Tape 44, July 17, 1989, Exxon Valdez Oil Spill Tapes, Series 612 Public Information Files, Alaska State Archives.

Figure 2.22: Exxon Valdez Oil Spill - 0341 (September 16, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 0341," 2010, http://
www.flickr.com/photos/arlis-reference/4889065670.

Figure 2.23: View of Page 19 of Exxon Valdez Oil Spill Album, *ARLIS*.
ARLIS Reference, "Exxon Valdez Oil Spill - Page 19," 2010, http://
www.flickr.com/photos/arlis-reference/albums/72157624387162740/
page19.

photographs along the conveyor belt looking up at the "lady" as the captions calls her ("Lady in slime line counts fish on conveyor belt"); two photographs in landscape of her, closer up (same caption); and two photographs of the fish flopping onto the belt ("Fresh caught salmon pass silently on slime line"). As with the units examined above when discussing comics, we see the same shift in meaning and in spectatorial potentials by virtue of the juxtaposition of the photographs, and it is aided by the textual addition. Should any of these appear alone, alongside a blog post with a caption for instance, the reader might interact with the given photograph as a window onto one piece of culture in the Sound, the photographed subject called upon as an icon of communities affected by the spill. Facing the group, however, the fish and the conveyor belt, and the person handling them, become animated, albeit in subdued, elusive fashion. As we saw before, the typical assumption of the gutter's effect is its drawing readers into actions of closure, completing the diegetic movements between frames. Here, however, the only slight variance of the photographs and the inscrutability of the person's activity—at least to those who have never witnessed it—renders us stuck between them, pulled into the middle of a scene and into the middle of six archival documents. Her status as an emblem of the spill's impact on fishing communities falls away; we cannot fix her identity in the way a single photograph may have us believe we can. Instead, harkening back to our sense of exploring *ARLIS* as a map of event dimensions, this unit, whether viewed in sequence or as a whole, exposes us to one among the vast range of livelihood practices affected by the disaster—to the fabrics of community and economy the toxic oil, and the struggle for compensation, shredded. From a theoretical perspective, we recognize here that between nested photographs, the gutter can occasion constraint and expansion as much as facilitate senses of things having taken place. From here, should we continue, we would find community and placed-ness persists for several more

photographs—more exploration of the harbor. We then move to a scene of dramatic protest, which I will examine in the section on oil and resistance.

Oil and Communication

As indicated, the assertion of thematics is heuristic, for, not surprisingly, what we actually mean are imprecise clusters of relative similarly and mutually informing experiences of images and meanings read in images. The core constituents under study in the present sub-section —photographs and photograph relationships—assert the heuristic nature of the grouping to the most forceful degree. The thematic—which I call oil and communication but which could be called oil and rhetoric or oil and media—cuts across the entirety *ARLIS*: the photographs function as communication and rhetoric, the overall collection instances the Governor's attempts at influencing media narratives. But engaging *ARLIS* without this knowledge, the contemplation of oil and communication appears most directly in the middle of the documentation team's collection through a large cluster of photographs that sustains such reading and engagement in depth. It is roughly 142 images—nearly all of them from press conferences, community meetings. Scanning quickly in the modality of the photo book, in the reading practice of dimensional mobility, we find a wide array: governmentality, masculinity, press, attention, performance. Sequences appear, quick emanations of frozen gestures, assertions made in meetings (figure 2.24). The question is what counts as differential here—relative to what exists, relative to what we imagine of imagination of the disaster, and relative to what we understand in the workings of assemblage, their local relationships, and how the photographs and the thematic figure within interaction with the overall assemblage.

Figure 2.24: View 2 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://
www.flickr.com/photos/arlis-reference/page13.

Figure 2.25: View 3 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://
www.flickr.com/photos/arlis-reference/page13.

Bracketing attention to small units for the moment—instead focusing on the general transit—what comes across is the practice of multiple actors from multiple perspectives coming into dialogue, sharing information, performing, advancing rhetorics, taking notes (figure 2.25). This is the disaster for its nexus of dimensions around communication. What is striking here—as opposed, for instance, to an article referenced above that describes the communications battle between Exxon and the Governor's office—is the distinctive density and efficiency of thick description. There is attention to the necessity of performance and assertion, on the one hand, and to multiple agencies with conflicting goals adapting vocabularies, asserting perspectives, on the other. Further, we find the essential component of the inner circles of communication and decision-making communicating outward with media and publics. Hands do the labor of taking notes, publics take their seats in ordered rooms with maps and multiple cameras. With whatever implication for a given visitor, *ARLIS* serves in facilitating hypothetical visual familiarity with these features of this disaster.

But what of the photograph-to-photograph dynamics of assemblage? Many figure here, given the quantity. What stand out are thick documentations of short periods of time, akin to the temporality of the photographs of the "lady" attending to fish at the slime line: a turn to talk to a colleague, the shifting of one's gaze, successive shots of listening. Two stand out especially, both directly engaging the thematic of oil and communication. The first is a pair, another turn on the meanings of closure. Both images, according to the captions that accompany them, show state videographer Tom McDowell and Exxon public information officer Kristine Stevens documenting a public information meeting in Seldovia, Alaska (figures 2.26, 2.27). Seen in isolation these images would bear upon the spectator in different terms. Accompanying the article referenced above on the special documentation program, for instance, either of these

Figure 2.26: Exxon Valdez Oil Spill - 1313 (August 24, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1313," 2010,
http://www.flickr.com/photos/arlis-reference/4946003533.

Figure 2.27: Exxon Valdez Oil Spill - 1314 (August 24, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1314," 2010, http://
www.flickr.com/photos/arlis-reference/4946003533.

might serve to illustrate the dualities under discussion, i.e., the competing rhetorical practices of the Governor's media program and Exxon. The complement would efficiently and evocatively visualize these dynamics through the close positions and parallel camera angles chosen by the two contracted documentarians, man and woman, their recordings likely destined for use as evidence in the litigation to come. As a pair, these implications hold, but the generative union amplifies them and, as has been the pattern in this analysis, opens possibilities for viewing and interpreting which extend beyond the boundaries of each of the images' frames. On the one hand, there is a language close to cinema. The first photograph is a kind of establishing shot of the scene of documentation. The other is a move in closer, as if an expressive commitment toward these two people as central characters in a film. On the other hand, passing between each image, the space of the gutter is important but, again, not for any definitive act of narrative closure. It is instead a passage along the conditions and processes which made for this juxtaposition, a documentarian documenting documentarians two times over, drawn to scenes as symbolic of dimensions of the events but committing those dimensions to the archive in evocative fashion. In this simple gesture, we find humble visual entrance into the vast and complex media life of the disaster.

A second example is more complex set that collapses together many of the dynamics of photographic assemblage discussed so far (figure 2.28). Among these are: gutters as means for closure and imagination; sequences as means of witnessing events as much as encountering representations; subsets of images as means of expressing history and memory; virtual dimensional mobility and coincident mapping of facets of the disaster; and the spur to interpretive processes. The set of images, a screenshot of which I offer here from a wide zoom, consists in photographs of three press conferences with one intervening image of Ernie Piper, the

Figure 2.28: View 4 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://www.flickr.com/photos/arlis-reference/page13.
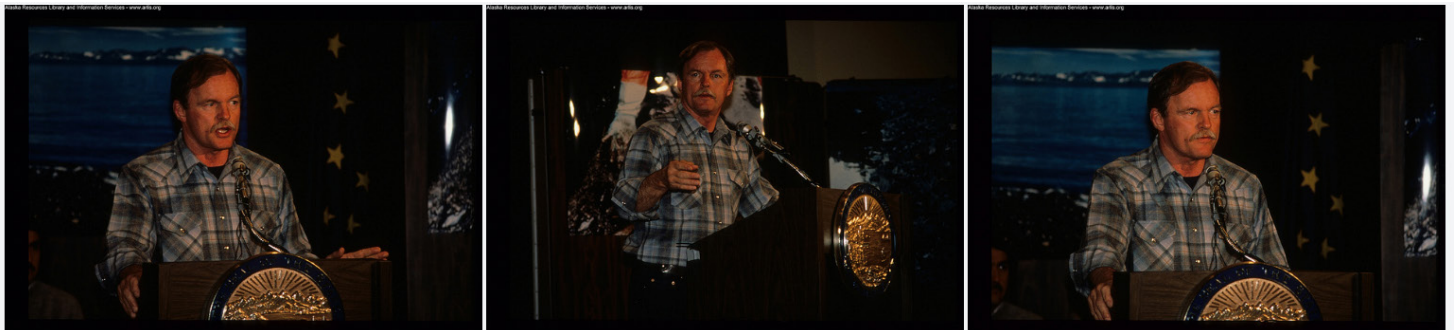
Figure 2.29: View 5 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://www.flickr.com/photos/arlis-reference/page13.

Figure 2.30: View 6 of Page 13, *ARLIS*.
ARLIS Reference, "Page 13," 2010, http://www.flickr.com/photos/arlis-reference/page13.

special assistant to the Governor integral to the documentation program, and Lieutenant

Governor Steve McAlpine. According to the attached data, the first press conference took place

on July 27, 1989, when Cowper expressed his skepticism of Exxon's announced suspension of

major cleanup operations in September; the second on September 15, 1989, the date on which

the suspension took place; and the third at the one-year anniversary, held at the Visual Arts

Center in Anchorage.

The user can approach this set—this complex array—multiple ways, executing

overlapping discrete, sequential, nonlinear and aggregate views of its constituents. With regard

to photographic assemblage, we can witness distinctions from moving image documentation, and

in this case we can do so more precisely by comparing a video recording of the second press

conference held in the digitized video archive. In watching the latter, not surprisingly, I feel as

though I am engaged in a virtual "retrieval" of a view of the past in Sekula's terms—as if I sat

there in the audience among the press. At one point, notably, Cowper describes the media war

between the State and Exxon openly:

> Good morning. It's a nice day for the start of winter, isn't it? [smirks] Today marks a turning point in the saga of the Exxon Valdez. As of today the cleanup effort will go into a different mode, and the first thing that I want to do is to say thanks to all the many people who have put themselves on the line to help us clean up this oil as best we could over this summer…While the media events usually had to do with video tapes [dismissive stroke of left hand] of beaches and people holding [makes gesture as if lifting carcass] various animals and Dennie [ADEC Commissioner Dennis Kelso] and myself — and a number of other officials of Exxon and federal officials and other people — issuing statements, we know there were a lot of people out on the beaches who were doing an often frustrating job and doing it quite well at times… I want to take this opportunity to thank all those who went out on those beaches this summer and early this fall.[32]

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[32] Tape 126, September 15, 1989, Exxon Valdez Oil Spill Tapes, Series 612 Public Information Files, Alaska State Archives, Juneau, AK.

A succession of frames renders the overall scene to considerably different effect (figure 2.29). In some sense the sequence of images serve as a kind of study or portraiture. Alongside the acts of closure we engage in here, we also find the beginnings of a visual analytical approach to the Governor's rhetorical methods, even his personality. Moving back and forth between the photographs, we take note of the placement of posters behind him: a gloved hand displaying oil, a view from an oiled beach out to a beautiful seascape. Turning to the more colorful sequences at the Visual Arts Center, the same phenomenon of sequenced viewing appears as well (figure 2.30). The photographic serializing of the Governor's presentation draws attention to his performativity, undercutting, perhaps, his stance of authority. Again we take note of his choice to set himself in front of images; only here if we look more closely we see these are paintings by Alaskans in response to the disaster. The corner of the Visual Arts Center in which Cowper set himself was its own kind of visual assemblage of crisis, making a place for an equally mournful and angry public response to the disaster. Zooming out from here, the capacities for interacting with this complex array exceed the sequential. The modality of archive as comic manifests. As with the seal embrace set, when allowing these three press conferences to blur together in thumbnail view, the overall set can appear as a kind of multifaceted graphic register of a key facet of the event rendered in memorable fashion. It becomes an efficient trans-photographic visualization of the strategies and commitments, at least for a year, of the now forgotten government media apparatus. The serendipitous presence of Piper in the middle redoubles this meaning inasmuch as he played a large role in the program, acting as a bridge between these press conferences, symbolically doing so here. But making such a claim I run into a key issue. Getting at these interpretations benefits from outside context, and would be amplified through

additions of description. In any event, dynamics of photographic assemblage would remain integral.

Oil and Resistance

Two more thematics to consider: I select them for their importance to a politically engaged attention to this disaster, and because they allow further illustration of the differences they make to our thinking about dynamics of assemblage, and their suggestiveness for visual manifestations around this disaster. For the first of these, "oil and resistance," I mean activism, public pushback. Outside *ARLIS*, as of August 2015, one can find representation on the web in a number of articles on the Valdez Blockade, including a Wikipedia entry. That blockade is also mentioned in a 1999 online photo-essay by activist Riki Ott, which was linked to from the Wikipedia page.[33] That is photo-essay is an early instance of crisis-centered combination of digital assemblage and interaction. Beyond this, among the photographs used at the twenty-fifth anniversary from *ARLIS* is a photograph of local people protesting their losses due to the spill. That event appears in multiple photographs in *ARLIS*, and is accompanied by two other scenes of protest, one after the other: a July 20, 1989, attempted blockade and a September 1989 flotilla of boats bearing signs.

Broadly speaking, these three scenes embed in web-available representation aspects of the disaster's aftermath otherwise elusive. To a politics of representation, these render the fishermen's fight in terms less abstract than the numbers in lawsuits, and the years of litigation in courts. The appearance online serves this evidentiary function. There are micro-dynamics of assemblage at work here as well. I will explore these in the second and third protests. The second

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[33] Riki Ott, "Exxon Valdez Oil & Prince William Sound: A 10-Year Reckoning," https://web.archive.org/web/20020316131901/http://www.jomiller.com/exxonvaldez/photos/25.html.

Figure 2.31: View 1 of Page 7, *ARLIS*.
ARLIS Reference, "Page 7," 2010, http://
www.flickr.com/photos/arlis-reference/page7.

Figure 2.32: Exxon Valdez Oil Spill - 1891 (September 9, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1891," 2010, http://
www.flickr.com/photos/arlis-reference/4997470198.

protest is documented in 64 photographs of, as the captions describe, a flotilla of fishing boats

motoring around the Sound before proceeding to the Alyeska corporation's oil terminal to

contest laws allowing oil tankers based in foreign countries to dock in Alaska (figure 2.31).

Among these are image after image of boats with protest banners (figure 2.32). Short of

dramatically adjusting the zoom on their browsers, visitors cannot take in the subset as a whole,

instead moving from one end to the other as if along a strip of film. Political theorist James

Johnson, whose writing on Katrina I engage in the next chapter, observes that a viewer's sense of

the gathering of like things related to a disaster can be significant in its own right. Commenting

on the artist Robert Polidori's photographs of houses damaged after Hurricane Katrina—as

gathered into the photo book *After the Flood*—Johnson writes:

> Polidori's images work through accumulation. It is difficult to find one single image that
> stands out. This is hardly a criticism. His composition is invariably strong, the colors
> crisp, but what strikes a viewer is the sameness of the conditions that the displaced
> residents have left behind. The houses and neighborhoods he depicts all share the same
> predicament. Each has been left in some more or less drastic state of disassemblage.[34]

In moving through the repetitive images of these boats, the visitor can recognize the protestors as

sharing the same predicament in their contending with the violent consequences proven and

potential in high-risk, high-profit extractive practices, and might in turn find striking the extent

of state interest in—even temporary solidarity with—the protesters' cause.

The second subset of resistance is more complex in its formal workings. In the thumbnail

view, the subset may appear as attempts to get the right shot of an oil tanker, yet another instance

of state interest in turning the camera on the dimension of technologies of oil extraction (figure

2.33). But clicking through the sequence means watching a dramatic scene unfold while at the

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[34] James Johnson, "Aggregates Unseen: Imagining Post-Katrina New Orleans," *Perspectives on Politics* 10.03
(2012): 659-668.
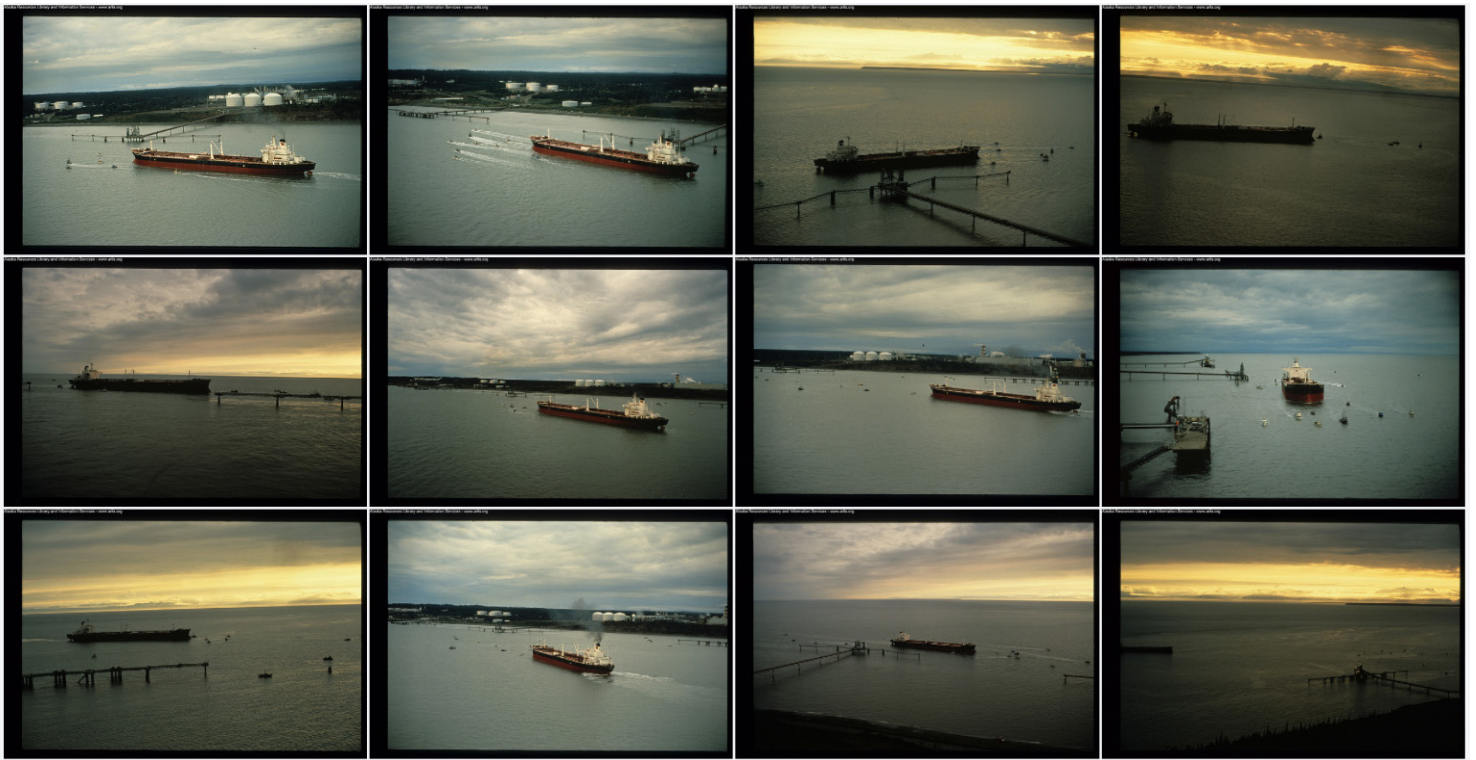
Figure 2.33: View 2 of Page 7, *ARLIS*.
ARLIS Reference, "Page 7," 2010, http://www.flickr.com/photos/arlis-reference/page7.

Figure 2.34: Exxon Valdez Oil Spill - 1882 (July 20, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1882," 2010, https://
www.flickr.com/photos/arlis-reference/4996781005.

same time interacting through acts of closure in the manner of comics, and following quasi-cinematic sequences. The series starts with what serves in effect as an establishing shot of an approaching tanker and the flotilla attempting to block it from docking. The captions reveal this story in the manner of intertitles in a silent film. The photographer in the helicopter takes images from either side, rendering the moments of the protestors' calculations around continuing their risky flirtation with the giant ship. Eventually one sees the tanker at rest, the members of the crew now turning their attention to the routine business of off-loading or taking on oil. The last two photographs show onlookers below, not only taking in the protest itself but also the event of its documentation (figure 2.34).

In the manner of cinema, the sequence exposes spectators to numerous variables in a short stretch—setting, characters, movements, motivations—and they are able to co-construct a vision of what is taking place. And yet the gaps between photographs, and the ability to move back and forth between them, make for key departures from the cinematic mode. For one, the sequence allows time and space for imagination, more akin to what a textual description of the protest would afford; a central unfolding reality does not dominate the spectators' experience, as may be the case with documentary or photojournalistic moving images. Indeed, as with comics, there is no movement to point to: any moving images of this scene are behind or between these photographs, or they are over here where we are, inside of us. Instead, by means of the frame-to-frame portrayal, spectators can imagine glimmers of the feelings aboard the ships, the communications between the fishing boat captains encouraging each other to carry on with the blockade, the deliberations on board the tanker about how to respond, the fear and exhilaration in everyone's stomachs. On top of the provision of space for imagination, a second consequence of the blockade's rendering as photographic sequence is that spectators can find in a given image

Figure 2.35: Exxon Valdez Oil Spill - 1870 (July 20, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1870," 2010, http://
www.flickr.com/photos/arlis-reference/4997087960.

Figure 2.36: Exxon Valdez Oil Spill - 1873 (July 20, 1989).
ARLIS Reference, "Exxon Valdez Oil Spill - 1873," 2010, http://
www.flickr.com/photos/arlis-reference/4997335244.

not only an imagined window onto the unfolding reality, but another permutation on the forms of the scene's visual transmission. That is, photographic seriality allows for the exploration of the things taking place, but also for examination of the manner of their representation, the switching of views, colors, angles, aesthetics, quality, etc. In one image, for instance, registers of sublime oceanic vistas in late evening light contradict the urgent scene (figure 2.35). In another the mood of the composition appears to echo the anger of the protestors (figure 2.36).

Oil and Nature

The final thematic: oil and nature. Unquestionably this is an extraordinarily large topic, the defining topic, perhaps, of the disaster in its public imagination. Certainly at one glance it would seem on this count that the still photographs in *ARLIS* do not do much but reinforce the same experiences and meanings, and limits, of the still photographic: the shock of oil violence, the inability to image insidious toxic submarine processes of oil's dispersion. Two sub-collections I have not yet analyzed confirm such a perspective: the first by independent photographer L.J. Evans, the second produced for the Alaska Center for the Environment (figures 2.37, 2.38). In the Evans collection, there are hints of divergences toward interest in the experience of spill response labor of the kind we witnessed in Ehler's rendering of the man playing with oil and in the seal embrace documentation, but the central commitment is to straightforward documentation of scientific practices of studying oil in the marine environment. In the Alaska Center for the Environment collection, we find a repository ready-made for use in putting together the kind of summative anniversary photo gallery favored by news organizations: the stricken *Exxon Valdez* from above, oil slicks, oiled otters and birds, a notebook logging oil samples collected, vessels participating in the cleanup, and a hand displaying oil. One

Figure 2.37: View 1 of Page 5, *ARLIS*.
ARLIS Reference, "Page 5," 2010, http://
www.flickr.com/photos/arlis-reference/page5.
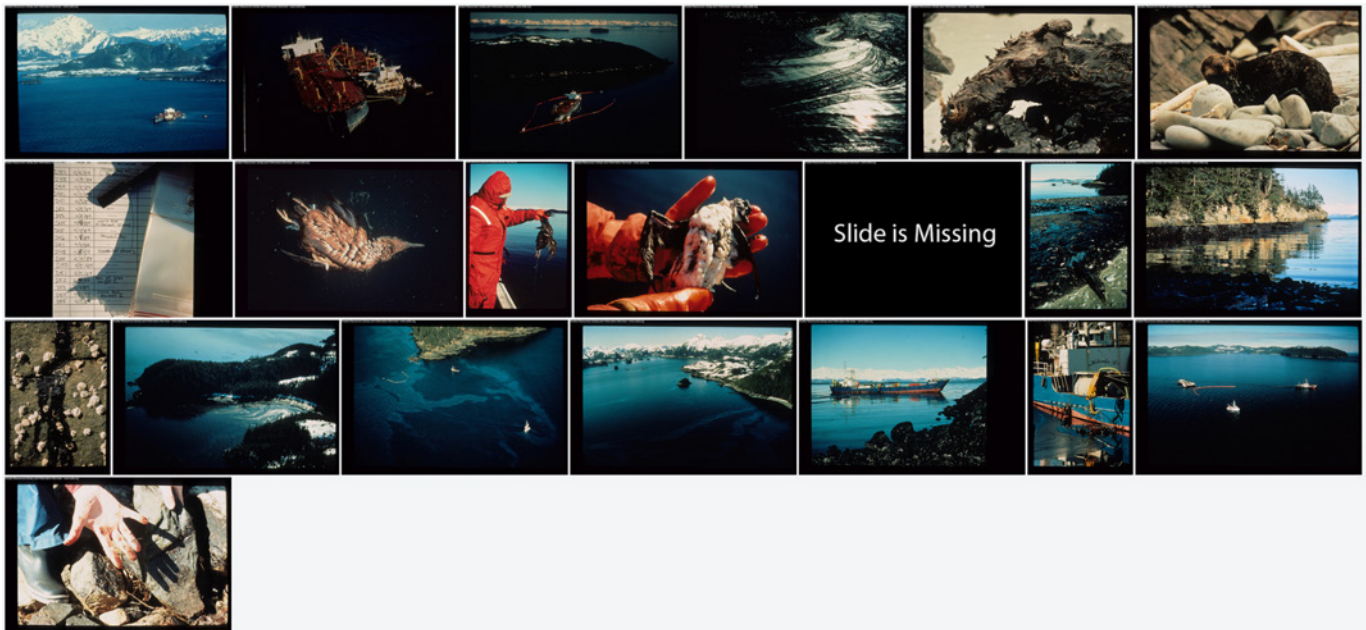
Figure 2.38: View 2 of Page 5, *ARLIS*.
ARLIS Reference, "Page 5," 2010, http://
www.flickr.com/photos/arlis-reference/page5.

Figure 2.39: ACE 5.
ARLIS Reference, "Ace 5," 2010, https://www.flickr.com/photos/arlis-
reference/5012688899.

Figure 2.40: Thumbnail view, John Lyle collection, *ARLIS*.
ARLIS Reference, "John Lyle EVOS Photo Collection," 2010,
https://www.flickr.com/photos/arlis-reference/albums/
72157624875337187.

photograph in particular embodies the kinds of harrowing images of oil violence that set off countless expressions of public mourning: a close-up of a dead otter in gruesome contortion (figure 2.39).

But a third sub-collection stands out with regard to the thematic of oil and nature: 49 photographs produced by the photographer John Lyle (figure 2.40). We find things like rusted remnants of mining and unidentifiable marooned artifacts. In photographs of a dead eagle it is not clear whether contact with oil has killed the bird. Lyle apparently posed the eagle's feathers alongside its talons, the images suggestive of mourning, even prayer. In one photograph the bones of a bird seem to blend into moss and stone (figure 2.41). In several, oil barely registers (figure 2.42). In one, what oil does appear has a morbid beauty, rhyming with natural forms.

What does one make of such a collection? Certainly the modalities of photo book and comics apply here: one can appreciate these as aesthetic objects; one can find history and memory expressed and embedded. But Lyle's collection seems to call for another kind of reading. It appears as a kind of exhibition. Without curatorial voice, and without Lyle's intentions documented, the set of photos stands open to reading. As a whole, Lyle's collection appears to hold a place for thinking the human impacts on the Sound that precede the spill, and for imagining ambiguous relationships between oil and nature. The collection evokes harm in ways the "stubborn images" cannot, offering a picture of oil's gradual release into the marine environment over time. It evokes the presence of invisible harm, offering, paradoxically, a more ecosystemic picture than that of the "body-count biology" which so suited the camera—or even drew force and intelligibility from the camera—and which some scientists criticized as

Figure 2.41: Lyle 14a.
ARLIS Reference, "Lyle 14a," 2010, http://
www.flickr.com/photos/arlis-reference/5012604795.

Figure 2.42: Lyle 16a.
ARLIS Reference, "Lyle 16a," 2010, http://
www.flickr.com/photos/arlis-reference/5013213008.

misleading.[35] We see ambiguous coexistence—devastation and resilience—but not resolution. The collection reads as a gesture toward a never-produced visual archive of oil at the margins. Its images of absence have us walking a fine line between imagining the violence to the ecology and communities of the Sound as eventually erased and concluded, and recognizing the spill did not end when the cameras left the scene. Species have not returned. Legacies of community trauma persist. Interaction with the subset translates more into reflection and thought than into acute trans-photographic experience. As we have witnessed throughout, in Lyle's collection, dynamics of photographic assemblage produce a situation of uncertainty, interpretive plenitude, and affective force.

III. Crisis Archive as Photographic Assemblage

This has been a ranging investigation. I have argued *ARLIS* provides a world of study for this disaster of extreme scale and consequence, and generates provocations for understanding digital crisis archives, requiring thinking in multiple other fields for explication. What do we come away with? What have I left out? In answering the first question, I can draw out lessons of overriding importance for thinking around digital crisis archives. A first set of lessons is also applicable to realms beyond digital archives: what I have been referring to as dynamics of photographic assemblage. In as apparently simple a format as Flickr, *ARLIS* enables an array of effects both reminiscent of physical media forms and departing from them. These effects interleave, occurring alongside and through each other in close succession. There are aesthetic provocations in these dynamics of assemblage—for future approaches to archival and documentary practice, but also for how we look at existing works in photography and art. Do

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[35] Mark Holman Turner, "Oil Spill: Legal Strategies Block Ecology Communications," *Bioscience* 40.4 (1990): 238–242.

digital consolidations make evident the plenitude of experiential and interpretive operations that assemblages of still images hold in potential? Do we need to question our spectatorial and interpretative emphases on single photographs?

The second set of lessons concerns the particularity of the convergence of dynamics of assemblage with memory and engagement around crises. *ARLIS* suggests a potential for digital crisis archives to do more than serve in the construction of other forms of media, to do more than provide evidence and illustration in writing and in documentary. The digital archive makes a world. Among dynamics of assemblage, we have seen rapid scanning, sequential and side-by-side juxtaposition, and quasi-cinematic montage. Among the effects of these interactions, we have seen the generation of novel interpetations, instances of affective transit, engagements with disaster thematics by other means. And in the realm of implication, we have found the proposition of an alternative visual field. The archive becomes a space of open-ended study. The reading rooms of physical archives have partly served as such for historians who would draw connections between objects—but now the archive serves equally as a context for rapid transformation in perspective, and for cataloguing of possibilities for future study. It is a "world" in which things take place; events evolve rapidly in one's imagination. In a sense, the archives of imagery and scenes upon which the narratives we tell emerge are loosed here, laid open. Much— and in many ways perhaps too much—is left up to the visitor.

I have tried throughout to point to such negative implications, and to try to temper the analytical enthusiasm with which I have approached this archive. Indeed, we have to be willing to call into question what has been a largely positive account in the foregoing. I have consistently suggested expansive potentials in this particular archive, and in the proposition of worlds of photographic crisis assemblage, but an alternative frame interprets *ARLIS* as a normative

repository, standing at the ready to supply public domain reinforcements of existing still photographic documentation of the disaster, or papering over the faults of government policy and government response—failures of regulation. Yet another perspective contemplates the site as distraction—an enhancement of spectacle rather than an aiding of imagination. And yet another simply assumes the qualities I have described as too elusive to see realization.

But digital crisis archives resist single normative assessments—*ARLIS* is radically multivalent, and undoubtedly lends itself to more modes of analysis than those I have offered here. The next chapter's subject, the *Hurricane Digital Memory Bank*, will prove especially illustrative on this question of contending with the contradictions and shortcomings in archives that aim toward transforming event memory. Indeed, unlike *ARLIS* and the *Japan Disaster Archive*, the *Memory Bank* has been the subject of academic reflections, some of them highly positive, others highly critical. Having engaged *ARLIS* closely, we go to the *Memory Bank* sensitized to potentials and limits in forms of digital archiving of disasters, and attentive to potentials in the assemblage of event-related media into common architectures, and in responses of close reading and interaction. I will insist on potentials and power in what project architects and contributors have made together, while also acknowledging shortcomings and contradictions. Text and context will figure more prominently there than with *ARLIS*, as will dynamics of personal and social memory, both visual and verbal.

Chapter 3 | Modes of Interaction: the *Hurricane Digital Memory Bank* and Katrina

"Katrina" refers to histories of natural and technological violence that both defy

imagination and demand public reckoning. I can begin this chapter with a necessarily truncated

and inadequate summary.[1] There was Katrina as devastating weather event: a storm that lasted

from August 23 to August 31, 2005, peaking as a Category Five hurricane, making landfall on

the Gulf Coast as a Category Three, its winds reaching 175 mph. In its wake were over a

thousand lives lost; hundreds of billions of dollars in damage; and thousands forced out of their

homes, often permanently. There was also Katrina as preventable environmental and social

catastrophe—the cause of the vast majority of these fatalities and the forced migration of

thousands of residents of New Orleans, many of whom did not return. In the wake of

catastrophic flooding of that city after Hurricane Betsy in 1965, engineers and policymakers had

sought to address the potential for comparable or far worse events, leading to the Flood Control

Act, and to subsequent construction projects—beset by delays and missteps—aimed at

constructing a reliable system of levees to protect low-lying parts of the city. Katrina did not

strike a reliable system. Over fifty levees failed. By August 31, 2005, eighty percent of New

Orleans was flooded. Over the ensuing days, unprecedented scenes of government neglect

unfolded, occasioned and exacerbated by long-standing structural inequality and racial division.

Bodies floated through the streets of New Orleans' Lower Ninth Ward. Citizens waved

desperately from roofs. Often rumor-based reports of pervasive violence and looting diverted

attention, it was later argued, from rescue operations, and generated an atmosphere of fear and

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[1] In addition to the texts referenced in what follows, I have found these useful: Douglas Brinkley, *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast* (New York: Morrow, 2006); Michael Eric Dyson, *Come Hell or High Water: Hurricane Katrina and the Color of Disaster*, (New York: Basic Civitas Books, 2006); Chris Rose, *1 Dead in Attic: After Katrina*, (New York: Simon & Schuster, 2007).

hostility in which two unarmed African-American men were shot and killed.[2] The National

Guard took control of the city. Meanwhile thousands converged in the Superdome and the

Convention Center. There they faced shortages of food, water, and medical supplies. In spite of

the resilience of the afflicted, and in spite of many heroic efforts, the mishaps of the Federal

Emergency Management Agency (FEMA) would persist over the coming weeks and months, as

many left without homes and livelihoods waited on trailers and relief money.

   The hurricane, the flood, and the ensuing humanitarian crises were also events for mass,

independent, and networked media.[3] Countless documentary projects would emerge, as would

numerous academic studies and fictional treatments of post-Katrina New Orleans.[4] Together

these responses to Katrina reflect what University of New Orleans historian Michael Mizell-

Nelson, a self-described "flood bowl refugee," calls a widespread and not always salutary "post-

Katrina documentary impulse":

> Not since the Great Depression has the impulse to document recent history been as
> evident and widespread as along the Gulf Coast in the years following Katrina. Arguably,
> not even 9/11 generated as much documentary interest. Oral history projects,
> documentary films, social science and hard science research studies, Web sites,
> commercially published and self-published books, blogs, and ceaseless media coverage

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[2] Mark Guarino, "Misleading reports of lawlessness after Katrina worsened crisis, officials say," *The Guardian Online,* August 16, 2015, http://www.theguardian.com/us-news/2015/aug/16/hurricane-katrina-new-orleans-looting-violence-misleading-reports.

[3] Among the numerous texts to consult around media and Katrina are two cited below, *Flood of Images* and *Old and New Media After Katrina*, and these two articles: Nicole Fleetwood, "Failing Narratives, Initiating Technologies: Hurricane Katrina and the Production of a Weather Media Event" *American Quarterly* 58.3 (2006): 767-789 and Kathleen Tierney, Christine Bevc, Erica Kuligowski. "Metaphors Matter: Disaster Myths, Media Frames, and their Consequences in Hurricane Katrina," *The Annals of the American Academy of Political and Social Science* 604.1 (2006): 57-81.

[4] Two extremely thorough bibliographies of Katrina-related literature: Kai Erikson and Lori Peek, "Hurricane Katrina Research Bibliography," http://wsnet.colostate.edu/CWIS584/Lori_Peek/Data/Sites/1/1-research/publicationpdfs/katrinabibliography.pdf; ACRL Literatures in English, "Katrina in Literature Bibliography," http://www.ala.org/acrl/sites/ala.org.acrl/files/content/aboutacrl/directoryofleadership/sections/les/annual_program_docs/katrina-bibliography.pdf.

are only some of the efforts that allow people to tell their stories. Before the flooding, far fewer outsiders expressed interest in the history and well being of New Orleans. Following Katrina, disaster researchers, various media workers, and many other began to inundate New Orleans, mining the city for purposes that may simultaneously be selfless and self-serving. Newcomers and natives share the desire to document New Orleans' man-made tragedy as well as the natural disasters that devastated vast areas east and west of the city. Ironically, those Louisiana and Mississippi public historians, oral historians, and anthropologists best prepared to document the effects of Katrina on the communities they have been working with for decades are too often on the periphery.[5]

Among the most ambitious projects to emerge out of the post-Katrina documentary impulse was a project Mizell-Nelson played an integral role in conceiving and shepherding: a multi-institutional, participatory digital crisis archive called the *Hurricane Digital Memory Bank*.[6] In the same essay from which the above passage derives, Mizell-Nelson summarizes the origins and ambitions of the *Memory Bank* (I will refer it by this shorthand; others use *HDMB*):

> Concerned about the scale of the disaster, as well as the vast number of stories to be recorded, historians at the University of New Orleans and the Center for History and New Media began planning the Hurricane Digital Memory Bank (http://hurricanearchive.org) a couple weeks after the flooding. The resulting project is the most broad-based, open-access searchable hurricane research database yet to be developed. Most of the other hurricane documentation efforts intend to create new material, usually audiotaped or videotaped oral histories and, maybe, transcriptions. Our initial area of focus is to make important documentation work available to as many people as possible.[7]

He also describes the heterogeneity of its thousands of items, which combined "born-digital" materials user submission of writing and media:

> Most of these are accounts e-mailed to friends and family, digital photographs, audio and video footage, text messages, blog postings, and scholarly and student work. Writing created by high school, community college, and other students provides entry to the experiences of those less likely to have access to the Internet. These are some of the most

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[5] Michael Mizell-Nelson, "Not Since the Great Depression: The Documentary Impulse Post-Katrina," in *Civic Engagement in the Wake of Katrina*, eds. Amy Koritz and George J. Sanchez (Ann Arbor, MI: University of Michigan Press, 2009), 66.

[6] Hurricanearchive.org

[7] Mizell-Nelson, 62.

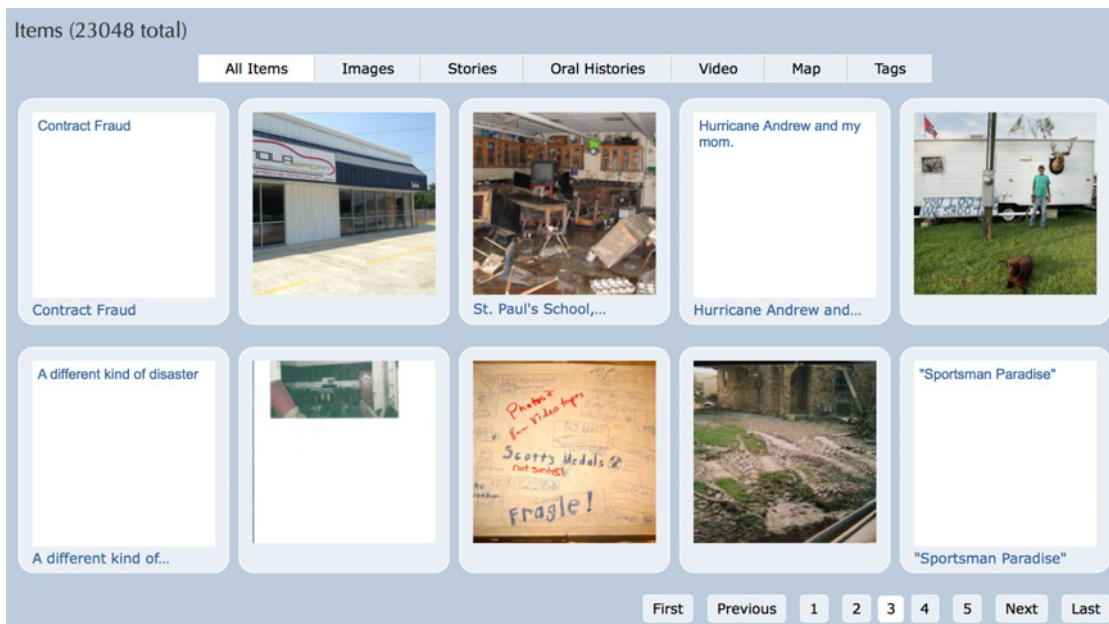Figure 3.1: Homepage, *Hurricane Digital Memory Bank (HDMB),* February 2015.

Figure 3.2: Browse interface, *HDMB,* February 2015.

detailed and valuable objects in the collection. Long-term preservation via servers in both Louisiana and Washington, DC, is an essential part of the plan.[8]

Since its public release in November 2005, the *Memory Bank* has transformed along various lines: content, self-description, interface. This chapter explores the site in the form as it appeared from May 2014 to August 2015, the interface of which goes back to roughly September 2007. Visitors to the site find a green and blue interface; a satellite hurricane view logo; a self-description as "the largest free public archive of Katrina and Rita with over 25,000 items in the collection." They can explore through keyword search, through browsing in the "Items" and "Collections" tabs, through a tag interface, and through a map interface. The overall quantity of media has remained steady at 25,000 since at least 2008.[9] Among these are approximately 8,000 user-generated "stories"; these were either directly input into the interface by contributors, submitted over the phone, or written on cards which project members circulated in communities. As of August 2015, just shy of the tenth anniversary, the site continues to accept submissions in the form of Story, Image, or Audio, although actual submissions have slowed to a trickle since the first years after the storm.[10]

Unlike *ARLIS* and the *Japan Disaster Archive*, the *Memory Bank* has been the object of scholarly attention. Beyond the article just quoted, there are at least three other accounts readily discoverable. Unlike Mizell-Nelson's piece, which includes the phrase "online collecting democratizes history," each of these expresses a version of disappointment in the project. While each acknowledges the novelty of the endeavor, and the reality of its meaningful contributions to storytelling and memory around Katrina—scores of contributors having the opportunity to speak

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[8] Ibid.

[9] https://web.archive.org/web/20080305191048/http://hurricanearchive.org/

[10] The site is built with an open-source platform called Omeka, which is often used digital public history projects that compile large databases of materials.

in a public forum, a preserved record of a tragedy, or tragedies of extreme consequence—the balance of remarks concern the perceived failures and suspect implications of the archive. In an essay published to the Center for History and New Media's website and linked from the *Memory Bank's* "About" page, project leads Sheila Brennan and T. Mills Kelly offer a thoughtful rumination on the challenges of collecting and presenting history online. Among their observations is that "even at 25,000 objects, the project did not live up to our expectations." Those expectations were built out of the numbers of the project's progenitor and model, the *September 11 Digital Archive*, which had exceeded 150,000 submissions.[11] In a dissertation chapter and subsequent article published in the edited volume *Identity Technologies: Constructing the Self Online*, Courtney Rivard argues the archive risks creating harmful "enduring cultural memories."[12] The apparent lack of submissions from "indirect witnesses" to Katrina reflects and reinforces a politics of exclusion woven into the events from the first. National audiences, she observes, were not moved by this crisis in the way they were by September 11th, and the archive reinforces and embeds these realities through the apparent absence of their voices. Finally, also in a dissertation chapter and subsequent article—published in the journal *American Behavioral Science*—Timothy Recuber portrays the archive as paradoxically contradicting its democratic ambitions. He argues it is a tool for atomized individual contributions largely couched in languages of self-help. Echoing values of individuality typical of the neoliberal context, the archive risks "[teaching] that the mass suffering brought about by catastrophes...is something to be overcome through many disparate

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[11] Sheila Brennan and T. Mills Kelly. "Why Collecting History Online is Web 1.5." *Essays on History and New Media.* http://chnm.gmu.edu/essays-on-history-new-media/essays/?essayid=47.

[12] Courtney Rivard, "Archiving Disaster and National Identity in the Digital Realm," in *Identity Technologies: Constructing the Self Online*, eds. Anna Poletti and Julie Rak (Madison: University of Wisconsin Press, 2014), 132–143.

acts of individual healing, rather than an unacceptable injustice requiring bold transformations in the social structure."[13]

In investigating the spectatorial and interpretive potentials latent within the photographic assemblages of *ARLIS*, I had the analytical freedom, as it were, of exploring the archive for the first time. Further, I did not have to contend with the question of public participation, nor with project ambitions. The *Memory Bank* presents a radically different scenario. Any analysis I bring about its potentials must also reckon with above assessments, and it must take account of these further factors of participation and project framing. How should I proceed? As the foregoing investigation of *ARLIS* begins to indicate—in their heterogeneity of content and openness to multiple modalities of reading and use—digital crisis archives can run far ahead of our attempts to rationalize and encapsulate them in analytical terms.[14] The claims we make about their workings and implications are partial and provisional. They are also situated.[15] For my part, when I explore the *Memory Bank*, as both one of Rivard's "indirect witnesses" and as a scholar, I recognize a false air of authority in the site; I learn things; I am frustrated by the difficulty of navigation; I hope others approach the site critically; I hope I do. I am after insights in the area of digital crisis archives; I am attuned to permutations of assemblage, interaction, and participation; I am interested in outlier submissions; I consciously seek lessons for future practice in the area; and I am interested in media theoretical insights. At the same time, encouraged by these authors'

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[13] Timothy Recuber, "The Prosumption of Commemoration: Disasters, Digital Memory Banks, and Online Collective Memory," *American Behavioral Scientist* 56.4 (2012): 531-549.

[14] There are myriad reasons why individual cases do so. Here are generic reasons I have touched upon: extreme scales of media; difficulty of navigation; susceptibility to error; lack of linearity; parts that divert from the norm; reception changes over time; the archive changes in content; the archive changes in architecture; things break; we lack languages of analysis.

[15] Bernie Cook, whose work I referenced in the Introduction, writes of his own work on media and Katrina: "I undertake a form of situated scholarship. My own location vis-a-vis New Orleans, Katrina, media, and memory has shaped my research process, my arguments, and their expression." Bernie Cook, *Flood of Images: Media, Memory, and Hurricane Katrina* (Austin, TX: University of Texas Press, 2015).

criticisms, I am also skeptical of what I find in both the project overall and in submissions, recognizing contradiction, attuned to the fraught nature of mediation and memory around Katrina, which Rivard puts at the forefront of her account. Indeed, alongside the remarkably brave coverage of the hurricane and the flood, there were deeply problematic framings of the events along lines of race and class. As one scholar put it,

> ...the representation of bodies in the coverage of Hurricane Katrina and the flooding of New Orleans involved visual constructions that prioritized some bodies over others...New Orleans residents were reduced in many of the same ways that Vietnamese, Iraqi, and Afghani men and women had been reduced before them.[16]

This chapter responds to the *Memory Bank* with acknowledgement of the partial nature and situated ambitions of its own analytical project—but it also seeks to push back on these negative assessments. What follows puts forward two contradictory claims. On the one hand, I recognize the importance of the criticisms advanced by these writers, and add to these my own concerns around the risks and shortcomings of the *Memory Bank*, including its apparent failure to give sufficient place to the flood of New Orleans within its presentation of Katrina's documentary record. I also follow Recuber and Rivard in acknowledging the difficulty in navigating the interface. On the other hand, I assert the distinctiveness and importance of what project architects and contributors have built together, and frame the site in much the same sense I did *ARLIS*. In her introduction to the volume *Old and New Media after Katrina*, Diane Negra writes,

> [Photographer] Aric Mayer has observed that despite the frenetic coverage accorded to it early on, post-Katrina New Orleans was a site 'which seemed to defy and elude available means of media representation,' and I would argue that this unrepresentability produced a kind of unfinished agenda that lingered after the intense, immediate first phase of media coverage came to an end. It is this 'unfinished business' that generates a particular

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[16] Ibid., 18.

representational urgency around Katrina and that a variety of media forms have subsequently addressed in the past five years.[17]

The *Memory Bank* can be understood and analyzed alongside these other Katrina-centered media forms—comics, films, books, shows—which seek to address such problems of post-crisis representation and imagination. The *Memory Bank* is both an apparatus that can provide material—stories, ideas, images—conceivably usable in constructing such transformative post-Katrina media forms, including traditional historiography—by providing material, by holding pieces of history—and itself one such form, however challenging to engage or apparently contradictory in meanings and messages. Although it has neither the visual plenitude nor the flexibility of navigation of *ARLIS*, it nevertheless shares with that archive the provisioning of a context for open-ended study. Here is a multivalent archival apparatus for learning, memory, and engagement with significant democratic potentials. In looking closely at the *Memory Bank*, in dialogue with fields and cognizant of critical concerns, we can derive significant lessons for thinking and practice in the genre of the digital crisis archive. Furthermore, we can further discern new turns on long-standing areas of inquiry: crisis representation, photography, and the politics of public memory.

In more specific terms, in what follows, I argue that the distributed, multi-year labors to build the *Hurricane Digital Memory Bank* have yielded an at once difficult, fraught, and transformative media artifact, and point especially to what I will describe as three "modes of interaction"—three umbrella areas of visitor memory work generated in interaction with the archive. The chapter is structured as successive accounts of these three modes. Each of these is shot through with forms and effects of documentary assemblage—juxtaposition, arrangement,

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[17] Diane Negra, "Introduction: Old and New Media after Katrina," in *Old and New Media after Katrina*, ed. Diane Negra (New York: Palgrave Macmillan, 2010), 6.

compilation—that correlate with what we explored in depth around the dynamics of photographic assemblage in *ARLIS,* but which involve multiple media types beyond the digital photograph as well as data and text attached to individual items, like tags and titles. Further contrasting with *ARLIS*, these interactions also depend in part or entirely on acts of participation—public contributions—which are often highly creative. The first mode of interaction—*facing memory*—involves but is not exhausted by the stories the *Memory Bank* puts forward as its distinguishing virtue, and which Recuber and Rivard analyze. As with *ARLIS,* reference to comics will again prove illustrative. The second mode of interaction—*scanning memory*—involves multiple media forms, is distinct in form and implication to the digital crisis archive, and is the most correlated of the three with interactions of goal-driven research. The third—*engaging frames*—is primarily photographic and discoverable in two remarkable collections submitted by two Louisiana photographers. That analysis will demand reference to Judith Butler and James Johnson's interpretations of the powers of aggregated photography. They give us means to understand photography as—potentially—constructive of renewed capacity amid conditions of simultaneous urgency and impossibility in the representation and imagination of public tragedy and injustice. I move through each of these modes of interaction through close readings of objects and interfaces in the *Memory Bank*, meanwhile carrying on the conversation around the archive's undeniable challenges and contradictions.

I. Facing Memory

A fuller account of Recuber's negative response to the *Memory Bank* will set the stage for the exploration of the first mode of interaction. As I began to describe above, Recuber suggests the "stories"—I put this in quotes because these textual submissions do not always take the form of stories—in the *Memory Bank* represent contributors' uses of the site as a therapeutic

apparatus for working through trauma. He calls this "prosumption," as the users simultaneously produce and consume the medium. Recuber estimates the contributors' experiences as potentially personally ameliorative, but also faults both the *Memory Bank* and its progenitor the *September 11 Digital Archive* for facilitating "atomized" and "inward-looking" writing echoing neoliberal values of individualism. He sees the archives as "forestalling" collective conversation and action around the responses to the injustices in government responses to these events. He also questions the usefulness of the site to any who would visit because of the difficulty of navigation. The following submission to the *Memory Bank* would represent a hallmark instance of prosumption for Recuber. (The reader will note that I have not removed any typos or glitches from this quote or others. I have sought to reflect their appearance in the archive.)

> My worst memory of Katrina occured in Laural, MS. I was with my family inlcuding my two very young nieces. I stood in line with my sister at a Walgreens for 8 hours to get diapers. I saw humanity falling apart when they said we would be the last two allowed in for the day. The rush of people pushed against the door. It was unforgetable.\r\n However, as the storm passed all of the adults watched the trees falling in front of the door and one caving part of the roof in of the house we were saying in. My niece, who was almost a year and half at the time, innocently looked out the door and said \"bye bye trees\". In our moment of complete dispair we found hope for the future.[18]

I will return to Recuber's critique below.

This chapter's alternative approach takes seriously actual interaction at the site—the ways experiences in reading and navigation have meaning for visitors. Such an approach further implies a willingness to draw connections between interaction with strictly textual material and other kinds of material, including the interface and website as a whole. I am asking: Where might these textual submissions and other media fit within a practice of citizen observation and reading, akin to watching a documentary or researching on the web? How do different contributors appear to conceive of their roles as participants in crafting their written

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[18] Blair Boone, "[Untitled]," Hurricane Digital Memory Bank, http://hurricanearchive.org/items/show/40944.

contributions and object submissions? Are there new forms of assemblage we can observe? Out

of all this, what can we say generally from critical, political, and project development

perspectives? What gets lost? What gained?[19]

Drawing Again from Comics: A.D.

In introducing the first chapter, I described how particular selections from *ARLIS* stood

out to me, nagging for attention, not yielding readily to description. As would appear requisite in

analyzing digital crisis archives, collocations of objects become the basis of assertions of social

meanings of the given archive, whether the mass of items in Recuber's account, or the small

handful that Mizell-Nelson puts forward to assert "the creativity that individuals bring to this

online archive project in using a new medium to express themselves."[20] In coming to articulate

this first, more immediately accessible mode of interaction of "facing memory," I likewise

returned to a subset of telling objects out of those I studied, as they seemed to make evident a

general proposition and possibility in this archive. Two of the more prominent examples of this

subset follow. A first is strictly textual, imaged in the figure, quoted in full here (figure 3.3). It is

by an "indirect witness." (The reader will again note that I have not removed typos or artifacts of

the text's encoding.)

> I was in the Middle East when all of this happened, so I didnt live the experience first
> hand, not even close but I did walk around hearing everybody talking about the big thing
> that happened in America. We were in shock that something like this had taken place in
> the few months that we were gone for vacation. Some people had positive things to say
> and others had negative things to say. Some said that America was a great nation and just
> like other times it would be able to get out of it and it was financially able to help its
> people while others said things such as \"look what God is doing to their country because

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[19] On questions of visibility and invisibility in disaster representation, I recommend an article by Peter Galison and
Caroline Jones on the 2010 Gulf oil spill. Peter Galison and Caroline Jones, "Unknown Quantities," *Artforum
International* 49.3, November 1, 2010.

[20] Michael Mizell-Nelson, 68.

Figure 3.3: Rima Al-Sultan, "[Untitled]".

Figure 3.4: Anonymous, "[Untitled]".

of all the harm they\'ve caused others!\" I agree that it is horrible to have to say something like that but thats just the view some people have, a whole country shouldnt suffer because of one man\'s doings. The memories that Hurrican Katrina made come in different levels, the people who were living there, the people close by and the people very far away. Im just happy that I didnt have to go through it first hand, I\'m glad whoever made it out is ok now, and my heart goes out to everybody who lost someone.[21]

A second is a combination of image and text (figure 3.4).[22] The anonymous author writes a poetic prose accompaniment to what the viewer might otherwise gloss as yet another deflating and disturbing photograph of anonymous destruction. The author first describes evacuating from St. Bernard Parish, which was devastated by levee failures, then continues:

> There's a lot to say about the storm and how it shaped our lives but for me the door to it all, the image that I see first when I think of Katrina is of when responders and some residents were first allowed back into the parish just a few weeks after the water receded. My neighborhood was barricaded due to an oil spill but my brother's neighbor, being a fireman, was able to escort us down the road to his house. When I think of the storm it still feels like that first time coming home and pulling on boots to step into the kitchen doorway of my brother's impossibly dark and muddy home. There was no light inside; it was like a vacuum, like you were walking into a place without time or obedience to the physics of everyday life. The mud made all sorts of sounds as we trudged in with flashlights and dust masksâ€"I made it as far as the center of the room. The smell was unbearable and being less than five foot tall I quickly came to a point where the mud capped over the lip of my boots and sucked onto my knees. I panicked; seeing snakes, hearing the gurgle of air pockets and only the few rays of light guiding me to my brother and sister-in-law left me feeling trapped between the toss of tar-muck and molding furniture. I waded out of that house as fast as I could.

The author concludes:

> Even now at twenty-two I can feel the terror of going in that door just as I did then and I don't doubt that of all the memories and events the storm played catalyst to in my life that entrance will never fade.

In thinking commonalities across this pair—the reflection from abroad and the image-text combination—I asked: Are there aspects of reading these two contributions that overlap? Are there ways they coincide? Can an image-text unit and a strictly textual submission be understood

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[21] Rima Al-Sultan, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/27360

[22] Anonymous, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/45260.

together? Are there ways to use this pair in thinking about other stories and about the effects and mechanisms of the *Memory Bank* as a whole?

As with the last chapter, a comparison with comics aids understanding. Recall that in examining *ARLIS*, I drew upon the work of Hillary Chute along two lines: in understanding the archive as a "visual materialization" of the disaster and its aftermath, and in understanding subsets of images as carrying comic-like effects. Among other things, she asserts that the comic, in its assembly of frames, can provide "a location for ordering information to express history and memory." Those insights matter to the present case. That is certainly at work here. But we can look for further insight to a specific passage within a comic: Josh Neufeld's Katrina-centered *A.D.: New Orleans After the Deluge* (figure 3.5).[23] The comic first took the form of a serial for the online publication *Smith Magazine* over 2007 and 2008. Appended to each chapter were myriad links to related media, instancing the documentary and archival impulses around contemporary disasters. Neufeld also opted to include links to each of his chapters in the *Memory Bank*; they appear together in an official collection. Fragments also appear in searches (figure 3.6). In the afterword of *A.D.*, Neufeld writes of the differences between the two versions:

> When comics are presented on the web—often one panel at a time—something of the gestalt of the comic book is lost: the interplay of the tiers of images on a page, the way a two-page spread can work to frame and augment the drama, and aspects of timing, meter, and rhythm.[24]

Reviews of the book were glowing. One article argues that *A.D.* serves to foster "critical reading of the public memory of visually mediated historical events," and that it participates in an ethics of event memory that demands "the reader participate in the ongoing, labor-intensive processes

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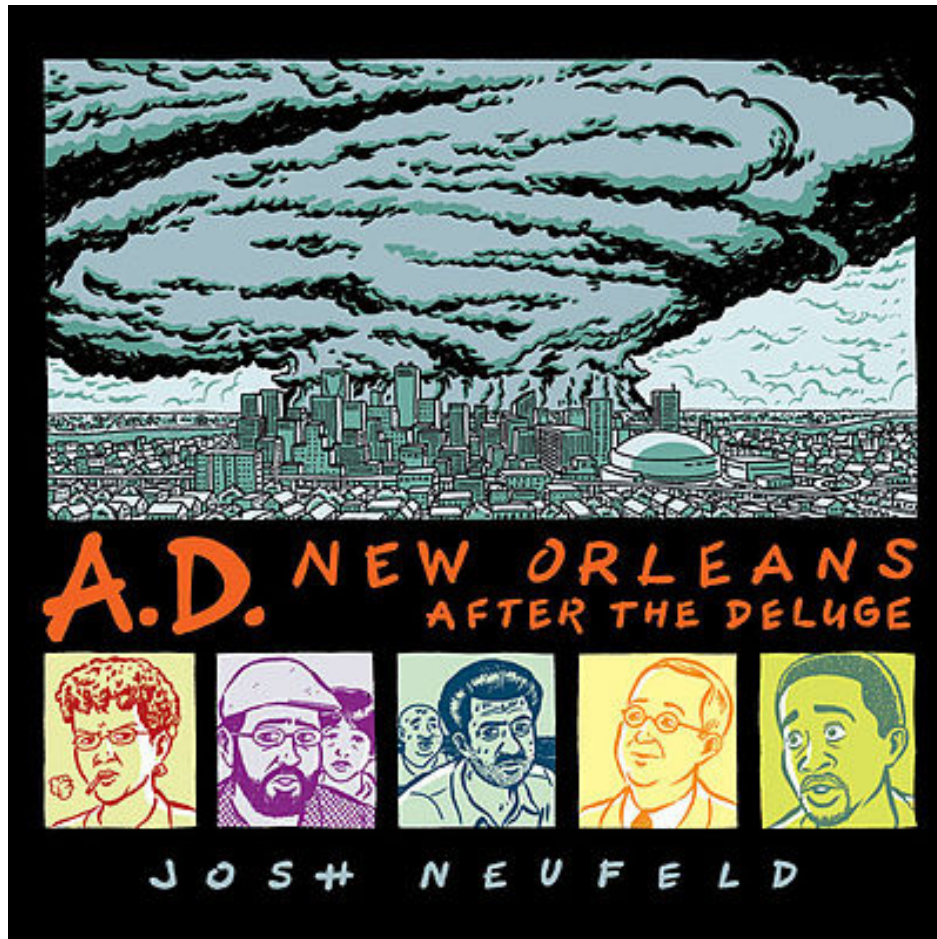[23] Josh Neufeld, *A.D.: New Orleans After the Deluge* (New York: Pantheon, 2009).

[24] Ibid., 193.

Figure 3.5: Cover, Josh Neufeld, *A.D. New Orleans After the Deluge.*

Figure 3.6: Search results, *HDMB,* February 2015.

of researching, listening [to], and revising the record of the event."[25] These are observations we could apply to digital crisis archives.

Comparisons between the *Memory Bank* and *A.D.* could divert us significantly, and indeed in the Conclusion to this dissertation I will consider other non-digital forms of assemblage in response to the *Exxon Valdez* oil spill and Katrina. But I want to highlight a particular passage that is instructive for the purposes of understanding this first mode of interaction. A central character returns to his home in New Orleans, having evacuated ahead of Katrina's landfall (figure 3.7).[26] Much stands out about this passage, but two things are most relevant. First is its formal construction. Neufeld movingly arrays a speaker's cascade of triggered memories of things lost to the storm. Doing so suggests something matters in the work of visual and textual juxtaposition in the question of memory—flooding, water, images. Forms of assemblage and experiences of memory can have close relationships. Second is recognition of the passage as a component within a broader project—there is something directly and explicitly laid before us happening here that suffuses the rest of the endeavor. It is one among many reflections. It is situated in equivalence with the stories and memories of others. Conceiving contributions to the *Memory Bank* along similar lines, a picture opens of individual contributions as pieces of larger cross-cutting processes: the putting on display of personal experiences and reflections on memory by authors'; the generation of interactions through assemblage; and the production and reception of this work among that of multiple other participants respond to similar conditions, conditions of both disaster and digital archive.

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[25] Anthony Dyer Hoefer, "A Re-Vision of the Record: The Demands of Reading Josh Neufeld's *A.D.: New Orleans After the Deluge*," in *Comics and the U.S. South*, eds. Brannon Costello and Qiana J. Whitted (Jackson, MS: University Press of Mississippi, 2012), 307, 295.

[26] Neufeld, 182.

Figure 3.7: Passage from Josh Neufeld, *A.D. New Orleans After the Deluge.*
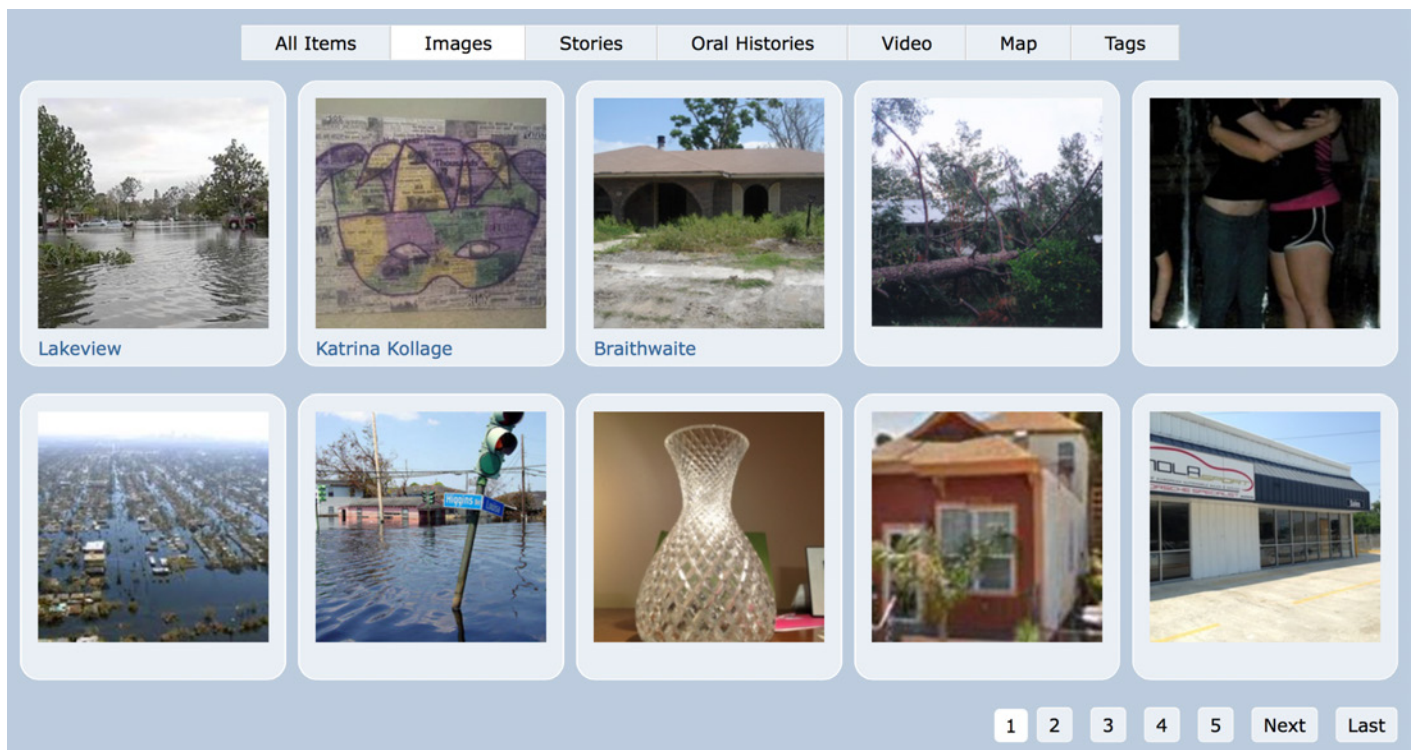
Figure 3.8: Browsing *HDMB* images, February 2015.

I consolidate these qualities of the *A.D.* passage into a suggestion of the mode of interaction of "facing memory." I put this term forward to indicate the coincident practices of turning to memories of the disaster in the metaphoric sense—turning to face them—and of memories laid upon the flat plane of the browser, a facing of memory through this digital public forum. In other words, facing memory is engaging the fact and possibility of memory of disaster—for those affected, for the reader—and confronting particular memories through the interface of the *Memory Bank*. Within the bigger program of the chapter, I therefore argue for a more robust picture of what is proposed by the *Memory Bank* for contributors and readers: not simply writing of stories and reflections, not simply atomized "presumption" of stories. The *Memory Bank* appears as a lively, co-authored memory field in which distributed individuals confront the past as lived, reflected, and indeed traumatic—and their submissions are formed in response to the collective project, facing alongside facing. But what are the workings and implications of this mode of interaction? What are its limitations?

Interface

Stepping back for a moment, the *Memory Bank* is many things in one: an interface, a website, a search field, myriad objects, framing language, citations, colors, a URL. It is an utter heterogeneity of overlapping, mutually informing elements, a digital archival assemblage, both manifestly orderly, and highly disorderly. As critics, we can select out one type of interaction, the browsing of items—in often slow and frustrating ways certainly—the searching through items, the coming upon images. Likewise, as readers and interpreters, we can select out certain items for attention, and follow out separately or simultaneously tracks of curiosity, discovery. What I am doing in this chapter is following out an analytical proposition which asserts that we

can not only select out objects for attention, we can also organize our thinking to identify

heuristic modes of interaction at the site—generative meetings of contributors, items, interfaces,

and reader-visitors that the archive makes possible. A basic premise is that the *Memory Bank* can

function as an apparatus of provocation and advancement, not only a lightly read repository of

sources for eventual mining, but an agent of significant processes. "Facing memory" is one of

these: a selection out of the lattice, a certain subset of the scaffolding in this complex memory

network, a dimension for intention for contributors and readers, what has been and could be

further built.

Asserting an interactive modality of facing memory is working against a bare description

of individual stories, or of trying to gather them together en masse. It is attention to process, to

relationship, and to convergence. Within this view, the actual situated exercise of exploration of

the *Memory Bank* can matter as much as the project's accumulative practice or any service

provided to more official forms of research. In this spirit, in pursuing "facing memory," we can

thus start with the interface rather than the items. Take the homepage (please glance back at

figure 3.1). The interaction of facing memory—turning to personally held disaster memory,

doing so along a flat plane—can be teased apart into roughly two layers that the interface can set

in motion or facilitate. The first works at the level of the individual. We have the proposition of

what the visitor remembers of Katrina. This form of re-surfacing one's own memory no doubt

exists as a key element in any disaster engagement, but here one is given the means and

encouragement to pose those questions, however provisionally and however long one sustains

this throughout ensuing exploration. The featured image of destruction on the site can set off

whatever memory a visitor might have of representation of the disasters—or of their own direct

memories. The two featured stories give the beginnings of the overarching narrative of the
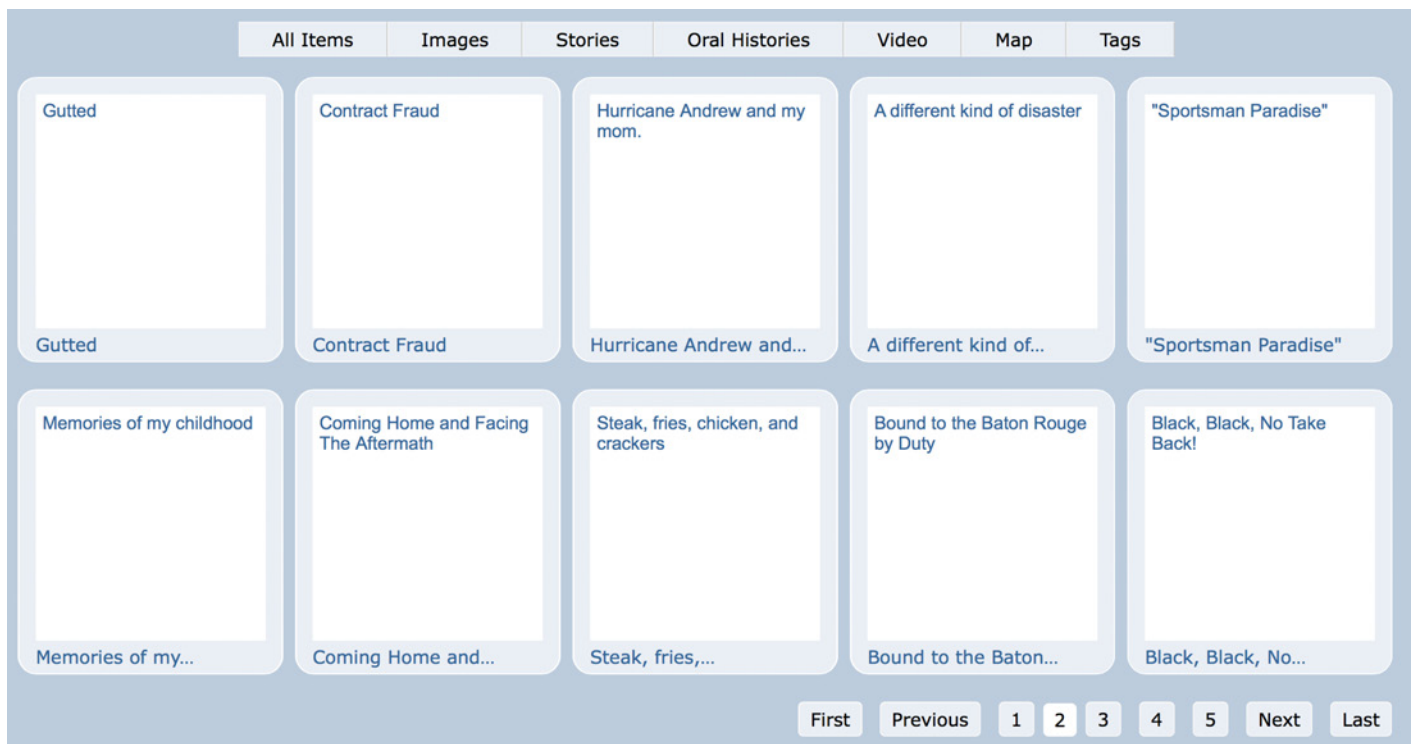
Figure 3.9: Stories interface, *HDMB,* February 2015.

disaster, those who evacuated and those who did not: "My family and I evacuated the Sunday

before Katrina…" —although these de-emphasize the reality for those who were forced to stay.

The map gives a sense of overview and location. Arriving at the home page is to return to the

beginning of the disaster. In effect, we find the proposition of visitors' carrying or developing

their own "memory banks" of Katrina. The solicitation to add to the archive further encourages

this imaginal process. (It might also never occur; this archive might seem wholly the realm of

others' memories, not one's own, or it might repel interest.) A surfacing of memories co-exists

with the proposition of distilling an individualized "memory" or "reflection" which one could

add to the collective project. In the "Share Your Story" interface, one is asked to choose a title,

to choose a location that best represents the story, and to give personal information. The flat

plane receives the textured memory. Meanwhile, a sense of a crowd of people remembering

might come through—and could be amplified. We have a proposition of pluralities of memory,

the scale of memories held, and this singular event "Katrina" inscribing itself into the places and

minds and lives of those affected by the storm. On top of this, we have the announcement of

collective memory work. In the blurb at the top, we see description of collaboration among

multiple partners, the honors received for the work, and the proposition of other sites like this in

the claiming of this as the "largest" among possible archives.[27]

  If the homepage serves to establish the archive/website as a multivalent memory field,

then the next presumed step is looking at individual items, delving into the stories. Facing

memory in and through the Browse interface—clicking over to "Items," we find unexpectedly

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[27] There is a dissonance in the title and self-description of the site which deserves noting. The site itself is called the *Memory Bank*, but the URL is hurricanearchive.org. The homepage adds to the confusion: The short description at the top asserts an oral historical mission. At the end of the blurb the Memory Bank is touted as the "largest free public archive" with items in the collection. Below, we see both Featured Stories and Featured Images, making the space about more than stories. To the right, there is the further addition of video; beneath this a map; and beneath that tags. Different architectures and aims co-exist here: a library, a search engine, a collaborative documentary.

the tab of "Images" is the first opened rather than "Stories" or "Oral Histories" (figure 3.8). A sense of contemplating our own or others' memory and memory practices might persist from interaction with the homepage. The gathering of images might appear as an exhibit of so many fragments people remember. On the first page, to use the screenshot in Figure 3.8 as an example, we see a vase which could be something forgotten, an iconic and indeed unforgettable picture of New Orleans flooded from above, and a collage made up of newspaper headlines. Moving through the pages to come, this impression of the aggregates of images as the un-curated emanations of others' memories might well persist. This is a situated virtual experience, imagined, of facing and encountering our own and others' memories of violence, mediation, resilience, survival—surfacing in sense, image, sound, narrative. At the same time, other forms of experience and other frames interleave. In passing through the Images pages, archival frames could dominate. We would understand these images as materials for potential research use or as objects of culture and nation preserved.

Facing memory in and through what appears on clicking the Stories tab—the interface is bare and uninviting, flat and white and without character (figure 3.9). Can we try to define the effects and experiences these pages induce? As with all three archives under study, we can conceive of multiple reactions and readings. In one, the experience here is basic frustration. We cannot preview the story. We click from one story to the next slowly. Without tremendous effort, we cannot expect to reach stories that are way off in the thousands, except through serendipitous searching. A second reading of the Stories interfaces is more constructive and reads the potential for tangible and meaningful user experience. As the homepage does is in the description of the site, so here the layout suggests memories of violence, uncertainty, and resilience being held in massive aggregates, and of the collective energy around active memory work. Moreover,

contemplating the impossible number of stories ahead and confronted with the bareness of the interface, we sit with the proposition of filling in the gaps.

Items

We shift from this processual account of movement through the interface to concern with items themselves. It is tempting to claim that in some sense any item constitutes an instance of facing memory, and will impact any future instance of remembering on the part of the reader or researcher. But we ought to retain the specificity of this mode, mindful of the analogy with Neufeld's work: laying on a flat plane, embedding within a collective collocation of memory. In interaction with the interfaces and languages, the reader brings to the screen a practice of facing memory. Among items, some work better than others to contribute of turning to contemplate their own and others' experiences of disaster memory. Numerous factors converge in a given case to define what the reader encounters. I first curate a set of textual submissions. One gets at commonly discussed aspect of the tragedy: the loss of the photographs of childhood.

> I know that to other peoples situations 7 inches is not a lot but it was more then enough to ruin all the floors, furniture, and all of my memories of my childhood in picture books that I had left under my bed. Being so young, i was distraught. I would grab things off the floor that i had kept from my childhood with my hands shaking and tears running down my face. I had left all my grammer school and freshman year yearbooks on the floor for them also all to be covered in water. Knowing that these memories were gone was a hard concept for me to grasp.[28]

A second shows the question of memory redoubled, direct, and piercing:

> When I think of Katrina and her aftermath there is one image I will never forget. It wasn\'t seeing the destruction of my home or that of my friends and family. It wasn\'t finding all your pictures and memories destroyed. It wasn\'t of the black mold that engulfed what once was my bedroom. It was the face of a 19 year old boy who lost his mother during katrina. I will never forget sitting up all night listening to him describe this

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[28] Anonymous, "Appreciation for Life After Katrina," *Hurricane Digital Memory Bank*, accessed August 22, 2015, http://hurricanearchive.org/items/show/45920.

tradegy and how it unfolded. His mom and dad deceided to stay for the storm and on that fateful night the water started rushing in. His mom ran to the bedroom to grab a few pictures but it was too late. The water poured in so quickly the pressure slammed the bedroom door shut. Her husband and son fought as hard as they could but to no avail. Soon they were pressed up against the ceiling and about to give in when his father gave one last punch and the ceiling finally broke. They made it out but they will never be the same. Their wife and mother lost her life that night. A part of them died that night. That is the image I will always remember. The face of a young man with a wound that will never fully heal.[29]

A third shows facing memory as survival and surprise:

Before Katrina, my husband and I rented a two story double in the Freret business corridor. Back then, it wasn't the "restaurant row" hot spot that is now. There were a few family owned businesses lining the thoroughfare, but the street was a shadow of what it is today, commerce wise. Regardless, we loved our neighborhood and the house.

Like many neighborhoods, we also had our fair share of roaming cat colonies, with our own brood of six born on the front porch. Everyone got fixed, and eventually the group dwindled down to two cats- Runty and Tigre. These felines aren't your average alley cats- they'd come into the house, begging us to pet them. Since our landlord at the time didn't allow pets, this was the closet we could get to having our own. We looked after them for a few years, until Katrina hit. The neighborhood got substantial water, with several neighbors having to rebuild their homes.

But the cats survived, and were patiently waiting our return. We had moved out of state after Katrina, having lived out west for a little over 3 years. Enough time had passed, and New Orleans pulled us back in.

Fast forward to 2009. We were back in NOLA, living here for a year when we decided to hit up the Freret Market one Saturday. We hadn't really been back on the street too much- it was too painful to see our old beloved house with other people living in it. Even though we had just rented it, it always felt like ours. Call it kismet, but that same day we hit up the market we saw a "For Sale" sign on the house. And who was sitting in the front yard? One of our cats. We got ourselves a real estate agent the next day, and two months later our cats greeted us with a "Where have you been?". Call it luck, fate, or whatever you'd like, but not even a natural disaster could keep us from the house that belonged to us.

And a fourth, signed by Scott Moersen, a self-described "outsider," reflects on what it is to remember the events, and displays an ethics of encounter:

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[29] Anonymous, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/43242.

As an outsider listening to stories about Katrina from co-workers, friends, and students I have mainly just listened. My partner Laura was a bartender at the Abbey for a year and during that time she helped customers deal with post traumatic stress regarding the aftermath of the storm. \r\n Being a History student I\'m interested in how the storm and the city are seen through direct and indirect memory. Many times wheeling patients onto Tulane Ave. to wait for their rides (my hospital job of the last 4 years) patients have said, \"The city will never be the same.\" \r\n Aside from the obvious fact that I do not know, or pretend to know, what the city was like before I arrived there seems to be a consensus among my patients that the view from Tulane Ave. and Saratoga Street is significantly different from their past memories. \r\n Six months ago as I wheeled a patient out onto the familiar cross streets to await their ride I again heard the familiar reply, \"The city will never be the same.\" To which I responded, \"You mean since Katrina.\" \"Katrina?\" he said. \"I\'m talking about the 1980s.\" The patient was a 50 year old resident of St. Bernard who once lived in the city in his twenties--in the prime of his life.\r\n So I pay close attention to memories when it comes to the storm. *Nothing is ever static in my opinion when it comes to memories. And when narratives begin to change, begin to coalesce, then I believe something huge is happening.*[30]

I would linger momentarily on Moersen's last statement, which I have placed in italics. Is Katrina about what happened? Or is it about what we remember, and how we will remember in future? What does it mean for a narrative to coalesce? What is taking place? For our theoretical purposes around digital crisis archives, here is a crucial instance in which the *Memory Bank* is doing far more than aiding in prosumption or reflecting politics of belonging. It is generating context for personally felt reflection on experiences of memory as a construct. It is also not strictly personal.

I shift to instances that combine text and image, both still and moving. In one, cited by Mizell-Nelson among the "creative uses of the new medium," the author shares a picture of a small child and writes:

One of the most grievous losses after Katrina was the family collection of photographs. The London Ave. levee breach let in an awful collection of yuck which obliterated all photos, amazingly except for Polaroids. I found this one of my son stuck in the buckled wood flooring of mama and daddy's house. We all cried because in 2002 at 24 he died of

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[30] Scott Moersen, "[Untitled]," *Hurricane Digital Memory Bank*, accessed August 22, 2015, http://hurricanearchive.org/items/show/44517.

Figure 3.10: Courtney Egan, "Mr. Ramsey's New Suit".

Figure 3.11: Still from Sarah Dunn, "[Untitled]".

an asthma attack. Losing all his photographs was like losing him again, until God led us to this lone survivor. Amen.[31]

In another, also cited by Mizell-Nelson, the text of memory is worn by the photographed person (figure 3.10). The caption reads: "Mr. Ramsey\'s suit for Mardi Gras Day 2006 commemorated the lost history of the Corner Bar. The names of all the old bars that no longer exist post-Katrina are listed on his suit."[32] Other contributions perform facing memory in motion. Take Sarah Dunn's contribution, added to the site six years after the disaster (figure 3.11). [33] Instancing the common post-disaster characterization of homes and landscapes as places of memory, Dunn describes the video hence, "Some parts of New Orleans East still resemble a post-apocalpytic [sic] wasteland full of these large destroyed boxes of memories people once called homes." The video, which one can download, documents an all-too-common scene of abandonment, the kind "etched," as the language goes, into the collective memory of indirect witnesses. But through its presence as part of the collective *Memory Bank*, and with the marked comments about "boxes of memories," Dunn's contribution also gives visual force to the disaster as putting in peril personal, community, and family histories. It suggests the multiple. A second instance likewise gains force by virtue of its inclusion in the *Memory Bank*. It has a simple title: "Katrina.wmv" (a wmv, or Windows Media Video, file). Downloading the file, we watch devastated landscapes fill the dusty window of the car we move with, as a Randy Newman song about remembering the 1927 flood of New Orleans plays. As with Dunn's return to the "box of memory," we confront here the raw documentation of damage, but also an expression of active and constructed event

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[31] Kathleen DesHotel, "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/1853.

[32] Courtney Egan, "Mr. Ramsey\'s New Suit," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/28422.

[33] Sarah Dunn, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/45271.

Memory Past, Never Always
Next generation will not forget
OR know how they knew
what was.

Figure 3.12: Anonymous, "Memory Past".

"I wasn't used to
seeing all those
Fema trailers outside
of people's Houses. It
Made me feel sad."
                    -Luke Garrison,
                         Age 8

Figure 3.13: Luke Garrison, "Comments by Luke, Age 8".

memory, in this case the event of the generation and inscription of indelible visions of endless loss, and the repetition of historical crisis. One critic suggests the impact of the tracking shot well exceeds Jean-Luc Godard's famous opening to the film *Weekend*.[34] I am reminded of the documentary film *Trouble the Water*, which in its riveting first half, similarly draws upon raw, archival footage to profound effect, albeit full of life, humor, and human decency. The filmmakers weave together footage taken by New Orleans resident Kimberly Rivers Roberts as the storm approached and the floodwaters rose.

I conclude with media types we have not yet seen. As a multimedia archive, the *Memory Bank* welcomes other paths to facing memory: the object and the artwork. Take these two notecards, for instance (figures 2.12, 2.13).[35] Both were produced as part of an art project in which New Orleans residents were asked to submit reflections on buildings lost to the storm and the flood. Most directly instancing facing memory are these hand-written reflections upon which an artist has drawn the writer's face in charcoal (figures 2.14, 2.15).[36] The artist, Francesco DiSantis, calls the collection an "anthology of survival, renewal and struggle"—a description we might grant the *Memory Bank* as well.

Facing Memory

Such is a close engagement with the possibility of facing memory at the *Memory Bank*. How can we now respond to Recuber's account? It has some merit. It is manifestly the case that

[34] Dan Streible, "Media Artists, Local Activists, and Outsider Archivists: The Case of Helen Hill," in *Old and New Media After Katrina*, ed. Diane Negra (New York: Palgrave Macmillan, 2010): 149–74.

[35] Anonymous, "Memory Past," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/29396. Luke Garrison, "Comments by Luke, Age 8," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/29365.

[36] Francesco DiSantis, "Portrait & Narrative of Dan Smith, Jr.," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/26760. Francesco di Santis, "Portrait & Narrative," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/26728.

My name is Dan Smith. Jr. I was born on December 25, 1922 in Vicksburg miss. I guess I was too small to remember the Great Flood of 1927 I remember Hurricane Betsy I was working at the Flinkote company at time texfile plant, well i seen a lot of damage. the water rose up about six feet, i had to wait a whole day. before the platform in the plant until the water went down so i could walk home. I stayed way uptown on the 2400 block of Lasalle no buses or anything running Oh boy what a long walk that was. I was here in the woodland complex in Algiers during hurricane Katrina. The rain and wind sounded like a freight Train. i stayed I never left.

My 2006

Figure 3.14: Francesco DiSantis, "Portrait & Narrative of Dan Smith, Jr.".

Yesterday, I walked up and down the streets of the ninth ward with a back pack full of Common Ground's newspaper - "Breaking Ground." We were distributing the paper to residents that had returned to their homes. As the hours marched on, my bag still weighed heavily on back. So many of the streets - so much of the community still lay desolate. Piles of trash and debris still lined the streets. Peoples homes lay quietly admist the rubble. But every few blocks or so I'd round a corner and see people - people who had returned to their homes and were beginning to rebuild. In talking with people in this community, I heard anger, despair, frustration, but I also heard an incredible amount of strength, hope and determination. Their homes had been "X"ed out with spray paint and labelled "toxic" yet they were back - rebuilding in spite of all of that.

I've always imagined myself to be a strong person. I reasoned I had to have been strong surviving past the age of 25 as a Black man in this country. But now I question that mantra, because that strength has never really been tested. My life circumstances have buffered me from level of destitution I witnessed walking the streets of the ninth ward. The men & women I met have been pushed to the side, their lives and homes marginalized and dismissed as if their race & class made them unimportant. They are the strong ones; Indeed they represent a strength our society can learn from - I certainly have - Gerald Fields
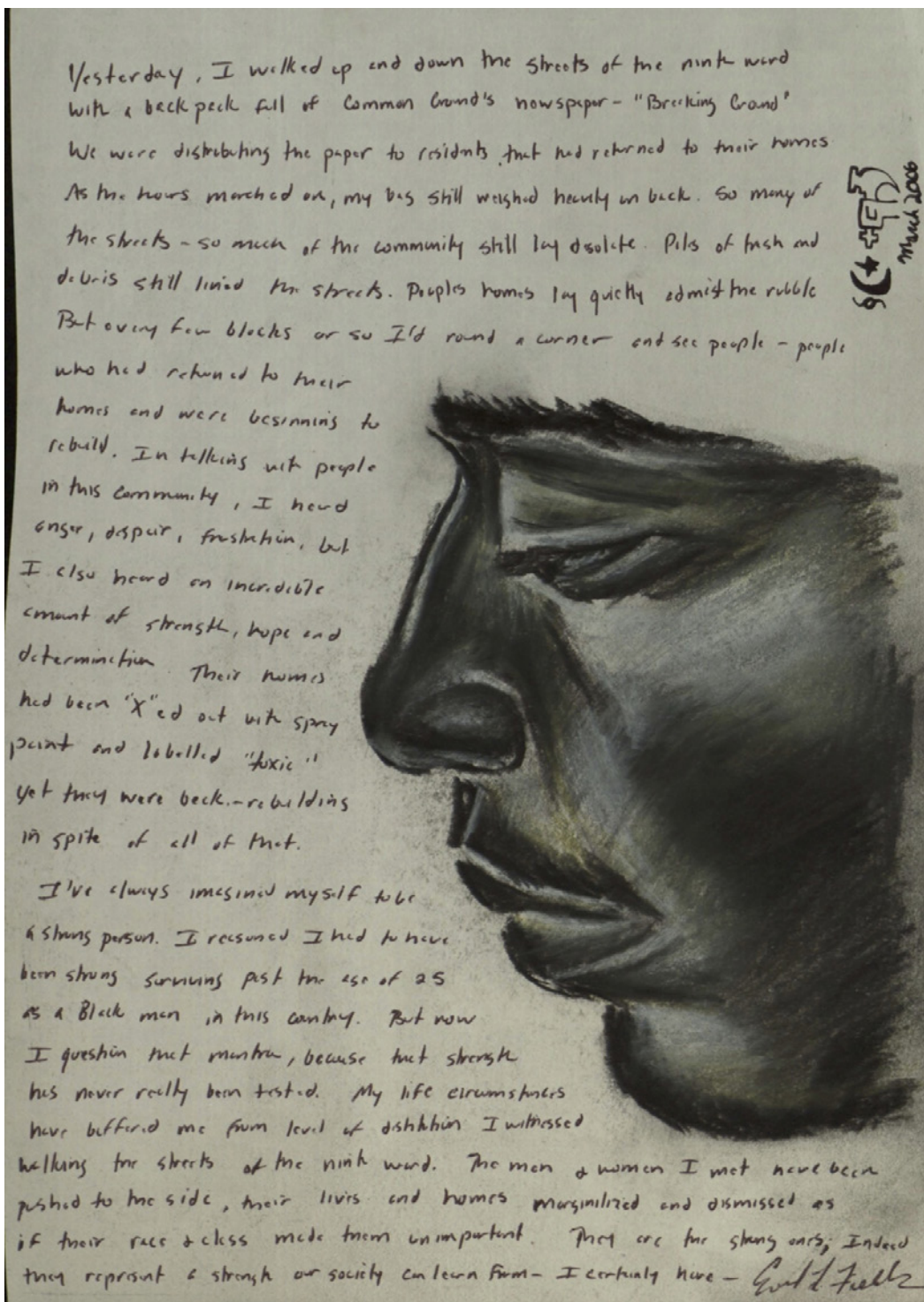
Figure 3.15: Francesco DiSantis, "Portrait & Narrative".

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the site does not actively frame Katrina in terms of injustice. (Recuber does, however, unfairly overlook several instances of discussion and the inclusion of emails, articles, and documents that testify to injustices or present critical responses, one of which I will excerpt in a moment.) He is also right that there is encouragement and impetus to craft one's story as an atomized experience—*your* memory, *your* story. I would add: the archive does not, at the overarching level, give space and acknowledgement to the flood and the subsequent government failures and humanitarian crises. It is instead centered on the hurricane (or hurricanes, inasmuch as it includes Rita-related material). By contrast, other documentary projects frame Katrina as an "unnatural disaster" from the first, and forgo engagement with the disaster as regional hurricane. The 2006 book *Voices from the Storm*, for instance is geared toward recording and circulating an assemblage of stories of human rights abuses, and includes supplementary material—timelines, appendices, maps, statistics—about the effects of the storm on New Orleans to support reader's learning thereby.[37] Spike Lee's film *When the Levees Broke* similarly compiles testimonies exclusively focused around the flood and around the recovery of the City of New Orleans.[38] Could the *Memory Bank* have pursued a middle ground between "hurricanearchive.org" and these New Orleans-centered projects?

Regardless of these shortcomings, an alternative vision of this archive comes through when we attend to the actuality of the site. Here was—and remains—an open-ended experimental space for conjuring individual and public memory, and for contributors' and visitors' engaging in retrospective meaning-making around Katrina as hurricane and Katrina as flood. To generalize contributions to this *Memory Bank* as self-serving and mystifying does

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[37] Lola Vollen and Chris Ying, eds, *Voices From the Storm: The People of New Orleans on Hurricane Katrina and Its Aftermath* (San Francisco: McSweeney's Books, 2008).

[38] *When the Levees Broke*, directed by Spike Lee (2005; New York: HBO Video), DVD.

tremendous injustice to the creativity of the contributors we have just seen. Amid the

heterogeneity of items and propositions of visitor interaction is a collective exploration of

memory and violence, from the individual—never truly individual—to the anonymous

collective. Disasters of this scale, complexity, and violence challenge our capacity—and

willingness—to confront their realities and to make sense of collective implication in their

unfolding and subsequent failures at recuperation. Facing memory is a movement in the

symphony of this imagined archival community. Meanwhile, contributions like the following

reveal a way that the subjectivity of facing memory and the sociality of critical reflection can

come together, complicating any ambition toward reductive assessment:

> I was watching the news on how a destructive hurricane was headed towards New
> Orleans and thinking how are the people with who are barely getting by going to get out
> to safety? And are there enough buses to carry everyone out? When the storm hit and
> cleared I thought there would be some type immediate help just like the tsunami disaster,
> but when I saw the total disrespect towards people of color, it kind of reminded me that
> as far as we have made progress we have digressed just as much. Then it took for Kanye
> West to say something until people started to say that Bush doesn\'t care about black
> people. So I started to look at the situation and see that in the \"New South\", there are
> still signs of plantation, confederate flags flying high in South Carolina and Georgia,
> black people are still more likely to get caught up in the prison system than any other
> race. And I looked at the Tuskegee Experiments, the only thing we got was an apology,
> when the Japanese received money we they were \"detained for a brief time\". Then I
> thought maybe this rebuilding process is where Bush would empathize and start
> rebuilding the city of New Orleans, but what happened? The city of who used to people
> mostly black is now just like every other city in America it is now mostly white. I think
> that this was a sign from God for people to show are they really \"Good Christians\" and
> God\'s followers, but it is clear most of us are not. Especially after watching BET and
> seeing that in less than six months victims of this hurricane, their FEMA funding will run
> out. Most of them living with no jobs, how are they going to support themselves? Then
> the city turns right back around and builds condos not for the people who need it most,
> but for the people who have the most. This really showed me how worthless our lives our
> to America.[39]

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[39] Chris Murphy, "[Untitled]," Hurricane Digital Memory Bank, http://hurricanearchive.org/items/show/11423.

II. Scanning Memory

A conception of the *Memory Bank* as an archive of "stories" dominates. The very tagline at the top of the site, accompanying any search and any view, reinforces this sentiment: "Collecting and preserving the stories of Katrina and Rita." Nevertheless, in places like the site's About page, we also recognize further ambition around the "digital record" of the two storms.

> Generously funded by the Alfred P. Sloan Foundation (2005-2008), the Hurricane Digital Memory Bank contributes to the ongoing effort by historians and archivists to preserve the record of these storms by collecting first-hand accounts, on-scene images, blog postings, and podcasts. We hope to foster some positive legacies by allowing the people affected by these storms to tell their stories in their own words, which as part of the historical record will remain accessible to a wide audience for generations to come.[40]

Between the solicitation of the stories and the gathering of the digital record was an ambition to "democratize history." That is, as embodied in the title of the aforementioned volume *Voices from the Storm*, to give voice, and to preserve for posterity, and for future historical research, realities—lives, environments, problems, survivals—otherwise invisible. As I have been asserting already, what is lacking in these characterizations, and what the emphasis on the stories at the site obscures, are the actual processes of engagement with the materials and the interface. We have to ask whether the stories and the other records come into dialogue for visitors beyond their co-presence as so many accumulated objects to access, contemplate, and potentially use. In other words, as *ARLIS* encourages us to ask, are there trans-archival experiences and effects of equal value to encounters with individual objects and their inherent value as pieces of the digital record? Is there something emergent and engaging in the *Memory Bank* as a kind of media artifact on the same plane as documentary films, or at least as the carrying within it the beginnings of these medial powers, which an alternative interface with the same materials could

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[40] "About," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/about (accessed February 10, 2015).

amplify? Have contributors imagined uses and meanings for the site beyond what its architects have dreamed?

This section and the next concern modes of interaction that enable nuancing and expansion of memory and understanding of Katrina, and do so in ways that are characteristic of digital crisis archives, relying upon permutations of assemblage, interaction, and participation, and shifting away from the experience of the individual photograph and of narrative. As does facing memory through the basic interface and its framing, the second mode of interaction in the *Memory Bank* proposes itself from the first. I will offer a description in abstract terms before synthesizing discussion of its significance. The interaction is difficult to define. It reflects the "dimensional mobility" explored with *ARLIS*. It is heuristic movement—a multidimensional, emergent process that is driven by acts of navigation and browsing. It is a sustained mode of study defined by the exploration of a field of preserved or referenced objects in which "objects" can include an open range of event-related data, "capta," and images: abstractions, actions, lives, places, items, phenomena, etc.[41] It mirrors the operation of internal memory in its nonlinearity and its multi-modality—aesthetic, cognitive, spatial. It takes place through interfaces that gather and juxtapose objects that facilitate affect, interpretation, and imagination, from the pair to the dozens. Those who would engage in the process experience many of the things other memory actions serve: confronting affects, encountering dimensions, discovering interpretations, etc. At the same time, the process—undertaken through movement from interface to interface and object to object—has effects only weakly available in other sites: altering interest, exposing marginal subjects, breaking down organizational structures, suggesting associations. The traces and legacies of processes of scanning memory might well continue to affect the frequency and nature

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[41] I draw the term "capta" from Johanna Drucker. Johanna Drucker, "Humanities Approaches to Graphical Display," *Digital Humanities Quarterly* 5.1 (2011). http://www.digitalhumanities.org/dhq/vol/5/1/000091/000091.html.

of successive forms of engagement with the disaster within and outside the *Memory Bank*. From some perspectives, in its bent toward the practice might appear risky—recalling Sekula's concerns about archive's serving in uncritical "liberations" from meaning. But such is an abstract set of descriptions. Let us look at scanning memory more closely in the interfaces and items of the *Memory Bank.*

Scales and Juxtapositions: the Tag Interface

Entering into browse mode, a visitor has the option of selecting Tags instead of items. We tend to think of tags as a means toward navigation, like signposts and passageways. This they are, of course. Let us say I enter the *Memory Bank* as a repository of voices less heard, and I am interested in a pre-determined topic. Contributors' having added tags that can take me to their stories and objects makes my work easier. Moreover, as Rivard notes, the self-tagging system can assure me I do not face the conventions of the archivist. Of course, there is a trade-off if I am seeking out a process of easy navigation. Rivard writes:

> The final category of "tags" is a listing of the hundreds of tags that contributors created to categorize their own submissions. As previously mentioned, there are so many tags as to render this particular form of categorization useless. The HDMB [*Memory Bank*] did try to work against the grain of archival power by purposefully not subcategorizing the material beyond general types of digital format and allowing contributors to self-tag their submissions. In this way, the HDMB resisted imposing implicit narratives on the material through forms of categorization. However, because the self-tagging system largely failed, navigating through the material becomes difficult and tedious.[42]

What if we understood tags in different terms? What if they were not strictly means of conveyance to generally pre-determined interests? What if they also participated in visitors' learning and engagement? What if they obstructed, revised, restricted, redirected? In other

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[42] Courtney Rivard, "Archiving Disaster: A Comparative Study of September 11, 2001 and Hurricane Katrina" (PhD diss., University of California, Santa Cruz, 2012), 216.

cheerleaders | chemical spills | Chertoff | chevy | chicago | chicken | chickens | chief | child

childhood | children | childrens hosp | Chill the Barber | chocalate city | chocolate city | chomp

christian | christmas | christmas eve | christmastree | christopher frught | christopher inn

chronology | church | churches | circle | circle foods | circle inc | citronelle | city | city council

city council election | city park | citys footprint | civil action | civil air patrol | civil rights

claire henderson | class | class action suits | classroom | cleaning | clearing | climbing | clinic

---

mcneese state university | meat | meatmarket | media | media coverag | media coverage

medical | melancon | memorial | Memories | memory | memory archive | memphis street | men

mental health | menu | mercury | merrychristmas | metairie | Michael Brown | michauds

michelle levine | microphone | midcity | middle class | middle tennesse | middle tennessee

midsummer mardi gras | midwife | migration | Mike Brown | mildew | milham | military

military memories | mimis | missing family still | missippi | Mississippi

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senior citizens | sepyayonlg | serious | service | service industry workers | sex toy | sex toys

shannon crane | shelter | ship | shipyard | shn evaluations | shn newsletter | shooting

shopping district | shore | shotguns | shout | shrimp | shrimp boat | siblings | sidell

sidney torres park | sign | signs | signsoflife | signsoflifebook | sintesfiberglass | sister | sisters

sky | skype | skyscrapers | slide | Slidell | slidell resident | smnpwcdrgu | snake | snjqvxzqfv

snow | social construction | socialists | sociology | sociotechnical systems | solider

Figure 3.16: Selections from Tag interface, *HDMB,* February 2015.

words, if we attend to the work tags in the *Memory Bank* already perform upon us, and what they might in future perform upon us, what can we observe? How would they serve within a proposition of scanning memory?

On the one hand, we find in the tag interface a means through which to browse items, and we presumably work at either end of the spectrum, exploring the metadata assemblage at our own whims as yet another object of momentary interest or seeking out items around an existing research ambition. At question with this frame is the sufficiency of the interface to the latter ends: Is it fast? Are its contents reliable? On the other hand, attending to processes and emergences, the acts of reading, looking, and moving serve transformative transit through an open field of objects catalytic and facilitative. The transits to new fields—clicking tags takes the visitor to browsing interfaces filtered for the given tag—and from there to items, can participate in the overall process. As is the case around the other two modes of interaction under study in this chapter, modifications to the interface could give force and intelligibility to this embedded and unusual proposition for interaction.

But let us look more closely. Consider the first of these three clusters of tags (Figure 3.16). The tags range from one to three words. There are redundancies like "chicken" and "chickens" or "church" and "churches." There are misspellings. There are odd juxtapositions like "cheerleaders" and "chemical spills." There are unknown and particular people ("Chill the Barber") set into proximity with things generic ("Christmas Tree"), abstract ("civil action"), and enigmatic ("clearing"). The various terms are in large enough font for easy scanning for most viewers. No preview of items appears upon scrolling over. Is this mere noise? Do this interface achieve more than random clicking? We can suggest a cascade of possibilities: The juxtaposition and openness enables otherwise marginal or invisible names, topics, places to come into

awareness, as something for research or reflection. Topics which would otherwise remain separate or which would normally be arranged into the important and unimportant come into radical equivalence. The tags level and juxtapose, bringing together different scales of memories. Novel connections might also appear. And there are assertions of angles on the events, ways of making meaning: "social construction," "socialists," "sociology," "sociotechnical systems." My having listed these, you might well be curious who is contributing items on these topics, why they have been contributed, what it means to explore the disaster in terms of sociotechnical systems. (The latter term leads to one among several articles included in the archive from the *Social Studies of Science Journal.* In this case it is "Distributing Risks and Responsibilities: Flood Hazard Mitigation in New Orleans" by Jameson Wetmore.)[43] The tag cloud, ostensibly serving trans-archival passage, might also encourage paths well beyond the browser, new tabs, new readings and viewings.

There is also a faint expressivity to the very object and our digital-visual transit. In its vastness and intractability, the disaster comes across in its complexity, in the multiplicity of things affected. Here we have a kind of anonymous collective mapping of the event by contributors—of many, by no means all, the "events and memories the storm played catalyst to," as the anonymous contributor quoted above puts it. This mapping takes place at a massive scale, and is undertaken by an imagined community. The tag cloud provisions not a memory or given memories, but an influence upon how the disaster is remembered and understood—as real, significant, and complex. Such memory and understanding is an attitude or comportment of engagement inspired, however briefly, by the tag interface. And yet, cognizant of the

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[43] Jameson M. Wetmore, "Distributing Risks and Responsibilities: Flood Hazard Mitigation in New Orleans," Hurricane Digital Memory Bank, http://hurricanearchive.org/items/show/25928. Jameson M. Wetmore, "Distributing Risks and Responsibilities: Flood Hazard Mitigation in New Orleans," *Social Studies of Science* 37.1 (2007): 119-126.

multivalence of crisis archives, we might also point to problems of decontextualization, veracity, and exclusion with such an interface. Its raw and bare look might foreclose any significant experience and meaning making. As ever, we face contradictions and paradoxes with digital crisis archives.

Contradictions: the Map and Browse Interfaces

Both the Map and Browse interfaces inherently encourage the basic mechanics of the processes of scanning memory—of the process of transit through heterogeneous elements. But do they actively or implicitly facilitate the deeper, co-constitutive processes of encounter, interpretation, movement, and framing? From one perspective, the map might weigh against the liveliness and duration of cross-archival scanning memory, the degree to which it matters (figure 3.17). Despite the stated number of geo-tagged items, the map only includes a handful, and these appear upon click and do not disappear when another is clicked. While certainly some of the effects and implications of the tag interface apply here—surfacing the marginal, leveling objects of study—the process of scanning memory is relatively attenuated. It is difficult to imagine a visitor clicking through this site engaged in malleable and attentive exploration of an open field of gathered memories. From another perspective, the mapping interface embeds the very proposition of scanning memory through the laying out of a context for transit, both visual and imagined—archival journeying. Its technical limitations and paucity of objects then deflect the produced ambition.

The Browse interface is a more complicated case. In examining facing memory, we discerned the potential for the very act of reading and navigating the interfaces to induce instances or atmospheres of facing memory—imagining the website as a memory field and understanding individual submissions made as intentional contributions to the commemorative
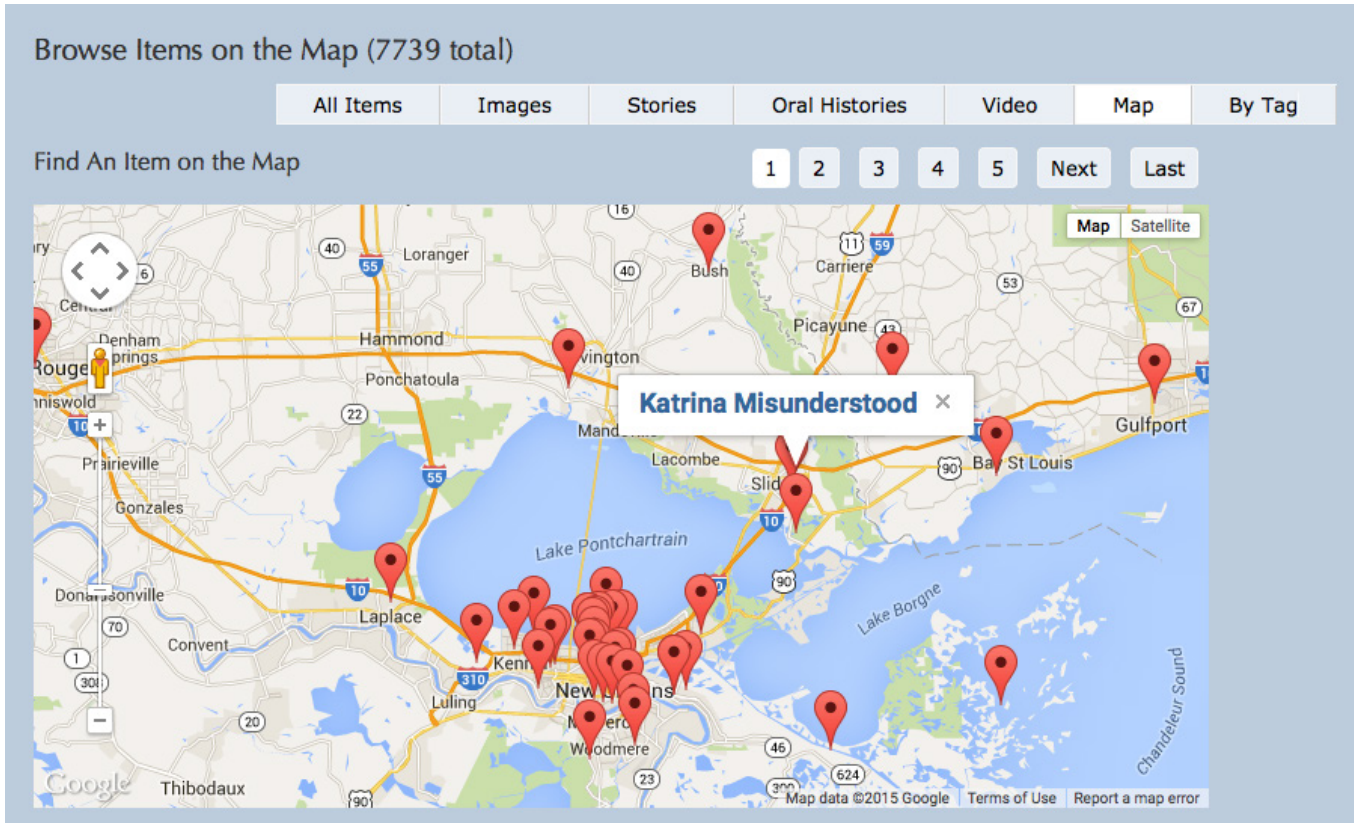
Figure 3.17: Map interface, *HDMB,* February 2015.

Figure 3.18: Anonymous, "MREs".

field, each thumbnail appearing in a guise as a potential memory. We can argue a similar

mechanics of lens shift with scanning memory. Engaged in the mode of scanning memory, the

titles and previews suggest signs and things if not the fullness of lives. We see icons as much as

indices of reality. What is internal to the frame also points outwards and might well connect with

what lies nearby in space and time. And yet: we cannot run away from the basic question of

whether the interface actually produces such experiences, or whether visits to the site, lacking the

encouragements of art context or an interface sufficiently well designed and framed, would be

short and empty.

Indexes: Items

So far we have considered what the items serve apart from their individual presentation,

i.e., the bearing of additional to the items themselves and which gets taken up in the interfaces:

their metadata in the tag interface, and their representations as pins and boxes in the map and as

thumbnails in the browse interface. What about the items themselves? How would "scanning"

apply to apparently stationary encounters? We can read items as participants in scanning

memory, and we have particular items especially suited to the process. They call for a mode of

reading is element-, aspect-, and angle-driven. Such reading is something like reading a

photograph as an index, not in the sense of index as physical trace but as catalog. That is, we

can—and I argue we do already—read images and objects for their constituent parts and for what

they point to beyond the frame: for elements, aspects, absences, angles. In other words, the

illusion of viewing a reality gives way in importance to the densities of things and meanings

present there, to signification and visual meaning. Tags situated beneath items encourage this

way of reading images.

Certain items, I have said, participate more directly and reveal contributors prioritizing their submissions' involvement in a general practice of scanning memory. That is, the contributors' practices of memory work—selection of item, writing of captions, choices of tags—generate an item that invites participation in the open-ended, nonlinear, multimodal exploration of Katrina's realities and legacies—this mode of interaction of scanning memory. Take this curated set, some of which I have rendered as image alone, others with the accompanying text as they appear on the website (figures 2.18–2.24). None of these contributions appears in a collection nor do the contributors submit them along with other extended reflections. And yet they are not the same as we expect of archival objects, submissions removed from context. However else they might have appeared in other contexts, whatever other functions they might have served, here they make active sense within the *Memory Bank*. At some level, contributors have recognized the potential for the *Memory Bank* to serve as a multivalent map of events and aftermaths. And they have assumed some value in visitors' interactions thereby. For us, the objects can overflow with further, unintended meaning. But what do contributors imagine we gain from encountering a given instance? What do we see beyond any manifest intention?

The picture of the MREs is a useful entrance (figure 3.18).[44] It is unclear whether the contributor took this photograph for the *Memory Bank* or whether he or she had already taken this picture. Assuming the latter, she (let us say) could have had any manner of motivations. But in submitting it to the interface, she provides something we can learn from and work with in a larger process of engagement. Basic elements come forward: MREs, types of food, candy. She then appends the second sentence, advising people to stay away from the Black Bean and Rice

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[44] Anonymous, "MREs," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/45906.

Sunrise of calm Lake Ponchartrain taken from the Causeway once it reopened.

Figure 3.19: Gilda Warner Reed, Ph.D., "Sunrise of calm…"

Military presence on Canal St. in New Orleans 2 and 1/2 months after Katrina.

Figure 3.20: Gilda Warner Reed, Ph.D., "Military presence…"

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Figure 3.21: Mark Rayner, "Military personnel drive…"

Online Image Contribution, Hurricane Digital Memory Bank

This photo was taken two weeks after katrina at the intersection of Iona & geranium street looking towrds North Line. The flat boat was used by private security details to get to and from dry land. these private security details were generallt heavily armed ex-military types. they were hired by teh very wealthy who live in this area.

Citation

Anonymous, "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, accessed January 14, 2015, http://hurricanearchive.org/items/show/1831.

Figure 3.22: Anonymous, "The flat boat…"
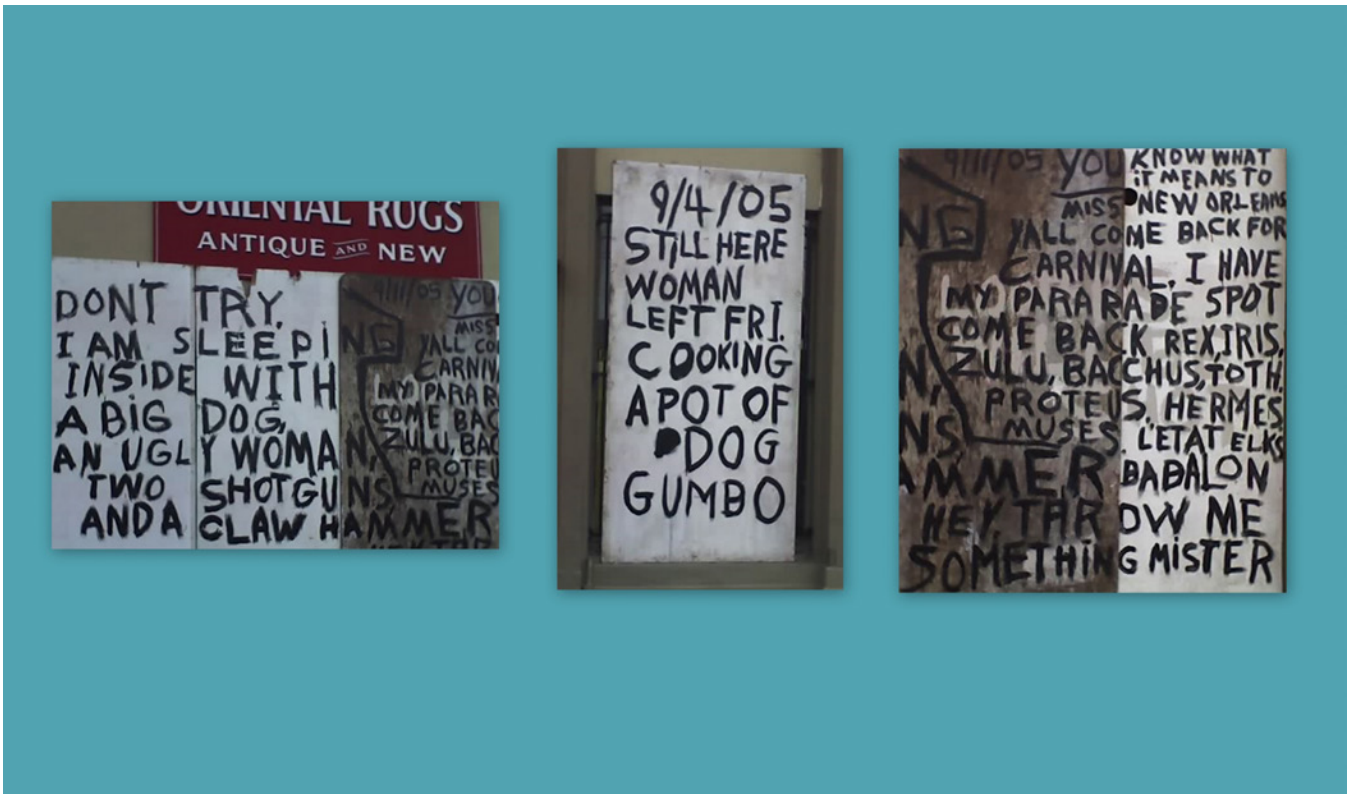
Figure 3.23: Anonymous, "These hand painted signs represent…"
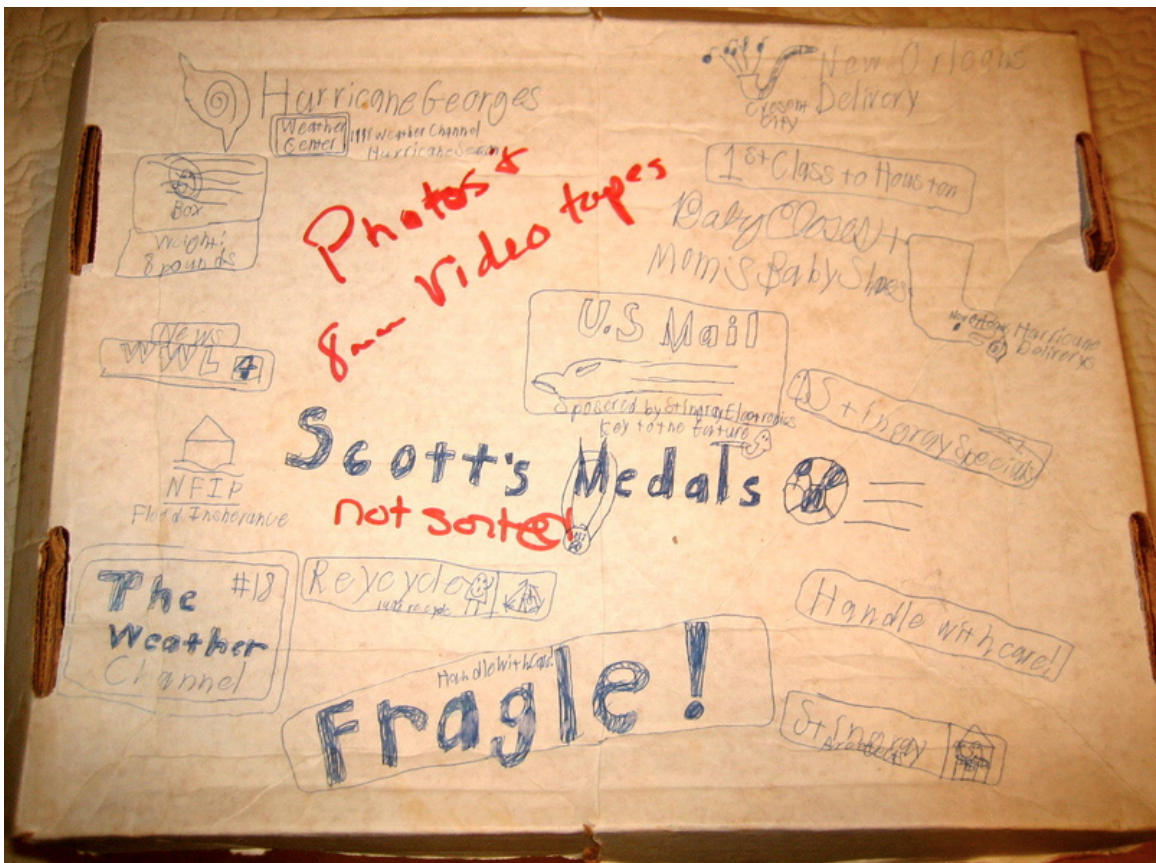
Figure 3.24: Melissa Warner, "[Untitled]".

burrito. This is not history writing; this is not photography. This is not submission to one's

personal social media feed. What is it? What do we take away? Where do we go next? How does

this persist in memory, or fade? The next two items show further valences and raise further

questions (figures 2.19, 2.20).[45] Both were submitted by Gilda Werner Reed. Like the MRE

photograph, these are equally pieces worth saving for posterity, fodder for historians, and direct

transmissions to the visitor to the *Memory Bank* engaged in active social memory work upon

themselves. In both cases, the appearance of the item in the collective memory apparatus

transforms what would otherwise appear as a relatively unremarkable picture of post-Katrina

New Orleans into a visual-textual complex of event elements, meanings, and frames. Her

submissions have expressive, affective force as well. The first provides a view, freeze-frames the

quality of hope and relief, and seems at the same time to tell something of the arc of the disaster

and its aftermath, as though the *Memory Bank* were the media database for an imaginary

documentary. The image-text implies a collective period of relative calm, or at least one

experienced by the contributor. It also marks the passage of time, a period of mourning and

survival. The second manifests a consciousness of topics worthy of remembrance or of use to the

writing of history. She turns the camera on military presence in the city. The image serves to

mark an aspect of the aftermath. It is also expressive beyond its apparent aims. We recognize the

distance and alienation between civilian and state, the soldier looking in the direction of the

camera but his face obscured. The inclusion of the Marriott in the frame embeds the potential for

a linkage made—perhaps literally through tags—between the protection of economic interests

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[45] Gilda Werner Reed, Ph.D., "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/94. Gilda Werner Reed, Ph.D., "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/95.

and military presence, and the incursion of tourism and industry and privatization after the

storm—Naomi Klein's "disaster capitalism."[46]

Reed's taking the time to submit documentation of security presence for potential future

scanning by researchers and other audiences is matched by an anonymous contributor and by

Mark Rayner, whose remarkable photographic collection we will examine in the next section.

Neither the anonymous contributor nor Rayner explicitly states an intention in the contribution of

the items, but with their captions they provide a scaffolding of ideas for potential future

exploration or research. They embed elements and angles into memory, and, to a visitor engaged

in momentary or enduring scanning memory, provide a simultaneously fragmentary and

multimodal experience of crisis realities and suggest further pathways for exploration. The first

photograph is relatively mundane (figure 3.21).[47] The second has more emotional and psychic

force (figure 3.22).[48] (We could imagine a similar shot in a documentary film, serving to convey

the wildness of conditions in post-Katrina New Orleans. Among the notecards referenced in the

section on facing memory, one reads, "The way the plants devour the city back into the earth is

exciting and scary.")[49]

Each of the images in the final pair in has redoubled relationship with scanning memory.

The first is reminiscent of a photography project we will examine below, which documents post-

Katrina graffiti (figure 3.23).[50] The contributor has taken the time to set these images alongside

each other into a single unit. The final sentence is telling and important. The contributor

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[46] Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism*, (New York: Picador, 2008).

[47] Mark Rayner, "P1010124.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3685.

[48] Anonymous, "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/1831.

[49] Maxx Sizeler, "Plants Devour," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/29364.

[50] Anonymous, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/42971.

explicitly interprets these as memory banks or archives of a kind: "These hand painted signs represent the humor, resilience, and hope of all the citizens of New Orleans." We could redouble the approach and make our own meanings of them, or mine them for potential memory and engagement. Were we to encounter the box photographed in the final example, we would immediately find ourselves engaged in scanning memory—only here of a hurricane before Katrina (figure 3.24).[51] It is rife with references and made for quick browsing. The references are to television channels one would flip through trying to get a handle on what was taking place and would take place. This is tactile event mapping, a moving box as documentary assemblage, perhaps a way of coping and of keeping hold of anomalous time.

Other Instances

What the analysis of this subset leaves out is the way in which scanning memory is not strictly an open and additive process, this element and this view and this place. Digital crisis archives are shot through with the politics of attention and memory: the overriding "lessons" that deserve reckoning, those most affected, the forgotten, and so forth. In fact, items like those above make claims toward attention in their very being. Overall, as I have emphasized, the *Memory Bank* project takes a more or less agnostic approach to what deserves attention. Furthermore, the *Memory Bank* does not, like the *September 11 Digital Archive*, use the featured items section to surface underrepresented views, which Ekaterina Haskins describes as "a mechanism for leveling the playing field by allowing politically marginalized groups to have their say."[52] Still, featuring stories of evacuation versus a random and rotating set does provide an introductory frame of a

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[51] Melissa Warner, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/45975.

[52] Ekaterina Haskins, "Between Archive and Participation: Public Memory in a Digital Age," *Rhetoric Society Quarterly* 37.4 (2007): 417.

Figure 3.25: Christopher Kirsch, "no discrimination".

kind—proposes to begin at a perceived beginning of the event. It thus falls to particular items to make their claims upon what makes its way into open-ended processes of exploration—scanning memory—and highlights some issues as more important than others, or marks unequal attention and recognition. In short, the flexible and pluralist practice of navigating documentary assemblages runs into conflict or re-direction.

Take this example (figure 3.25).[53] As with many of the examples we have considered, it is not a photograph, per se, nor is it strictly an item. It is a visual-textual unit framed as archival but performing other functions, having other bearings. The title is "No Discrimination." The image is of the door of a synagogue in Lakeview. The caption reads: "Synagogue in Lakeview the flood water effected synagogues; churches, black, white, rich, poor New Orleans, Louisiana 2 days shy of the 2nd anniversary of Hurricane Katrina." What is going on here? What is being communicated? In the next section, we will consider the function of this same photograph as an element of a photo-series. But encountered in isolation, reached through the tag "synagogue" for instance, the item speaks directly to the public visitor taking stock of and making meaning out of the tragedy and the lived aftermaths. It asserts a place for the effects upon the lives and worlds of Jewish residents of New Orleans—as does the digital archival project *Katrina's Jewish Voices*— but it also implies misrecognition or ignorance or over-emphasis at the collective level.[54] The lines left by the flood mark the impact upon a place and upon a cultural sphere in New Orleans; they also suggest attention beyond the tragic unfolding of failures fueled by high-level disregard for the lives of the displaced on the basis of race, class, geography, and culture.

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[53] Christopher Kirsch, "no discrimination," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33237.

[54] *Katrina Jewish Voices*, http://katrina.jwa.org.

A second example likewise reveals consciousness of framings of attention around the crisis, albeit with a striking contrast (figure 3.26, 3.27).[55] During the unfolding of the post-storm failures to evacuate and care for the stranded, a Flickr user uploaded this juxtaposition of captions of the apparently same act, the "young man" "looting," the "residents" "finding." The critical assemblage-based gesture helped fuel a public discussion over the racism in slow responses and in the portrayal of those stuck in New Orleans as "refugees." The rapper and music producer Kanye West soon declared to audiences during a televised fundraiser, "George Bush doesn't care about black people."[56] None of the text accompanying the uploading of the image-juxtaposition comments on the importance of the topic, but the inclusion leaves a lasting impression. For a visitor engaged in a process of scanning memory, it could suggest further paths of exploration, and it could provide an enduring register of the racial politics of the disaster, albeit unframed and without elaboration.

A third and fourth example—the last of this section—can be read together, and likewise serve to call attention to aspects of the events. In the first, the writer shares a piece from her journal:

> Katrina Ate My Sex Toys\r\nFrom my journal \r\nWritten January 2006\r\n5 months after Katrina\r\n\r\nHurricane Katrina ate my sex toys. It seemed like a good idea to store them in a fabric-covered hat box beneath my bed. Discreet location with easy access, I thought. My big concern was that they would be found under the bed by a visiting toddler, not that they would be damaged by flood water. We were kept out of the city for 30 days. By then my cloth and cardboard box of toys was blooming with black mold. My titclamps were corroded in a way that didn\'t look like ordinary rust. Chemical corrosion from the toxic floodwater? The same for the batteries and electrical parts of my vibrators. Every item in the box was covered with an odd powdery sediment that remained when the floodwater receded.\r\n\r\n[On my first day inside the house, in early October,] I kneeled next to my bed and rummaged through the items while wearing rubber gloves and a respirator mask.

[55] Lisa-Marie Ricca, "Online Image Contribution, Hurricane Digital Memory Bank," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/112.

[56] Tania Ralli, "Who's a Looter? In Storm's Aftermath, Pictures Kick up a Different Kind of Tempest," *New York Times*, September 5, 2005.

Figure 3.26: Lisa-Marie Ricca, "Online Image Contribution".
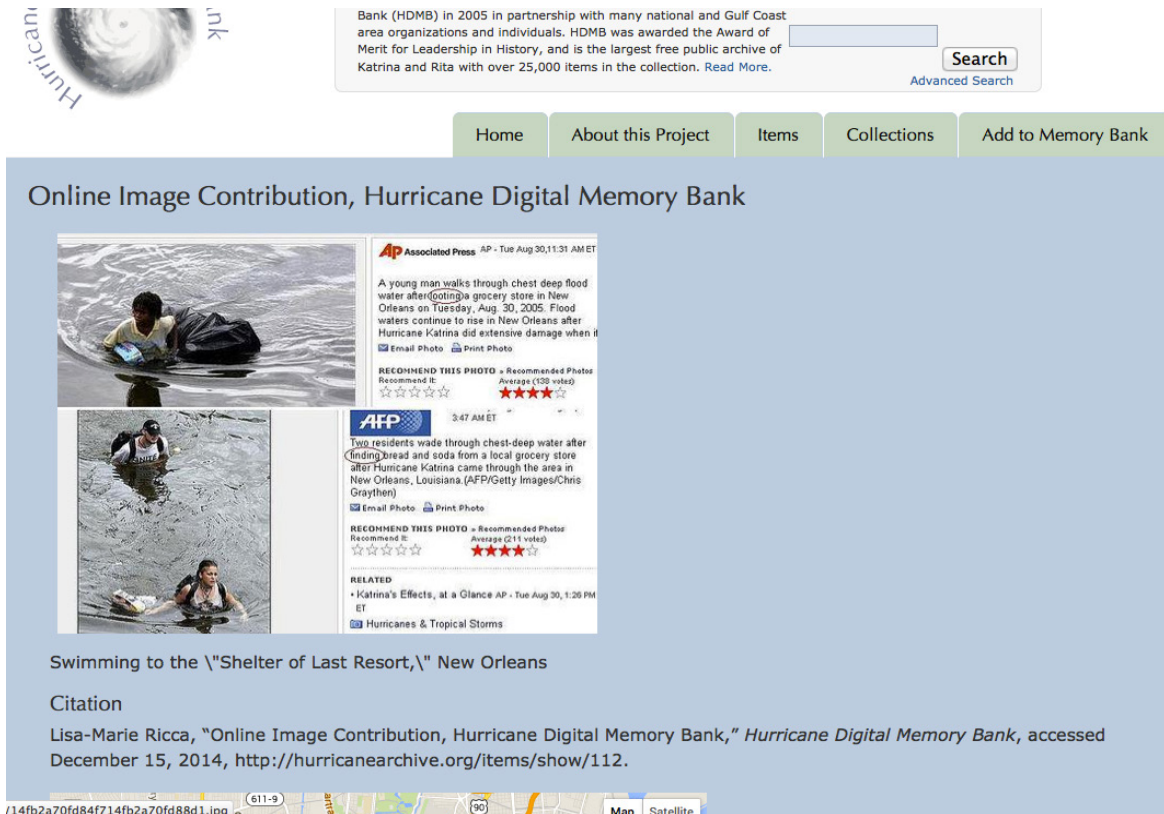
Figure 3.27: Lisa-Marie Ricca, "Online Image Contribution" (item view).

Even if I wanted to boil the silicone items until they were sterile, where would I do it? In the kitchen of the house where I\'m staying? That would really freak out my hosts. Me boiling a pot full of dildos. Ha!\r\n\r\n I sealed my toys in a plastic bag and then put that in another trash bag and buried everything in the pile of debris on the front yard. It went off to the landfill-Ãfï¿½Ã, ¢Ãf ¯Ã, ¿Ã, ½Ãf ¯Ã, ¿Ã, ½my own little time capsule of lust. Evidence of life in New Orleans as an \"over-educated\" 30-something white woman who has a low tolerance for Republicans and alcoholics. \r\n\r\n Since Katrina it\'s been goodbye privacy, hello air mattress. It\'s terribly frustrating.\r\n\r\nI haven\'t been able to replace my toys. One, I don\'t have the cash. Two, my mail is often opened \"by mistake\" here. I miss living alone.\r\n\r\n At least I have solid walls and door that locks. How are people going to have private space for pleasure in those flimsy FEMA trailers? I see much frustration ahead. Do urban planners factor sexual frustration into their calculations? Rows of FEMA trailers next to each other can\'t be healthy.\r\n \r\n\r\n[57]

The second, called "Storytelling in a French Quarter Hair Salon," we reach through clicking on

the tag "sex toys"—a term that would seem to indicate this a truly democratic archive. It is the

second of only two total items with the tag.

We\'ve all heard similar stories but we knew this one had a happy ending because the survivor was\r\n here among us, 100 days after the levees failed. \r\n Arthur kept the mood light and bantered with his customer. \r\n \"What did you use to cut through? Your nail clippers?\" Shrieks of laughter fill the sunshine-yellow room. Indeed, the storyteller did not look like he would be handy with a chainsaw, unlike some of Arthur\'s friends who dress with lumberjack flair. \r\n \"No, I had a hatchet. I had a hatchet and two bags. One bag had bottles of tequila and some clothes. The other had my sex toys.\" \r\n The Seekers of Glamour applauded at this last detail, and, I suppose, the storyteller\'s priorities. He waited for the laughter to subside and huffed with mock\r\n Indignation. \r\n \" I didn\'t want my personal stuff floating around to other to find! I didn\'t want my things bobbing around that filthy water in the house.\" \r\n \"I was up on the roof for two days. After the first day I decided they must not be able to see me, so I took a sequined hat from my bag and put it out on the roof\r\n where it would catch the sun. It worked! I was rescued by a helicopter full of lesbians!\" \r\n This is one of the best endings to a Katrina tale we Seekers of Glamour had ever heard. But the story was not finished. Weeks later, our survivor told us, a FEMA inspector came to document the damage at the remains of the Lakeview house. \r\n\r\n \"Mr. FEMA looked down at his clipboard and said, \"Sir, it says here you live alone. What are all these women\'s clothes doing here? I just looked at him and said, Honey, I\'m a drag queen! Haven\'t you figured that out by now?\"\r\n[58]

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[57] Anonymous, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/25718.

[58] Anita Yesho, "Storytelling in a French Quarter Hair Salon," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/11611.

These are delightful stories and rife with angles, elements, and aspects. Their very submission

and their telling—in the case of the second—show consciousness of memory practices, both

facing and scanning memory. But they also highlight the otherwise unseen and unconsidered.

They thematize the question of what bodies and lives matter.

Scanning Memory

I imagine the reader has read through the account of this interaction with some measure

of skepticism. Scanning memory might strike the reader as problematic. Does this mode of

interaction run the risk of merely providing for surface encounter? The mode might alternatively

seem vexing and overwhelming: too much information that does not necessarily lead anywhere.

These are crucial concerns. But, as I have emphasized, narratives of aspects or the whole of the

archive are always plural and situated. Through their collective achievement of facilitating

practices of scanning collective memory, the architects and contributors to the *Memory Bank*

have constructed a novel addition to discussions around digital memory that arguably sidesteps

or evades the inertia of the assumed primacy of historical writing in digital projects about the

past. The emphasis on open, multimedia memory exploration over linear history or even curated

exhibition enables novel modes of experience and could have unanticipated influences. Scanning

memory is an addition to a collective enterprise of public representation and relationship with the

past of which history is now only one part. Historical picture books have held this place; sites

like the *Memory Bank* now amplify them. This is the past made traversable not in the mode of

the linear history but in collective, collection-based exploration. Scanning memory is a shift

away from a textual emphasis attuned to interpretation and narration to a visual-spatial emphasis

attuned to association and image—the scaffolding of collective memory and historical narration.

There is some value—or so contributors would appear to assert—in constructing a lattice of and for memory work based in the arts of documentary assemblage. In judging experiments in digital event memory, we do well to learn from the heterogeneity of our internal event memories and the complexity of our actual situated engagement and relationship with disasters. Scanning memory relies on the criticality of readers—for which there is no guarantee.

III. Engaging Frames

The identification, or construction, of the third and final mode of interaction turns on two sub-collections. One is an "official" collection, appearing on the first of six pages of collections, produced by a local professional photographer Mark Rayner. Ten of its twelve constituent photographs are shown here in thumbnail view (figure 3.28).[59] The other is a sequence of 39 photographs submitted at the two-year anniversary of Katrina. The photographer uploaded the photographs to the *Memory Bank* one by one, such that they follow each other in the browse interface (figure 3.29).[60] In making sense of the mode of interaction these collections facilitate, we do well to turn to the work of two thinkers: James Johnson and Judith Butler. Out of these collections, and in dialogue those thinkers, we get a composite picture of "engaging frames," a mode of interaction that has as much to teach us about digital archival possibility and about dynamics of assemblage that involve visual-textual relationships as it does about the aesthetics and politics of crisis photography.[61]

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[59] Mark Rayner. "121 Days in Darkness," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/browse?collection=50.

[60] Christopher Kirsch, "Stormy Weather," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33222.

[61] James Johnson, "Aggregates Unseen: Imagining Post-Katrina New Orleans," *Perspectives on Politics* 10.03 (2012): 659-668. Judith Butler, *Frames of War: When Is Life Grievable?* (London: Verso, 2009).

Figure 3.28: Thumbnail view of Mark Rayner, "121 Days in Darkness" .

Figure 3.29: Christopher Kirsch, "Stormy Weather".

Imagination and Apprehension

First to the scholarship. Both Johnson and Butler respond to collections of images produced during the administration of President George W. Bush. Johnson responds to two post-Katrina photographic collections, *After the Flood* and *Destroy this Memory*, Butler to the leaked photographs of the abuses at Abu Ghraib. Both dwell in a proposition of public and political action that is potential for action within the *Memory Bank*: close engagement with and civil use of collections of photographs related to high-profile public violence.[62] Both Butler and Johnson, in separate spheres, contend with these issues, and provide useful lessons and heuristics. Crucial among them, for the sake of speaking about photography, is pointing us in the direction of forms of visual engagement around public violence alternative to looking and witnessing, more in the mode of encounter and interpretation than watching and consuming. In both cases, as with this dissertation, at stake are the dual issues of the representation of violence on a mass scale and the possibilities for public responsiveness to this and other disasters.

Johnson titles his engagement with the two photographic books "Unseen Aggregates." In kindred fashion to this dissertation, he sets out the problem of imagination of post-disaster realities and the potentials for media artifacts to play intervening roles. He suggests that the forced mass migration in the wake of the storm "ironically...remained extremely difficult to see,"[63] and argues for the political imperatives to witness and understand. He sets *After the Flood* alongside *Destroy this Memory,* and reads both for their affordances and effects. *After the Flood*, by the photographer Robert Polidori—who had photographed exclusion zones after the Chernobyl nuclear disaster—is over three hundred pages filled with post-Katrina landscapes in

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[62] Richard Misrach, *Destroy This Memory*, (New York, NY: Aperture Foundation, 2010). Robert Polidori, *After the Flood*. (Göttingen: Steidl, 2006).

[63] Johnson, 660.

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New Orleans. We encounter both interiors and exteriors. At one point, the pages fill with dozens

of photographs at a time. *Destroy this Memory* represents a selection among over two thousand

taken by the artist Richard Misrach in the months after the storm. No signs here of people, nor of

the images and narratives dominating collective memory: citizens stranded on roofs, chaos and

suffering in the Superdome, the inept government response. Instead we find spray-painted

messages on houses and cars, one after the other, sentiments and statements desperate, tragic,

broken, humorous, resilient. The title image confounds interpretation; it seems to both invite and

repel the archive (figure 3.30). What does Johnson make of what these collections make

possible? They are capacity building, but they also do so under critical terms. He writes, for

instance:

> Especially in extended series, one after another and another, the photographs Polidori and Misrach have made allow us to back and forth between two insistent subjects. On the one hand, there is material calamity on a massive scale. On the other hand, there are (mostly anonymous and invisible) individuals and the cryptic traces of personal testimony they have left behind. These are images of forced migration in which no migrants directly appear. They are also, ironically, images of forced migration from which individual migrants are never wholly lost from sight.

> This photographic strategy clearly departs from the resolute focus on individuals central to the sort of conventional documentary exemplified by [Dorothea] Lange. It leaves those of us familiar and comfortable with that tradition in an unsettling position. The conventional documentary preoccupation with individual suffering aims to elicit a response to large-scale, man-made hardship and degradation by tapping the compassion or anger of viewers. Polidori and Misrach deprive our compassion and anger of traction. There are no identifiable individuals whose suffering we might share. And there is no identifiable individual or group at whom we can reasonably direct our anger. The scale of the catastrophe these photographs depict surely is too large to be blamed on particular actions of specifiable agents.[64]

For Johnson, photographic collections can do many things at once: enable visualization of the

invisible; they can provoke; and they can resist individual-centered documentary modes focused

on individuals' stories over collective social experience.

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[64] Ibid., 665–666.

Butler's analytical concerns diverge significantly. She variously and exhaustively analyzes the collection and circulation of the photographs of abuse at Abu Ghraib, and sets the discussion within a broader consideration of media and war in dialogue with Susan Sontag. The central problem, following from Sontag, who also wrote about these photographs, is ethical: Should we look at these photographs? Why? Is there anything to be gained? Is this a compromised act? In contradistinction to the work of Sontag, who finds in photographs of atrocity no means of critical interpretation, and no means to act in return, Butler asserts the power and necessity in doing so. Given the nature of the photographs, this is not an easy claim to make. But she makes a persuasive case. For one, the photographs serve transitive functions, confronting us with lives abused but asserted. Second, they serve as interpretive scenes, here the frames of military engagement are put on display. And, third, apart from the actual practices of looking and interpreting, they provide conditions on which we depend for understanding and opposition. (And yet there is no good outcome here: whatever looking takes place, there has been atrocity, violence, horror.) Apart from providing language and intelligibility for the meanings and potentials in photographs and photographic aggregates, Butler also provisions language for a general visual and perceptual field around an event of public concern. In her case it is the Iraq War. The metaphor of the frame she favors provides a useful condensation of dynamics of public presentation through collocations and circulations of media: selecting, interpreting, circulating. She notes, for instance, how the meanings of the photographs shifted when exhibited at the International Center for Photography, the context enabling a "renewed critical capacity."[65] In another context, Butler observes:

> …there are a number of structures—the media, in all its senses, that are working on our
> capacities for apprehension: restricting them, enabling them, organizing them in various

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[65] Butler, 95–96.

ways. That's inevitable. There is no nonstructured apprehension. But given that we accept this, the question is, How do we come to apprehend the larger social and political world? It seems to me that we have to be able *see* images and *hear* voices, even to smell and touch a world that we are asked to fathom. And it seems to me that all the senses are at work in such moments.[66]

There is much to unpack in both of these cases, particularly in the complexity of Butler's argument and her subject matter, but what I most wish to emphasize is their concern with enablement and disablement. Both show us the way toward assemblage as capacity, and Butler directs around attention to the importance of framing conditions around major events and worlds. In both cases, Johnson and Butler surface a picture of citizens in fundamental conditions of unknowing, obscurity, and potential perceptual and interpretive manipulation; as seeking to understand and respond to worlds and events—war, crisis, torture—that exceed capacities for understanding; and of purposeful work upon those conditions—whether the active enabling of imagination, or the "breaking" or revealing of frames. What are the implications of these insights for our study of the *Memory Bank*? On the one hand, we can cycle back through facing memory and scanning memory to see how those interactive modes figure for citizens that face conditions of difficulty in comprehension around events of public violence that demand political and social reckoning. On the other hand, we have the specific question of how collections of photographs serve in those processes—with what risks, at what costs. Of course, the last chapter dealt with this question in full, but now we ask after consolidated collections with textual accompaniment, purposefully rendered, though, unlike the artists' books, submitted to a shared archival context. The two instances I discuss—the two I have been able to find—are set apart from the photographs in *ARLIS* in at least two ways: the presence of the author's voice and the use of paratextual elements of titling and captioning. The latter frame given images and sustain and

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[66] Bronwyn Davies, *Judith Butler in Conversation: Analyzing the Texts and Talk of Everyday Life* (New York: Routledge, 2013), 3.

Figure 3.30: Cover image, Richard Misrach, *Destroy this Memory.*

Figure 3.31: Mark Rayner, "0009.jpg".

transform evolving thematic vectors of the overall collection, while serving to assert and re-assert the collections' presences as expressive series rather than strictly accumulative archival aggregates. With Butler and Johnson's work as background, I will proceed to read through them both closely. We are after the reading and the imagining they make available.

121 Days of Darkness

Like the next collection in the interface—"A letter from the Mississippi Gulf Coast," by the same contributor—this first collection stands out for bearing a title more indicative of a finished piece than a repository: "121 Days of Darkness - Gentilly after Sunset - 12.27.05." Clicking in there is no description, only the offer to view the collection. Accepting the offer yields the browse interface restricted to the photographs, as introduced above (figure 3.28). At this point we still do not know who has made this or why. Having to this point not known what to expect, we have our first instance of engaging frames. As with *Destroy this Memory* and *After the Flood*, a thematic consistency runs through the photographs. Out of the realities of Katrina have been selected frames of darkness from the road. Before us is a visual imprint of the consequences of disaster and neglect. Among the photographs we may have seen, here and in myriad other settings, these stand out significantly. Katrina and darkness is neither a subject nor a visual reality we easily encounter.

We are likely to browse a few in the mode of scanning memory, and might open one in full view. The colors, the framings of neighborhoods by the windshield: the photographs work in the mode of the aesthetic as much as documentation (figure 3.31).[67] Natural light meets car lights and the camera's flash. Having read the captions of any of the photographs, however, the

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[67] Mark Rayner, "0009.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3428.

collection would appear in a new light. "We were about to turn north Iris St," Rayner writes in

one case. "The 2500 blcok [sic] of Verbena greeted us with more darkness as we approached

Franklin Ave," he writes in another. Suddenly what had appeared, and functioned, as repository

and as potentially fodder for scanning memory now appears as a "hack" of the architecture of the

Memory Bank. This is a travel narrative. Recognizing this, we move to the beginning of the

series, which, due to the structure of the interface, starts on the next page. Beneath a non-descript

photograph of cars in the French Quarter, Rayner writes:

> All of the following images were photographed in New Orleans on Dec. 27, 2005 - 121
> days after Hurricane Katrina hit the area. While there has been amazing progress in
> cleaning up the city of debris left by the storm, there is still an incredible amount of work
> to be done. Images like this view of the French Quarter suggest life is quickly coming
> back to normal. As the evening skylight is cast over the French Quarter the street lights
> begin to illuminate the area and give the appearancce of a normal evening scene in the
> City of New Orleans. While it\'s certainly good to see a scene llike this one, I feel the
> need to illustrate for persons not living in the area that at this date, approximately 40% of
> the City of New Orleans is still without power. This is not an editorial comment
> regarding why the power is not on, because in reality, there is still extensive damage to
> large sections of the city that prohibits utilities from being turned on. Even on Dec. 27,
> when these photos were taken, electric utility crews were hard at work to restore power to
> darkened neighborhoods. A lot of work remains to be done before utilities can be restored
> to other neighborhoods. In time, the power will come back on. If anyone believes that life
> is back to normal in New Orleans, think about the next images…[68]

With these words Rayner clearly exceeds the model of the source-driven, disseminating archive.

This is a kind of archival publication—the next chapter will contemplate this potential in depth.

At the same time, unlike the photo books by Misrach and Polidori, the direct archival frame

lingers. Set inside the *Memory Bank*, the photograph can also stand on its own, and the words

stand on their own, objects of analysis and evidence and, as Rayner would have it, proof for the

record of ongoing public harms.

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[68] Mark Rayner, "0001.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3420.

Collection
121 Days of Darkness - Gentilly after Sunset - 12.27.05

With approximately 40% of the electricity still turned off in New Orleans, this view from (intersection of Clover St. and Franklin Ave.) in Gentilly, shows how dark one of the maj

Figure 3.32: Mark Rayner, "0002.jpg".

Figure 3.33: Mark Rayner, "0003.jpg".

In this case, where at first the intention is unclear given the lack of introductory text, eventually the embedded proposition becomes apparent and the visitor can follow the tracks and follow the grain of the imagined experience. Clicking "Next Item," multiple registers appear to overlap, laid together on a flat plane. In the image taken alone, clicked into, we find the same kinds of resonances as that above, the aesthetic of the circling beams and the flash, the low-fi nature. In the page, we have the register of the archival—a photographic document—sat alongside the documentation of a journey (figure 3.32).[69] The desire to illustrate for the viewer is manifest. Rayner pays attention to the viewer's imagination. With the next image, he includes himself in the story (figures 3.33). He writes:

> Fence pillars reflect our high beam vehicle lights in the 2600 block of Clover St. This was my childhood home I lived in for many years. Light coming from light posts on top of the I-10 overpass in the background was the only illumination besides our headlights in this Gentilly neighborhood.[70]

Here a frame of already suggested opens with force: as Ariella Azoulay would have it, the event of photography matters as much as the photographed event.[71] Rayner's admission of himself into the scene gives to the journey a layer of his and our facing memory. In the images and in the narrative, the action of return to these landscapes is live and vulnerable. In the *Memory Bank*, it endures as digital memories, and we move alongside those of Rayner.

From then forward, Rayner tells us where we are, gives us a tour. Assuming the viewer as occupying a state of open research, engaging these frames to ends of understanding and imagination, Rayner's words reinforce the severity of the scene, seek to serve apprehension. He

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[69] Mark Rayner, "0002.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3421.

[70] Mark Rayner, "0003.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3422.

[71] Ariella Azoulay, *Civil Imagination: a Political Ontology of Photography*, (London: Verso, 2012).

points out the waterline on a fence, a FEMA trailer (figure 3.34).[72] He educates: "Refrigerators

and appliances are still being placed in the streets for pickup on the 2400 block of Lavender as

homes are cleared of storm debris." Rayner concludes with a view of the neighborhood with his

headlights off. He writes:

> Dec. 27, 2005 - 121 days after Katrina, approximately 40% of New Orleans is still
> without power. We turned off our headlightss and took a final look from Franklin Avenue
> down the 2600 and 2700 blocks of Clover St. in Gentilly where we had just been. This is
> the same view as you saw in image 0002, but without our headlights turned on. This
> image is an accurate account of what this area in Gentilly really looks like right now after
> sunset. Normally, if there was power in the area, you\'d see two blocks of houses on the
> left and right of this photo. The only lights in the distance are two blocks away from us
> atop the I-10 overpass. As national and world news stories begin to cover more recent
> disasters across the world, don\'t forget about us. It\'s still dark in New Orleans.[73]

What can we say of the photo-series overall? It makes available the subjects of

infrastructure and the experience of waiting and uncertainty around rebuilding. A single

photograph or a written reflection could perform this function to some degree, adding the loss of

power to archive's record of dimensions of the events, but Rayner offers a more visible and

detailed account—an inset of the collective event map that this archive is, as it were. He does so

both through the production of a collection and through the visual and narrative depth with

which he puts the subject on display. As an instance of facilitating the practice of "engaging

frames," "121 Days of Darkness" is a complex of transformative event framing operations. It

selects out of the post-disaster realities a subject and a scene for visitor attention, and provides

the conditions in which the visitor can sustain that attention over the course of several

photographs, and do so to lasting perceptual and experiential effect. The condition of total

darkness in an urban setting is one thing named in article or mentioned in a story; it is another

photographed in succession with the light of the car reflecting off of alien scenes of loss and

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[72] Mark Rayner, "0007.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3426.

[73] Mark Rayner, "0012.JPG," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/3431.

Figure 3.34: Mark Rayner, "0007.jpg".

just about every structure here in New Orleans had one of these search and rescue marking
and rescue teams search New Orleans in September 05. The teams were searching for survi

Figure 3.35: Christopher Kirsch, "Search & Rescue - Zoom Out".

destruction. The structural similarity of the photographs and the car window working to frame the scenes reinforce focus on the subjects at hand, and gives the overall collection a raw artistry. To a visitor turning her attention to lives and conditions post-Katrina, the collection is a site for a density of frame-driven acts or transits of apprehension, an addition to the field of the perceptible, an expansion of imagination, and an enduring register of New Orleans not having easily, or ever, "returned to normal."

Floodlines

The second instance of engaging frames is another "hack" of the *Memory Bank* for the purposes of a photo-series, but not one contained within the Collections of the archive—not granted that privileged place among the several dozen. The visitor only comes upon the collection of items in browsing the panes of images, or in discovering the "waterline" keyword appended to most of the images and recognizing the conceptual project behind them. The photographer, Christopher Kirsch, who does not provide his name in the *Memory Bank* itself, produced the 39 photographs of New Orleans neighborhoods in the days leading up to the second anniversary. (The automated citation calls Kirsch "Flickr Images"; Kirsch uploaded these e images to his Flickr account "skeletonkrewe" as well.) Uploading the images one by one would have taken him considerable time.

That Kirsch's ambitions lay in something to the effect of visitors engaging frames is evident in the first two photographs. Together they serve as the introduction to a photographic journey, although not a travelogue a la 121 Days of Darkness. With the first, introduced above, titled "Stormy Weather," he offers a dedication.[74] Beneath a photograph of the marquee of the

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[74] Christopher Kirsch, "Stormy Weather," *Hurricane Digital Memory Bank*,
http://hurricanearchive.org/items/show/33222.

Historic Second Baptist Church, which reads "Stormy Weather, Mark 4:35-4"—the story in

which Jesus calms the storm—Kirsch writes:

> Historic Second Baptist Church reader board sits as it did August 29, 2005\n\nI would
> like to remember the 1,444 people that "officially" died as related to
> Hurricane Katrina, but that does not include people like my friend\'s father that died of a
> heart attach [sic] while packing up to evacuate (FEMA initially said he drowned) or my
> Friends Earnest and Mary Hansen that died after they evacuated. Also I would like to
> remember the 135 people still missing related to Hurricane Katrina (Stats from the
> Louisiana Department of Health & Hospitals website)\n\n

With the second item, Kirsch addresses us directly. He writes:

> On the 2nd anniversary I submit only a few images to you.\n\nThis sign is about 12 feet
> of the ground located on Florida Ave in the wasteland that was Desire - Upper 9th -
> Gentily area of the city, I can\'t even imagine what the scene was like here two years ago,
> the raging water 12 feet deep or deeper, remember that line is only where the water
> settled for the longest.[75]

The photograph, which he has given the title "No Parking Any time Flood Line," contains two

signs. The second is folded, presumably by the wind, and reads "WE TEAR DOWN HOUSES."

No doubt familiar with the practice of tagging from Flickr, Kirsch appended several keywords:

"flood," "hurricanekatrina," "Katrina," "water," "waterline," "watermark."[76]

In what follows, Kirsch seizes variously and intelligently on the unarticulated affordances

of the medium of the digital crisis archive, and lays out for us digital archival potentials and

creative uses of digital photographic assemblage. Throughout the visitors' passage, slow clicking

from one item to the next and Kirsch's markings of the event of archival submission—such as

"two days until the anniversary," "one day shy of the anniversary"—generate an atmosphere of

rumination and unease. Foremost, passage through the sequence is sustained contemplation of a

handful of interrelated topics and phenomena, what Johnson points to in his notion of the

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[75] Flickr Images, "No Parking Any time Flood Line," *Hurricane Digital Memory Bank*, accessed September 6, 2015, http://hurricanearchive.org/items/show/33223.

[76] Flickr Images, "No Parking Any time Flood Line," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33223.

reader/viewer of the photo book *Destroy this Memory* "tacking" between subjects. The phenomenon of the waterline or flood line, visible in nearly every photograph and often commented upon by Kirsch, ties them together.

A subject of overriding importance—visual memory on the landscape—is introduced with the fifth and sixth items. The two items serve as a couple. The first, titled "Search & Rescue - Zoom Out" is, seen from the distance of the thumbnail, a non-descript photograph of New Orleans home (figure 3.35).[77] The description works to open new meanings, however. Kirsch writes:

> just about every structure here in New Orleans had one of these search and rescue marking on them when various search and rescue teams search New Orleans in September 05. The teams were searching for survivors as well as any bodies. Some people have painted over these markings while others have turned them into shrines of sorts. Here this one has been transformed into a pictograph.

With the second photograph, "Search & Rescue - Zoom In"—consciousness of reader-observer interaction and engagement lies in the very title—Kirsch places us squarely in front of the search and rescue marking (figure 3.36).[78] Three floodlines run through. A dashed frame has been drawn, and there have been added drawings the calendar of the dates of the deluge and fragments of scenes. His description decodes the four markings—a rescue attempted September 24th by a team from Florida, no entry made, no one alive or dead.

To this active scrawling, a later photograph takes us even closer. Titled "Flood Line – Zoom In," the photograph places us in close proximity to the waterline itself, marsh grass in a

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[77] Flickr Images, "Search & Rescue - Zoom Out," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33226.

[78] Flickr Images, "Search & Rescue - Zoom In," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33227.

Figure 3.36: Christopher Kirsch, "Search & Rescue - Zoom In".

Figure 3.37: Christopher Kirsch, "Flood Line - Zoom In".

flat line, a frozen index of the tragedy enduring upon a rusting door (figure 3.37).[79] Kirsch posted

this same photograph on his Flickr account. There we find he and commenters reflecting on these

enduring registers of the tragedy. Kirsch writes: "Funny story about these stains.....a certain

Carnival Organization that happens to have their floats in an old transmission shop (I think you

may have stumbled upon it - you know giant jester skull etc etc) well when they paid some

workers to clean their den they got all pissed off when the workers blasted the flood stain away

with a pressure washer."[80] AlienGraffiti responds, "I can relate. I have refused to remove all

evidence of the magic katrina symbols on my front door along with the silhouette of a small frog.

I'm just having the door sealed to protect it!"[81]

A second key subject suffuses the visitors' passage and is another turn on what the

floodlines embody: economic and infrastructural decay. The problems introduced by Johnson

return here: a phenomenon seemingly easy to see and imagine is in fact not, and, though we

would feel saturated with images of destruction, the phenomenon deserves deeper representation,

and, for one who would look, sustained engagement. Kirsch's passage among floodlines has the

valence of visual memory—the pride in memory traces of the traumatic event—while also

resisting the summarization of the phenomena. It walks the line between granting us prurient

pleasure in decay, on the one hand, and conveying conditions—and their potential

amelioration—in depth, on the other. In the photographs' insistence, the subject leaves a lasting

impression. In the focus on details—as with, in one case, the loss of folk art on the side of the

building—the losses are particularized. Kirsch also adds a new dimension through the use of

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[79] Flickr Images, "Flood Line - Zoom In," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33238.

[80] skeletonkrewe, 2007, comment on skeletonkrewe, "Flood Line – Zoom In," skeletonkrewe, 2007, http://www.flickr.com/photos/skeletonkrewe/1252063529.

[81] AlienGraffiti, 2007, comment on skeletonkrewe, "Flood Line – Zoom In."

text, including the keywords. The keywords serve to resist pure focus on visible destruction in favor of dimensionality and connectivity. The most hopeful of the items is an illustrative case. Titled "Tony\'s Mid City," the photograph is of a corner store with a pile of new wood in front (figure 3.38).[82] The keywords run: "blue," "bluesky," "corner," "cornerstore," "flood," "hurricanekatrina," "Katrina," "rebuild," "renew," "repair," "stucco," "water," "waterline," "watermark." The text reads:

> a big old pile of brand new wood. I hope this place is going to get the attention it needs, I love the little balcony on the second story. This place took between 4 and 5 feet of water. \n4 days shy of the 2 year anniversary of Hurricane Katrina

Through the addition of text, the photograph becomes thick with potential connections.

Beyond enabling tacking between subjects, the sequence also serves the visitors' engaging frames through individual items that hold to the themes and likewise contain waterlines, but which perform other work as well. One instance is pedagogical:

> a lesson built before people forgot that New Orleans floods from time to time, and we get a Hurricane every now and then, we get tropical storms more frequently than that, but in areas of New Orleans that are more prone to flooding then others we would build our houses up. Here you can see the flood line is just about even with the first level (It\'s not really a first floor) it was about 8 feet deep here, but when they built this house they knew it happened from time to time - hell maybe this is the first time this house ever took on 8 feet of water, I sure it\'s taken on a foot or two a dozen times in it\'s lifetime. I\'m some parts of the city we forgot though.......building slab houses because it was fashionable or cheaper at the time…….[83]

Another is a burst of emotion: "Lakeview\nNew Orleans, Louisiana\nThese United States of America\n\nOur America!\n\n728 days after the storm surge related to Hurricane Katrina caused the poorly constructed Levees to fail. \n\n8 plus feet of flood water."[84] As you will recall, in the

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[82] Flickr Images, "Tony\'s Mid City," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33252.

[83] Flickr Images, "raised," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33241.

[84] Flickr Images, "Double Door Flood Stain," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/33239.

Tony\'s Mid City

a big old pile of brand new wood. I hope this place is going to get the attention it needs, I love the little balcony on the second story. This place took on between 4 and 5 feet of water.\n4 days shy of the 2 year anniversary of Hurricane Katrina

Keywords:
blue, bluesky, corner, cornerstore, flood, hurricanekatrina, Katrina, rebuild, renew, repair, stucco, water, waterline, watermark

Figure 3.38: Christopher Kirsch, "Tony's Mid City".

section on scanning memory, I referred to a photograph of the synagogue door to which Kirsch appended the words about the flood not discriminating. Understood within scanning memory as a whole, it calls attention to the question of biases in attention if only in momentary fragment and suggests a potential shift in paths of exploration. Encountered as part of the assemblage-based apparatus Kirsch sets out, it gives an overall meaning to the collection and employs the other photographs in this exploration. The "floodlines" he seeks out are the shared connector of these diverse lives and worlds gathered in the images. Mid-stream, we have a re-visioning of the conceptual ambitions of the collection, a systems-level contribution to the collective work of the photographs. This is a reframing amid an experience of engaging with the frames Kirsch aligns.

Engaging Frames

As Johnson and Butler assert, events of large-scale violence present citizen-witnesses with multiple representational and mnemonic challenges, and ethical quandaries. Among these are the sheer quantity of realities potentially deserving of attention; the occurrence of phenomena that elude imagination; the necessity of bearing witness and gaining some measure of apprehension. For Butler, the figure of the "frame" provides a powerful metaphor through which to think about these issues. The term collapses together the dynamics of selection, interpretation, containment, and transmission of lives, affects, and worlds. It is useful here as well. Both Kirsch and Rayner appear to have sat before their computers in multivalent and pluralistic consciousness of working through different framing operations in seeking to direct intentional and civil research to the post-disaster streets of New Orleans—and in working, as Johnson identifies, to make it possible to visualize what otherwise eludes understanding. It is worth noting a dimension of time here as well. Both made their calls for recognition and apprehension from the moment of production, Rayner asking for continued attention to the plight of New

Orleans and Louisiana, Kirsch offering frames for retrospection at the second anniversary. Over

time, the meanings of the photographs will change and new aspects will come to the fore.

Misrach, the producer of *Destroy this Memory*, incorporates this thinking into his artistic

practice. He delayed the release of his collection five years and had, in fact, intended for the

collection to lie dormant for twenty. A critic writes:

> If you're like me, you don't need images of bloated bodies and rooftop refugees to be
> reminded of the devastation left behind after Hurricane Katrina five years ago this week.
> Which is why Richard Misrach's photo series…is so striking: His unpopulated images of
> spraypainted messages marking flood-ravaged homes conjure the despair, rage and
> resilience without indulging in a revisitation of the etched-in-memory gore.[85]

Should we find our way to Rayner and Kirsch's collections, and should we submit to lingering

there, we will come away with renewed capacity—albeit necessarily partial and provisional—to

imagine the conditions into which lives and environments had been thrust after Katrina.

IV. Conclusion: Digital Crisis Archive as Shared Memory Project

Late into my writing of this dissertation, film and television scholar Bernie Cook

published *Flood of Images*, an effort to examine the ways in which documentary and fictional

film and television contest entrenched "official memory" of Katrina, for which he asserts

television news coverage played an especially important role. Cook writes:

> Katrina documentary can be understood as a form of collected memory of the storm and
> flood. Both individual documentaries, and the archive as a whole, speak to the
> experiences of Katrina with multiple voices, sharing distinct perspectives. In this way,
> documentary media on Katrina can serve as an alternative and corrective to the baseline
> for official memory produced by television news.[86]

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[85] Paul Schmelzer, "Destroy this Memory: Richard Misrach's Hurricane Katrina graffiti photos," *Eyeteeth: Incisive Ideas*, August 27, 2010, http://eyeteeth.blogspot.com/2010/08/destroy-this-memory-richard-misrachs.html.

[86] Cook, xxii.

As Cook concludes his close readings of individual cases—films and television shows—he forms shorthand summations of the additions and revisions they make: providing access to images, voices, and experiences; expanding the meaning of the events beyond the "biracial"; demonstrating the "corrosive influence of racial politics"; revealing "citizens demonstrating agency." I point to Cook's work in order to identify a kindred analytical project, but also to set a contrast: in forming concluding remarks around the *Memory Bank*, it is difficult to parallel Cook in this practice of finding an interpretive core. The *Memory Bank* is a media artifact too sprawling, contradictory, and co-authored to interpret along a defining vector. And this is part of the point. I will thus conclude instead by consolidating a summary of the issues, questions, and phenomena I have pursued. I will then, as I did with the last chapter and will in the next, take stock of where we stand within the larger inquiry into the genre of the digital crisis archive.

The chapter has pursued two contradictory claims. On the one hand, I have acknowledged the *Memory Bank* as a kind of precarious archive. Recuber and Rivard's critiques of the site as exclusionary and atomizing are valid to a point. The archive is difficult to navigate and unlikely to sustain audience attention or yield easily to research programs. It is often overwhelming. I have asserted a further issue: the archive's failing to select out and narrate the flood of New Orleans in favor of an inclusiveness centered around the natural calamity. On the other hand, I have asserted the *Memory Bank* as a multivalent memory apparatus of significance and distinction, a context for diverse audiences to explore—finding means to go beyond the most reductive of collective memories of Katrina, encountering otherwise marginal stories, doing so in novel modalities. Getting at these aspects of the archive has required a practice of close looking, a willingness to perceive the partially completed and the almost achieved, and acknowledgement of the site's melding of research, understanding, exploration, and imagination. I have highlighted

three "modes of interaction." In facing memory, visitors to the *Memory Bank* variously engage with the proposition of crisis memory through fragments of disaster memory in various media types laid upon the interface—short texts, text and still and moving image, documentation of artwork—and through the interface itself. Those fragments take on further meaning through their inclusion in the overall memory field. In scanning memory, visitors travel through the *Memory Bank* as a space of collective event mapping, engaged in open-ended processes of exploration, variously finding inspiration, confusion, and remembrance, and encountering instances that make claims upon attention. These processes are open to researchers as much as public audiences. In engaging frames, visitors move through particular visual collections that hold a place for and leave sensate impressions of aspects and experiences of the aftermath and in the lives of those affected. They serve to frame aspects of post-disaster reality and collapse together the contemplation of subjects with the transmission of mourning and hope. They can serve the imagination, and they can teach, all by means of configuring image and text in a common interface.

What can we distill of larger lessons for understanding the workings and implications of digital crisis archives? At an overarching level, we have in the *Memory Bank* a second instance in which the crisis archive can facilitate multiple and diverse post-disaster practices; these include but can well exceed more familiar forms of goal-driven research. Crucially, I have not proposed the archive facilitates these practices seamlessly or unproblematically—it is insistently multivalent, challenging, and contradictory. Perhaps most striking about the *Memory Bank* is the way in which the project and website have served as opportunities for shared reflection and intervention around the individual and collective experience of memory of disaster. The *Memory Bank* is, in one account, a kind of shared aesthetic and interpretive exploration of the shapes and

futures of Katrina memory. This has meant the production of sometimes piercing constructions and sometimes direct ruminations. I think, for instance, of the final words of Scott Moersen's contribution, quoted above: "Nothing is ever static in my opinion when it comes to memories. And when narratives begin to change, begin to coalesce, then I believe something huge is happening."[87] A reflection like this places us far from Recuber's "prosumption" and will persist as long as the databases and the means of displaying them allow. Conceivably, alternative interfaces or physical exhibitions could highlight among the most poignant. Digital crisis archives are open to transformation.

Beyond the overarching reinforcement of the potential multivalence and significance in instances of digital crisis archives, the *Memory Bank* also refines and expands our understanding of what forms of media assemblage can generate within and across them. We have again encountered the crisis archive as a context for the construction of novel meaning and experience through photographic assemblage, for instance. We again see the photographic collection serving exploration of a thematic—both Kirsch and Rayner allow us to "tack" between subjects to use Johnson's term. But we also see crucial differences in the photographic assemblage here compared with *ARLIS*. These include the importance of text and the presence of authorial/curatorial voice. An important further point: photography is not the only site of dynamics of assemblage in the *Memory Bank*. As we have seen, those dynamics extend significantly beyond the photographic collection to large-scale unions of tags and to phenomena observed in transit across submissions in a variety of formats.

Participation is another key area of insight in the genre that close analytical engagement with the *Memory Bank* affords. At one level, the investigation has revealed various contributors

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[87] Scott Moersen, "[Untitled]," *Hurricane Digital Memory Bank*, http://hurricanearchive.org/items/show/44517.

to a digital crisis archive approaching the interface as a site of creative communication. Far from strictly displaying the results of a pervasive atomized process of addition, the *Memory Bank* is an exhibition of diverse instances of care and invention, and of anticipation of archival audiences, whether they arrive or not. Sometimes participants' constructions echo familiar cultural forms like the testimony, the drawing, or the poem. Others times they are new constructions that blend familiar forms through means of alignment, annotation, and arrangement. As we shift now to the *Japan Disaster Archive*, we will find still new forms of participation can emerge through the model of the digital crisis archive—new permutations of assemblage, interaction, and participation.

Chapter 4 \ Assemblage and Participation: the *JDA* and Japan's 2011 Disasters

The triple disasters that struck Japan on March 11th, 2011 defy encapsulation. At 2:46pm local time, a fault rupture less than fifty miles off the northeastern coast generated an earthquake among the most powerful ever recorded—nearly 8,000 times stronger than that which had struck Christchurch, New Zealand, a month earlier.[1] The displacement of the seabed subsequently set off a tsunami that overwhelmed sea walls and swept away entire villages, reaching heights of over 100 feet and traveling as far as six miles inland. Hundreds of thousands of buildings were destroyed or damaged. At least 15,000 people were killed. As emergency responders rushed in to rescue stranded citizens, and as global audiences began to encounter angle after unprecedented angle on the tsunami's incursion, a third, preventable tragedy began to unfold. Approximately one hour after the earthquake, a 13-meter wave had surpassed the 10-meter seawall at the Fukushima Daiichi nuclear power plant, ultimately disabling the power systems needed to supply the coolant system. Amid the desperate attempts of Tokyo Electric Power Company (TEPCO) to mitigate an increasingly dire situation—explosions, gas releases, leaks—over two hundred thousand people evacuated a "no-go zone" that eventually expanded from an original 3km to 20km.[2]

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[1] "Japan earthquake: Tsunami hits northeast," *BBC News*, March 11, 2011, http://www.bbc.com/news/world-asia-pacific-12709598 (retrieved July 10, 2015).

[2] Beyond the texts cited below, other useful English-language texts around these disasters include the following: Helen Caldicott, ed., *Crisis Without End: The Medical and Ecological Consequences of the Fukushima Nuclear Catastrophe* (New York: The New Press, 2013); Tom Gill, Brigitte Steger, David H. Slater, *Japan Copes with Calamity: Ethnographies of Earthquake, Tsunami, and Nuclear Disasters of March 2011* (New York: Peter Lang, 2013); David Lochbaum, Edwin Lyman, Susan Q. Stranahan, the Union of Concerned Scientists, *Fukushima: The Story of a Nuclear Disaster* (New York: the New Press, 2014); Elmer Luke, ed, *March Was Made of Yarn: Reflections on the Japanese Earthquake, Tsunami, and Nuclear Meltdown* (New York: Vintage Books, 2012).

The triple disasters set off a proliferation of data and media unprecedented in scale and speed: tweeting by citizens seeking help; gathering and dissemination of radiation measurements; documentation of the tsunami and the damage it left in its wake; websites providing information to concerned publics; blogs documenting individual's experiences; Flickr photostreams of response operations; maps of possible debris trajectories.[3] Over the ensuing weeks, in the English-speaking context—from which this chapter is written—media professionals would reflect on the terrific challenges in reporting on three disasters simultaneously, and on the ethics and challenges of covering nuclear crisis.[4]

Between the severity of the events and conducive media technological and economic conditions in which they took place, "3.11" also occasioned an unseen scale and variety of digital archival responses.[5] A representative list of projects could include the following, all of which were started in 2011—but there are dozens of others. Yahoo! Japan's *Photos from Japan* project solicited photographs from the public, asking for "landscapes before the East Japan Earthquake"; the "current situation in the affected areas"; "goods left behind in the affected areas"; and "signs showing process of recovery."[6] The Internet Archive indexed, preserved, and provided access to thousands of websites submitted by volunteers through its *Archive-It* platform. Archived versions of over 50,000 websites are continually updated and searchable as

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[3] For an informative English-language article on social media and the disasters, see David H. Slater, Nishimura Keiko, Love Kindstrand, "Social Media, Information, and Political Activism in Japan's 3.11 Crisis," *The Asia-Pacific Journal* Vol 10, Issue 24, No 1, June 11, 2012.

[4] See, for instance, Curtis Brainard, "Crisis Juggling in Japan," *Columbia Journalism Review*, March 16, 2011.

[5] The 2010 and 2011 Canterbury earthquakes come closest, having occasioned multiple digital and non-digital archival projects. These materials were made searchable through the platform *CEISMIC*, http://www.ceismic.org.nz.

[6] *Photos from Japan*, http://photos-from-japan.com. The quotations are from an April 26, 2011, description of "admissible pictures." Yahoo! Japan, "East Japan Earthquake Picture Project," http://notice.yahoo.co.jp/emg/en/archives/info0426.html.

Figure 4.1: *East Japan Earthquake Archive.*
Snapshot of project documentation at http://e.nagasaki.mapping.jp/p/
japan-earthquake.html, (retrieved July 14, 2015).
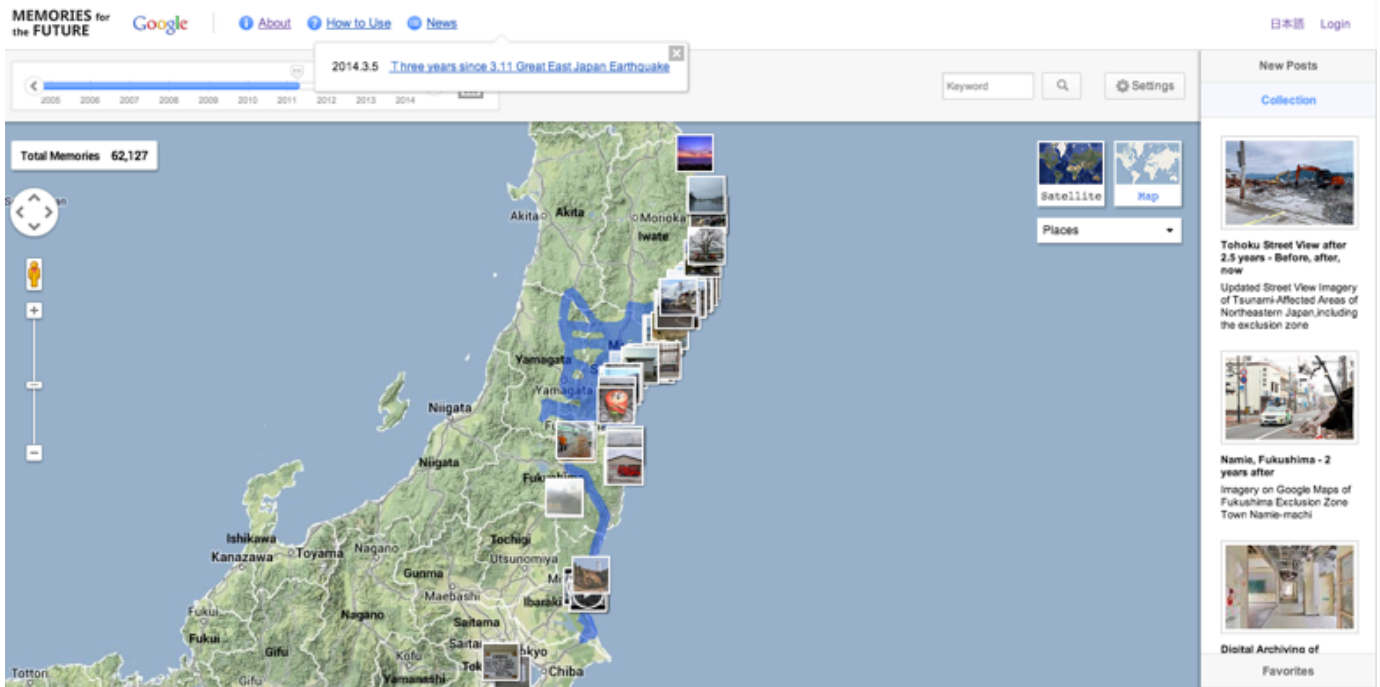
Figure 4.2: Browsing the map, *Memories for the Future*, February 2014.

of August 2015.[7] *Michinoku Shinrokuden*, based at Tohoku University—Tohoku is the region of

northeastern Japan struck by the tsunami—assembled the resources of over eighty institutions,

seeking to "expand the multidisciplinary research from various kinds of perspectives, recording,

case studies, knowledge and findings based on this disaster."[8] The *East Japan Earthquake*

Archive, a self-described "pluralistic archive," aggregated various media types—including

testimonies, photos, videos, and tweets—from multiple repositories into a publicly available

three-dimensional Google Earth environment (figure 4.1).[9] *Memories for the Future*, a project of

Google Japan, invited users to submit their "kioku"—memories—of affected areas both *before*

and after the disasters to a publicly available participatory map (figure 4.2). The project soon

also included immersive on-the-ground views: before-and-after street views of damaged areas

and interior views of abandoned schools in Fukushima. These documentation efforts were

described in English as efforts to generate digital archives, i.e., the production of photographs

was understood as a process of archiving phenomena.[10] The *center for remembering 3.11*

presented the work of residents of the city of Sendai and the larger region working in a studio

space for local community production and broadcasting center called Sendai Mediatheque

(figure 4.3).[11] *3.11 Memories* arrayed headlines algorithmically determined as related to the

crisis on an interactive timeline extending from the first hours to the present (figure 4.4).[12]

HyperCities, a project based at the University of California, Los Angeles, collected and

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[7] "Japan Earthquake," *Archive-It*, http://archive-it.org/collections/2438.

[8] "Michinoku Shinrokuden," http://irides.tohoku.ac.jp/eng/archive/shinrokuden.html.

[9] *The East Japan Earthquake Archive*, http://e.nagasaki.mapping.jp/p/japan-earthquake.html.

[10] *Memories for the Future*, https://www.miraikioku.com/en.

[11] *center for remembering 3.11*, http://recorder311-e.smt.jp/.

[12] *3.11 Memories*, http://agora.ex.nii.ac.jp/earthquake/201103-eastjapan/311memories/index.html.en.

Figure 4.3: Homepage, *center for remembering 3.11*, February 2014.
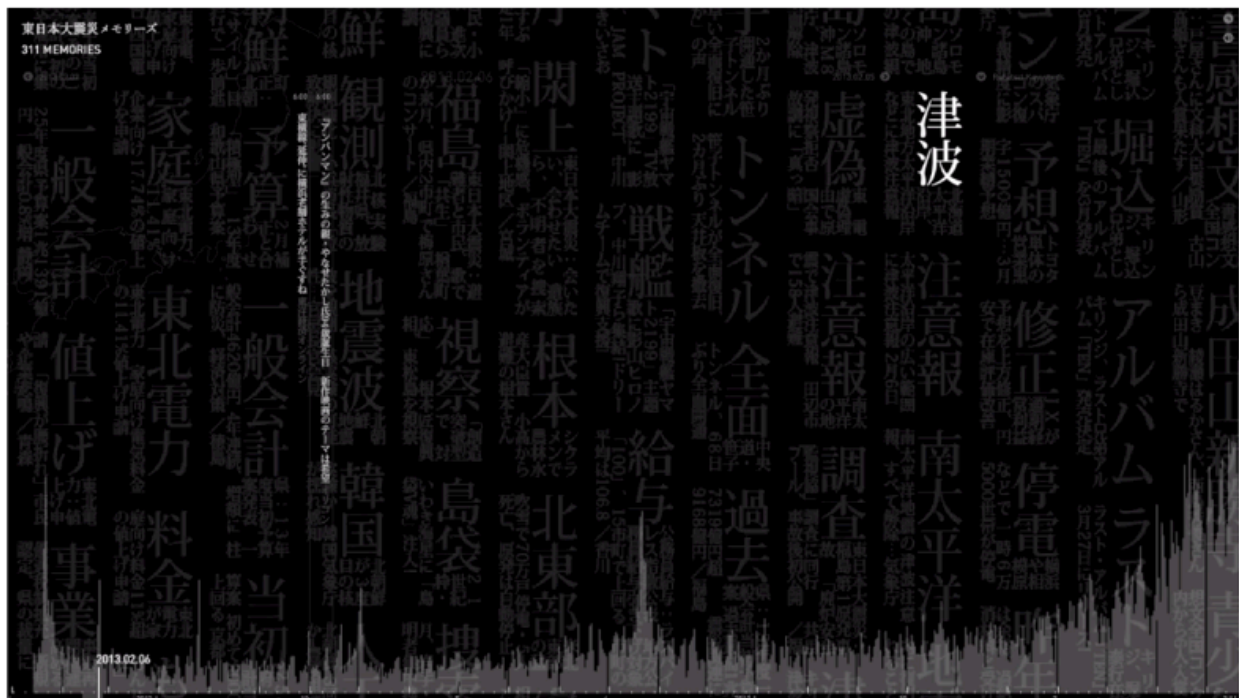
Figure 4.4: *3.11 Memories*, February 2014.

presented on a live-updated map earthquake-related tweets gathered from within the first hours of the earthquake.[13]

I will return to the several of these projects in the next chapter. The present inquiry concerns among the most unusual archives to emerge out of these disasters: the *Japan Disaster Archive* or the *JDA*, also known by the longer title the *Digital Archive of Japan's 2011 Disasters* (figure 4.5).[14] Initiated by scholars and staff at the Reischauer Institute of Japanese Studies (RIJS) at Harvard University in the first days after the earthquake, the project began as a short-term effort to solicit participation in submitting websites related to the disasters for preservation to the aforementioned Archive-It project, and to provide a portal for searching those websites. (This effort picked up on previous experience the Reischauer had in web archiving. It also coincided with a number of other responses to the disasters: fundraising, helping connect people, soliciting volunteers, sharing information, and hosting forums.)[15] Over April and May 2011, the project's ambitions expanded considerably, as did the roster of present and potential collaborators.[16] In close dialogue with members of a newly founded digital design and research

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[13] *HyperCities Sendai*, http://sendai.hypercities.com.

[14] *Japan Disaster Archive*, http://jdarchive.org.

[15] In a Director's Note from March 14, 2011, Andrew Gordon describes several of these activities. "Director's Note," *Reischauer Institute of Japanese Studies*, http://rijs.fas.harvard.edu/earthquake/message.php (retrieved July 10, 2015).

[16] The "About Us" page from May 3, 2011, summarizes the project hence: "The digital archive is an initiative of the Edwin O. Reischauer Institute of Japanese Studies at Harvard University and is supervised by Professors Theodore C. Bestor, Andrew Gordon (Director), Helen Hardacre, and Susan J. Pharr. It is being created in collaboration with various programs at Harvard, including metaLAB, the Harvard University Library, the Berkman Center for Internet & Society, the Center for Geographic Analysis (CGA), Institute for Quantitative Social Science (IQSS), and beyond Harvard with the Internet Archive, National Diet Library, the NCC (North American Coordinating Council on Japanese Library Resources), the EASIANTH and H-Japan listservs, and other networks." The "current status" states, "The project is currently soliciting material and designing a robust user search interface that bridges the various components of the archive. It will take some time before the project will be able to make the archive materials available. We thank you for your understanding. In the meantime, some of the websites that represent one component of the archive are available through the Internet Archive's Japan Earthquake 2011 project." "About Us," *Japan Disaster Archive*, https://web.archive.org/web/20110509043541/http://jdarchive.org.
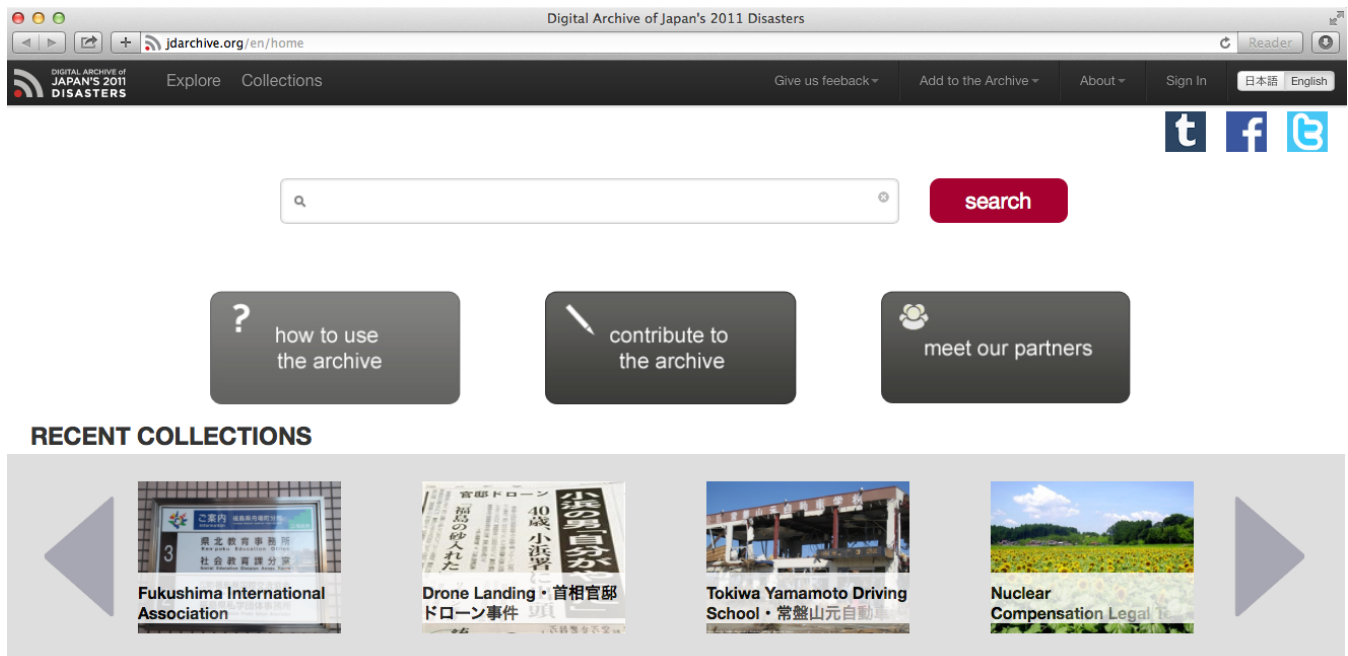
Figure 4.5: Homepage, *Japan Disaster Archive (JDA),* August 2015.

Figure 4.6: Search results, *JDA.*

group at Harvard called metaLAB, the Reischauer Institute committed to developing a digital archive of the triple disasters which would variously stretch the definition of "archive." For one, the *JDA* would be a *networked* archive. In a single portal, visitors could search hundreds of thousands of pieces of media—documents, tweets, images, videos, photos—imported from numerous repositories across the web through application programming interfaces or "APIs"— including several of those just mentioned. Those materials would appear in the portal as previews with attendant metadata—data about the given item like tags, description, location—as well as links back to the source material. Those items with appropriate data would also appear in a custom map interface enabling filtering by both time and place. Second, the *JDA* would be an *emergent* archive. (This is not a term used by the *JDA*, but it has been used at metaLAB.) Its holdings could grow and change indefinitely. Expansions would take place through two processes: either the Reischauer Institute would arrange a new import of materials from other archival projects, or participants would submit items individually. Third, the *JDA* would be a *participatory* archive. Like the *Hurricane Digital Memory Bank*, the *JDA* would welcome submissions of user-generated stories or "testimonials." But it would also invite an array of other participatory interventions. Users could annotate, translate, and geo-locate items. They could also assemble and share collections of materials.

From May 2011 through the ensuing summer, the Reischauer Institute and metaLAB, of which I was a member and "project manager" for this project, worked together on designing and outlining development plans for these features and a handful of others. Some were ultimately sidelined—including, notably, the ability to preserve items in "cold storage" and the capacity for associative search—but many of the above ambitions were eventually realized. Between the Reischauer Institute's commission of yearly budget to the project and grant funding from bodies
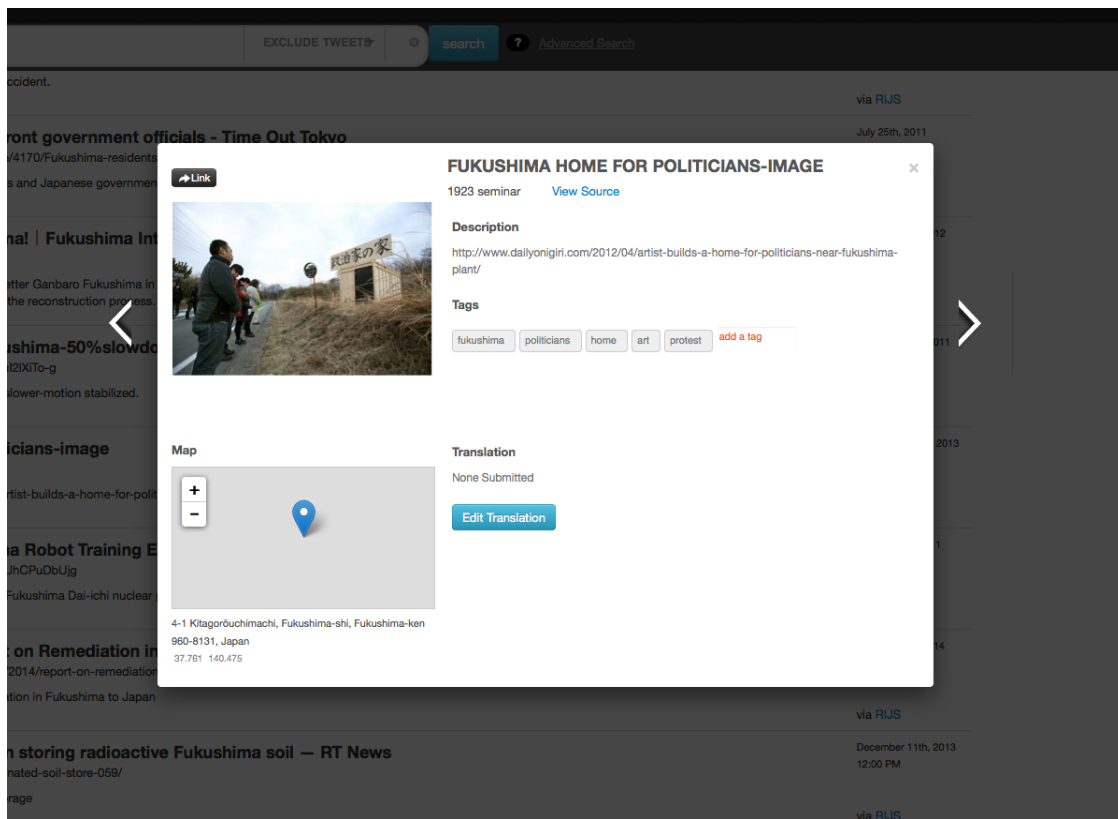
Figure 4.7: Individual item view, *JDA*.
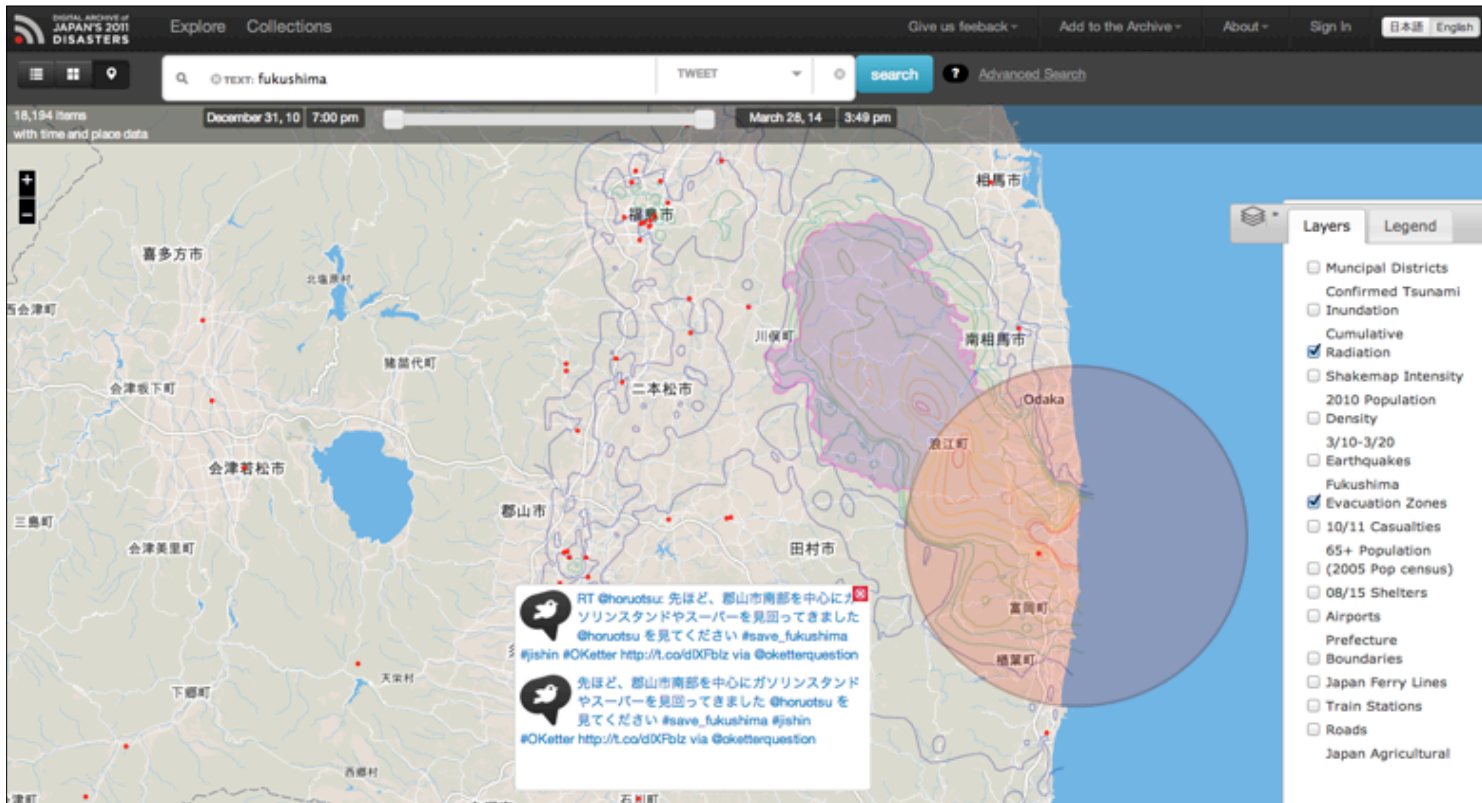
Figure 4.8: Map interface, *JDA*.

within Harvard (including the Harvard Initiative for Learning and Teaching) and beyond

(including the Center for Global Partnership), other initiatives also became possible, including

the holding of a series of symposia, and the conducting of a Fall 2013 undergraduate/graduate

course at Harvard called "Japan's 2011 Disasters and Their Aftermath: A workshop on digital

research." I co-taught this course with historian Andrew Gordon and anthropologist Theodore

Bestor, two key leaders of the *JDA* project. From 2012 to the time of writing in August 2015,

visitors to "jdarchive.org" have been able to explore over one million items, which appear in

preview boxes in list views and maps views (figures 4.6, 4.7, 4.8). (Since early 2014, the

navigable holdings have also included material imported to the site by individual contributors

through a custom tool called a "bookmarklet.") As of August 2015 the archive's holdings

included roughly the following numbers: 835,000 tweets; 400,000 headlines; 170,000 images;

52,000 websites; 15,000 official documents; 4,100 news articles; 730 broadcasts; and 400 videos.

Three platforms for user curation have been built and integrated into the site in the same time

period. I will delve into each in significant detail below, but here is an introduction: The

collection editor—introduced in mid-2012 and still available as of August 2015—enabled

participants to compile *JDA* materials into "collections" that appear with self-selected titles and

carry short-form descriptions (figure 4.9). As of August 2015, some 269 had been published, the

vast majority produced by affiliates of the project. The presentation editor—tested in the Fall

2013 course, briefly included in the public site, and phased out in mid-2014—enabled

participants to collate selections of *JDA* materials onto individual frames, akin to slides in

slideshows, and to collate a collection of these frames into interactive "presentations" readers

navigate at their own speeds, in nonlinear fashion (figure 4.10). Thirteen completed presentations

were produced during the Fall 2013 course. The third platform, waku, which can be translated as

Figure 4.9: Visitor view of public collection, *JDA*.

Figure 4.10: Visitor view of presentation, *JDA*.

"frame" from Japanese, was a second evolution of the presentation editor. It enabled participants to integrate short-form narratives with collections of JDA objects (figure 4.11). Waku was gradually integrated into the site over spring and summer 2015. As of August 2015, there were only a handful of prototype "wakus"—no name had been decided upon for these publications—available to public view.

That the histories and the actual online manifestations of the *JDA* have much of import for this dissertation's broad programs is likely already manifest through these introductory remarks. The multivalence and complexity of the *JDA* is evident through mere description; it is clear that the archive can play meaningful roles in research and memory practices around these disasters; and it is likely also evident that the project carries contradictions and risks, as well as questions around ambitions versus actual use and complicated politics of memory. (Among the latter, we would surely have to include the fact that the project concerns disasters in Japan, but is based in the United States.) The reader will also recognize that convergences of assemblage, interaction, and participation have suffused the project. Indeed, the *JDA* is, in effect, built to enable productive permutations of these three phenomena. In my estimation, would-be participants are asked to discover and trade those permutations in socially distributed collaboration: new searches, new submissions, new micro-publications.

Unlike the first two chapters, given the scale and complexity of this archive—as well as my unfortunate lack of Japanese—I have not pursued research for this chapter at the widest remove, examining the workings and implications of the archive "overall"—as if this were truly possible. (That is, I will not approach the *JDA* as a documentary site to which publics and researchers could travel and engage in a multiple intersecting memory practices, as with *ARLIS*—which I characterized as a world of image-based study, open to reading through multiple

Figure 4.11: Visitor view of waku, *JDA*.
(experimental waku by Koko Howell)
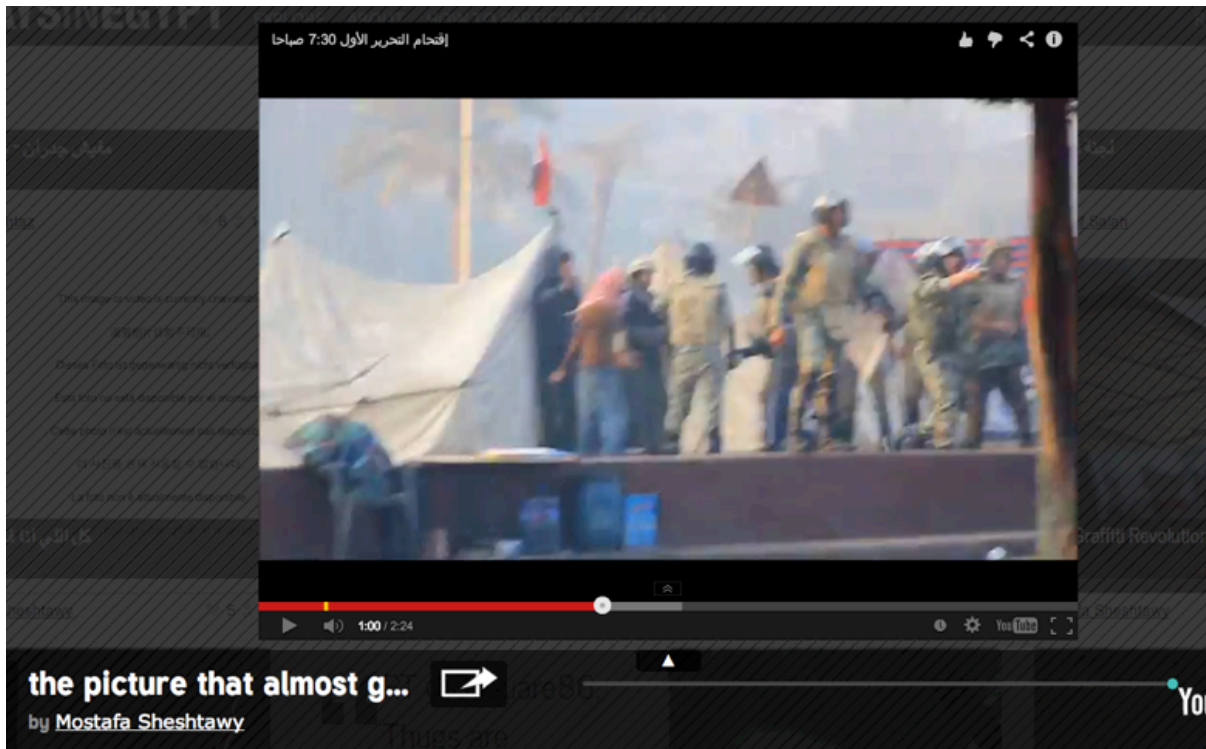
Figure 4.12: Visitor view of stream "the picture that almost
got away" by Mostafa Sheshtawy, *18 Days in Egypt.*

modalities and along multiple thematic vectors—and the *Memory Bank*—which I characterized as a multivalent memory apparatus where overlapping modes of interaction become possible, albeit with difficulty and social and political contradiction.) I will instead train attention on the three platforms for participation I have just introduced—the collection editor, the presentation editor, and waku—or more precisely the three kinds of archival publication they respectively enable—collections, presentations, and wakus. Analytical responses to these three technologies and their publications could take multiple forms. One response, not undertaken here, would work more empirically to assess their "impacts." It would present ranges of audiences with existing and experimental publications; it might also rely upon surveys of the *JDA's* users. Another version, which I had originally pursued, could work in more prescriptive terms to evaluate the merits and shortcomings of each platform in turn. It would form a framework for analyzing the apparent successes and failures of the three platforms, and it would try to recapitulate the processes of development, evaluation, and social interaction that led to their production and informed their use. Although these are important avenues worth further consideration, I have ultimately opted to persist in the modes of close reading and interdisciplinary theoretical dialogue that have defined the first two chapters, while also seizing upon my experiences in developing and using these platforms.

This chapter proposes the following: the three platforms—the collection editor, presentation editor, and waku—have facilitated the production and dissemination of varying instances of an emergent and undeveloped kind of digital archival publication. That is, though necessarily reflecting a diversity of aims, functions, and forms—and often taking shape in relatively rudimentary forms—the products of these three platforms nevertheless are understandable as carrying common features, serving convergent functions, and presenting

participants with common problems. While not pretending the publications of one project can possibly suffice to populate a true "genre," I will nevertheless conceptualize the publications these three platforms have generated and will generate as constituents of one—a proto-genre. That proto-genre, like the genre of the digital crisis archive, is mutually defined by form and effect: by what its instances "are" and by what they do. It also has the potential to evolve over time—with new archives, new platforms, and new publications. We have seen progenitors of this genre—which I will call the crisis archival sub-assemblage—in this dissertation. Take, for instance, the two photographic collections that supported the mode of interaction of *engaging frames* in the *Memory Bank*: "121 Days in Darkness" and "Floodlines." Like the publications under study, both of these constituted instances of publishing curated collections at the crisis archive for the sake of imagined present and future audiences. But we can also find sub-assemblages outside of the *JDA*, in the constituents of a digital archive called *18 Days in Egypt*, self-described as a "interactive crowd-sourced documentary project," and focused on the 2011 Egyptian Revolution. With the platform GroupStream, custom produced for *18 Days*, contributors would weave together media from their own social media with custom-generated text to produce online slideshows or "streams." One stream, for instance, called "the picture that almost got away"—by photojournalist Mostafa Sheshtaway, who made several dozen streams— recounts narrowly escaping to safety when snapping a photo of military encroachment on the protests (figure 4.12).[17] Streams are, as far as I know, the only instances that meet the core criteria for the proto-genre that collections, slideshows, and wakus outline: media artifacts based in the assembly of media and published into a common archive based around a crisis.

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[17] *18 Days in Egypt*, http://beta.18daysinegypt.com.

The opportunity to produce in this proto-genre presents the would-be contributor with myriad material and conceptual questions around form, ambition, and purpose. These track with the dissertation's exploration of permutations of assemblage, interaction, and participation. What becomes possible as items come into association in the interface? What crisis-related practices can sub-assemblages serve? With what implications? How should an archival actor go about pursuing meaningful contribution? At the same time, for the architects of the project, fundamental questions around viability and investment hang over the practice of building these platforms, as does the necessity of articulating their imagined importance in public contexts, and the problem of digital preservation and "data curation." Can archival publications effectively serve research and other aims? At what cost? What critical gaps are there in what archives and archival sub-assemblage can represent and address versus other apparatuses and methods? A kind of microcosm of the dissertation's overall project, a mapping of this proto-genre through the specificity of the *JDA* will allow us to answer these questions flexibly, recognizing similarities and differences across cases, while also laying the groundwork for future inquiry around convergences of media assemblage and participation in archival contexts. Performing this interpretive work of genre mapping will also raise important questions around media construction, participatory cultures, event representation, public memory, and research practices. It will also serve as a methodological contribution around analytical responses to new media making, in dialogue with two scholars referenced in the Introduction to this dissertation, Lev Manovich and Carole Palmer.

As this is an unfamiliar and large interpretive endeavor with multiple moving parts, I can offer a short roadmap. Five sections follow. The first and second sections lay the groundwork for the genre mapping. The first provides further background on the development and use of the

three platforms and the sub-assemblages they support—the collection, presentation, and waku—and orients the reader to the mechanics of producing and interacting with the given kind. The second section defines the terms through which the genre exploration will proceed by examining the interpretive structures in a Palmer's essay on the genre of the "thematic research collection." The third and fourth sections make up the heart of chapter's investigation: The third outlines what the three forms of publication suggest are the "basic features" of this proto-genre of the crisis archival sub-assemblage, and notes attendant issues and lines of inquiry. The fourth, the largest of the sections, will examine several of what Palmer calls the genre's "variable characteristics." Palmer's capacious formulation, modified to present purposes, allows us to examine the workings and potential implications across the three publication forms, but does not restrict the discussion to characteristics represented in all instances. It does not try to distill an essence. I will offer close examination of characteristics richly manifest in the three publications forms in the *JDA*, although many others, including those we see in *18 Days in Egypt* like *democratic storytelling* and *evidencing*, might well deserve discussion. Those are *trailblazing, scaffolding*, *exhibition*, *recombination*, *redirection*, and *assemblage-based learning*. The fifth and final section recapitulates the arguments of the chapter, outlines the broad lessons the investigation offers for understanding the larger genre of the digital crisis archive, and introduces a further variable characteristic: *archival dialogue*.

I. Collections, Presentations, Wakus

As I have indicated, the prospect of public participation through curation—or, to use the terms of the dissertation, through acts of participatory assemblage—was embedded within the expanded vision of the *JDA* from the first. User curation was, from what I recall, central to the

collective imagination of the project's distinction and importance, and this remained the case

over the following four years of development and use this chapter concerns. The heights of

enthusiasm are reflected in the following excerpt from a grant application submitted by the

Reischauer Institute to the Center for Global Partnership in 2011. The application, which was

successful, sought support for a series of symposia around digital archiving and the disasters in

the United States and Japan. The narrative addresses plans for the collection editor:

> The key innovation will be to construct an archive that allows each user to create a
> personal "collection" of materials around the theme of his or her interest and to leave a
> record of that collection for others to share or to view (if the user chooses to do so)...
> person in Northern Japan might use this interface to create a multi-faceted collection of
> digital records of "my experience of 3.11" or "the recovery project in xx town." This
> collection would be made available (if the user wished) to all others who used the
> archive, as inspiration or as lesson or as model. In this important way, we envision this
> archive, or our contribution to a larger universe of archiving projects, as a way for those
> who directly experienced the disaster to have a voice in creating its memory and its future
> understanding.[18]

It continues:

> At the same time, we expect this and other archival projects will be helpful to a range of
> users extending beyond the victims or survivors to journalists, policy-makers, and
> scholars in social sciences, natural sciences, and the humanities, and to the general
> public. Our vision runs on a continuum from the very particular and local to the more
> universal or global. At one end of the continuum, we hope to help those who experienced
> the disaster to generate their perspective. At the other end of the continuum, we want to
> contribute to those seeking policy-relevant lessons from this event. Beyond that we want
> to contribute to a way of organizing experience and information that will be valuable in
> very different contexts as well.[19]

To my mind, in addition to indexing the levels of enthusiasm—and perhaps, for those who have

followed the project, casting into relief unmet expectations around the use of the archive—these

words also indicate other important aspects of the *JDA* project overall: the fundamentally

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[18] Reischauer Institute of Japanese Studies, "Concept Paper for Center for Global Partnership Grant for Japan Disaster Digital Archive," (Grant Application, Cambridge, MA, 2011): 4.

[19] Ibid.

unwritten nature of the path of developing means of user curation; the unusual coincident need to construct provisional theoretical vocabularies ("a way of organizing experience and information"); and a self-conscious interest in the project serving as an experiment and model for future crisis archival interventions. Given these complex dynamics, a narrative of the development of the three platforms could take up significantly more pages than the handful offered here. My primary aim, however, is to provide sufficient orientation for the genre exploration to follow. I thus offer in each case a basic outline of the platform's trajectory of development; notes on the natures of their use from inception through August 2015; and the mechanics of production and interaction with the respective publication form.

Collections

Design of the collection editor took place from the first days of vision for the expanded archive through the fall of 2011. The first stages were highly collaborative: members of metaLAB produced and revised design concepts in response to feedback from leaders of the project at the Reischauer Institute and in dialogue with others interested and involved in the project, including members of the Center for Geographic Analysis at Harvard. Several features were imagined that were ultimately discarded because of limits of funding and know-how. Those included "associative" algorithms to interpret the connections made through collections as well as the capacity to upload one's own materials, and the ability to reorder items. The resulting collection editor, integrated into the archive website in spring 2012, allowed for, in summary terms, the accretion of items from within the *JDA* into a "collection," the addition of a title and a description, and the sharing of that collection in the archive. As noted above, roughly 269 collections have been produced as of August 2015. A handful of curators contracted by the

Reischauer Institute were responsible for the vast majority of these. Otherwise, there were collections authored by project architects, students in the Fall 2013 course, and a handful by members of the public. Use of the archive's participatory features by broad publics has been fairly limited—a subject worthy of further discussion, but beyond the purview of this chapter. I am seeking to lay out underlying dynamics in the archive.

We can take a closer look at interacting with and producing collections before turning attention to presentations. Let us say, by some path of motivation, I have become interested in sharing a collection around the celebrated Japanese novelist Haruki Murakami's public responses to the disasters. The *JDA* interface serves as both the means of construction and the site of publication. I might already have materials already in mind for inclusion. I can check whether these are included in the *JDA*, as with a search of "murakami." If they are, I can drag the first of these into the tray at the right and so form my first collection: I add an article on Murakami's anti-nuclear speech in June 2011 (figures 4.13, 4.14). For those materials not held within the *JDA*, I need to find them on the web, and add them through the bookmarklet. Admissible items include websites, images, audio files, and videos. (When I add items, I can recommend them for ongoing inclusion in the *JDA*, which means, if approved by *JDA* staff, they will be included within public searches of the materials—not solely accessible through my collection.) The process of addition can continue indefinitely. Otherwise, I am to title and add a description to my collection. I can also produce a header image by dragging and dropping a photograph from my collection, which is automatically tiled. I can also geo-locate the collection when appropriate.

Here is a view of the collection that users would have as of August 2015: "Novelist Haruki Murakami and the Nuclear Crisis" (figure 4.15). There are, in the most mechanical terms—that is, foregoing description of semantic and experiential effects—four available forms

Figure 4.13: Search results for "murakami". (Note that an item has been added through the tray at right.)

Figure 4.14: Contributor view of untitled collection.

of visitor interaction with this collection. The first is at not at the collection itself, but at the portal to the collection. This can be found either on the Collections tab, or among the Recent Collections (figure 4.16). Perhaps, to shift now to the position of the researcher/visitor, I find the proposition of Murakami's involvement in post-disaster discourse intriguing. I click the collection's thumbnail, and it leads to that collection's individual display page. The second form of interaction is at the level of the collection, prior to inspecting any individual item. I can read the title of the collection, which is accompanied by a background image in most cases. I can read the "description." I can note the location on the map. And I can scan items that have been included. The third form of interaction is at the level of the individual item. I am interested to learn more about the article that has been submitted. Clicking on the item calls up the display window (figure 4.17). (I have not left the collection page; clicking outside the item box returns me to the full list.) Here I can scan the metadata: tags like "catalunya prize," "speech," and "hiroshima." I can click these tags to generate keywords searches of the overall archive. I can also travel to the original source URL. (A crucial element is witnessed here: the item is not actually stored on the *JDA* servers. One does not encounter the object per se, but its preview and its reference. What would a language for this ontology look like?) I suggested there was a fourth form of interaction with the collection. This is the participatory, and takes place at either the collection or the item level. I can contribute metadata: tags or a translation. Or I can add an item from the given collection to my own, using the collections tray on the right side of the interface.

Presentations

First steps toward the presentation editor—which produces "presentations" in the form of networked slideshows—were taken while the collection editor was still under development. In

Figure 4.15: Participant view of collection.

Figure 4.16: Collections page, *JDA,* July 2015.

November 2011, members of the Reischauer Institute and metaLAB submitted a successful

proposal to the recently founded Harvard Initiative for Learning and Teaching seeking "spark"

funding to build a "collections publishing toolkit" and to conduct the aforementioned Fall 2013

seminar. Like those passages quoted above from the grant submitted to the Center for Global

Partnership, excerpts from this grant application index the level of enthusiasm around user

curation as well as emerging attempts to conceptualize and articulate the meanings and values of

digital crisis archives.[20] We write:

> Students and teachers should be able to work with the media and data related to these
> events in ways that maximize the web's inherent properties of open data and networked
> collaboration. In short they should be able to make and share research easily and in ways
> that are intuitive, visually compelling and that spur further collaboration—and that have
> resonance to audiences and students who increasingly expect digitally-sophisticated
> forms of presentation.[21]

We elaborate:

> We hope that any user will be able to easily build and publish collections of media and
> data through geographic, temporal, thematic and quantitative relations. In other words
> users will be empowered to share sophisticated, data-rich, meaningfully annotated
> presentations of the born-digital discoveries they were able to make through our
> interface.[22]

It would not surprise me if the reader could not form a clear picture from these words of

what exactly we imagined producing. The rest of the application does not resolve the ambiguity.

In some instances, we appear to anticipate building a tool for what we call "networked

slideshows," the primary aim of which would be to narrate stories and arguments. In others we

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[20] The grant contains the seeds of concepts and questions employed in this dissertation. Among them are the challenges to representation and disciplinary division posed by disasters, and the apparent opportunities in the surfeit of digital media and technologies for their discovery, consolidation, recombination, annotation, contextualization, and reuse. The grant is also a document of entrepreneurship and also carries, perhaps, traces of techno-utopianism.

[21] Reischauer Institute of Japanese Studies and metaLAB, "Hauser Grants 2012–2013 Full Proposal Information," (Grant Application, Cambridge, MA, 2012): 6.
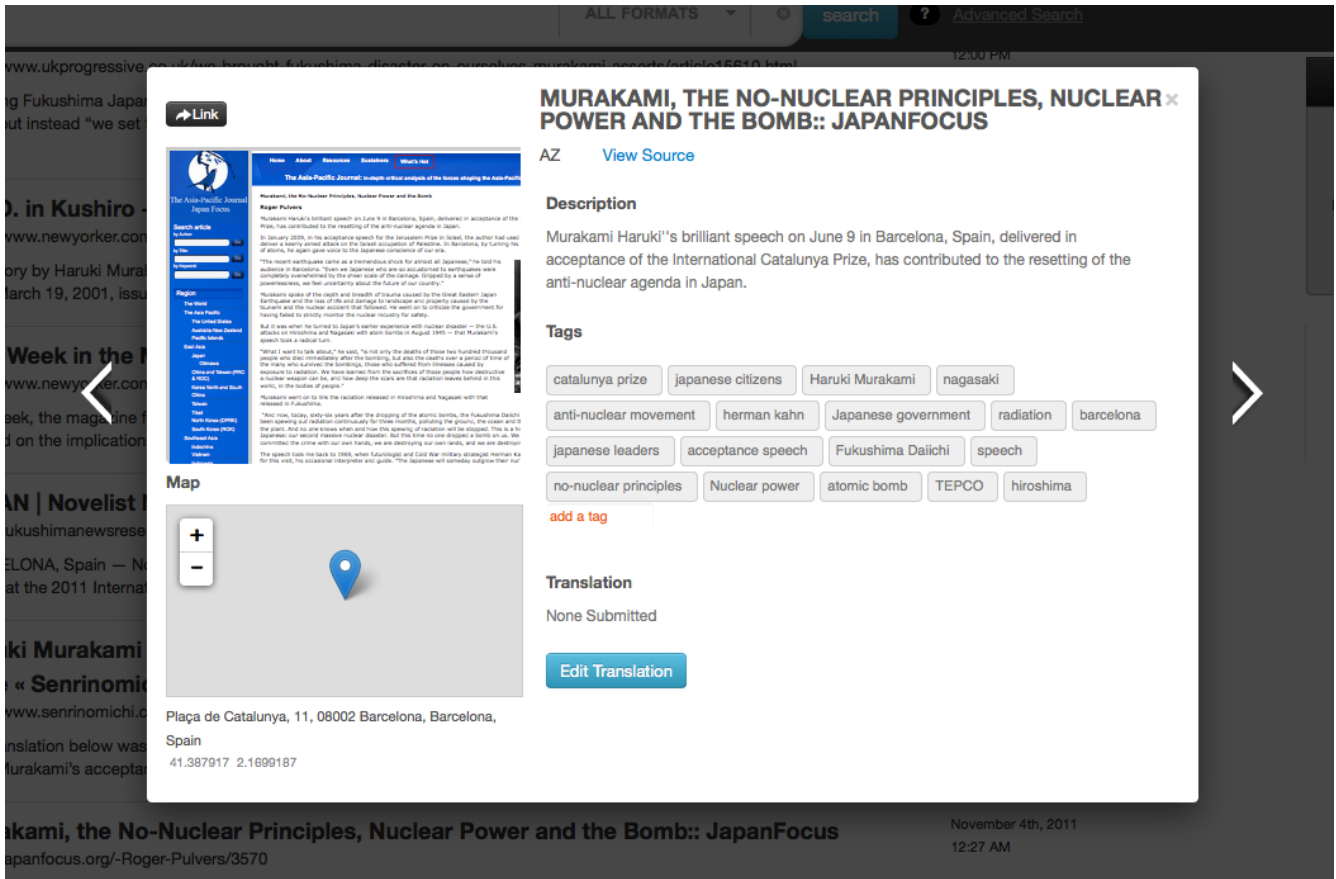
[22] Ibid., 5.

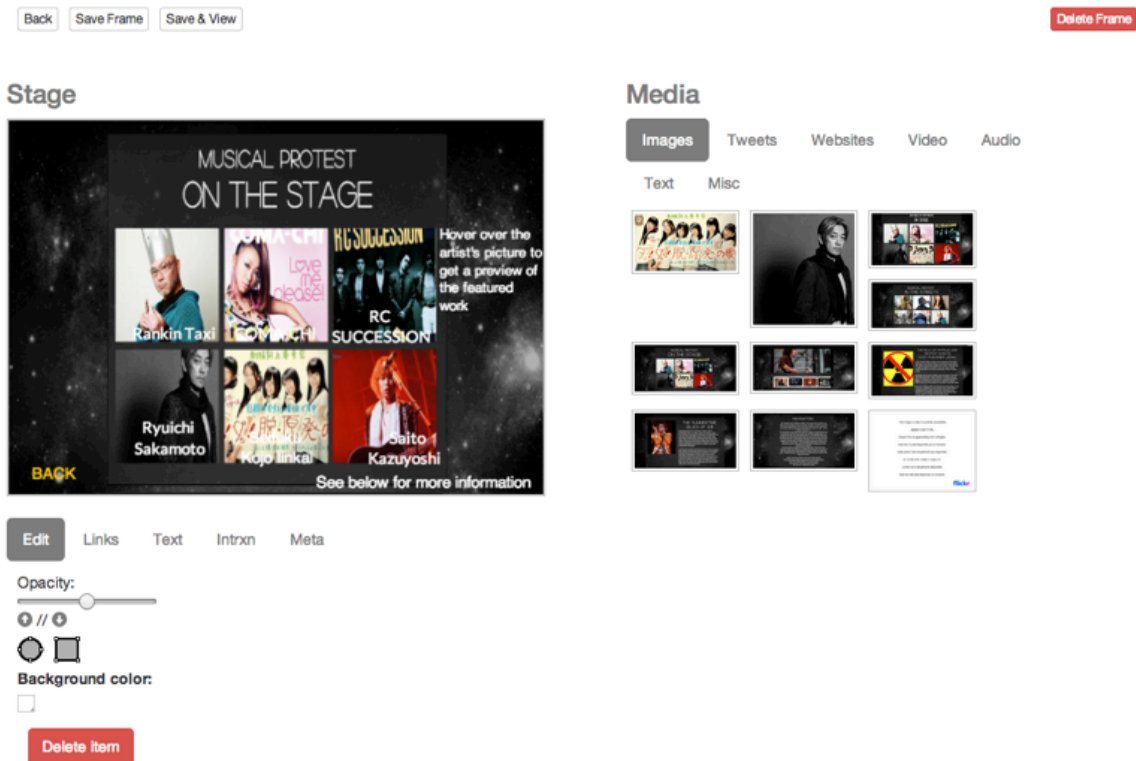Figure 4.17: Viewing an item in a collection.

Figure 4.18: Contributor view of presentation editing interface.

appear to want to maintain the basic format of the published collection as an aggregate of thematically linked items, and to augment this form with an array of other features—such as new forms of data, new forms of organization. The design group Zeega, a "spin-off" of metaLAB which was given ownership of the process of conceiving and building the "toolkit," pushed the project in the direction of the former, toward the networked slideshow.[23] Zeega's eponymous software platform was the model. With the Zeega platform, users could assemble media from repositories like Flickr and YouTube onto individual frames; these frames could then be linked together, allowing the reader-viewer to navigate the overall lattice in nonlinear fashion in a web browser. The *JDA* presentation editor would do effectively the same, and with the same codebase. Plans changed. In early 2013, Zeega abandoned the development effort and relocated to San Francisco, where it would pursue the Zeega software platform as a commercial venture. Remarkably, in the wake of this surprise shift only six months before the course, a new member of metaLAB, designer and developer Jessica Yurkofsky, managed to build a version of Zeega's concept herself, using a mix of open-source code libraries. As noted above, thirteen completed presentations were produced during the Fall 2013 course. For reasons I will describe in the next section, the presentation editor was, after a brief stint on the public *JDA* site, eventually replaced by the third platform under discussion in this chapter, waku.

Here is an overview of how *JDA* presentations worked. I can adopt the present tense. Presentations are collections of linked slides or "frames" through which the reader/viewer can navigate. Like the slides in a familiar slideshow format like PowerPoint, each "frame" is made up of an assemblage of items, and can include custom generated text. Items can include images,

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[23] Waku, which I will describe in a moment, was an effort to push the project more toward the alternative focus on the form of the collection.

videos, audio files from the *JDA*. (During the course, Yurkofsky added the ability to upload images not held in the *JDA* as well—students used this feature to add icons, for instance.) Authors can also add text below frames. Here is a screenshot of the editing interface (figure 4.18). The bank of available items is at right; the frame under production is at left. Here is a sample pair of slides from a student project (figure 4.19). Crucial to point out is that this platform enables, and in fact defaults to, nonlinear forms of navigation. By contrast, with the aforementioned GroupStream, built for *18 Days in Egypt*, users can only advance through sequences frame by frame, as in a slideshow—they are "linear" in the basic sense of that term. With the presentation editor, authors have to build the links between frames themselves, as in the left frame in Figure 4.19, where the student has embedded "Click to Proceed." An object within the frame may function as a link to an outside website or to any other frame. Consequently, presentations are explored by clicking links embedded in the pages. As I will discuss, this capacity proved both as a source of difficulty—for both producers and viewers—and as a source of among the most striking qualities of presentations. It was certainly understood as among the more novel qualities. The topics of student projects included: children and nuclear disaster; satire and disaster; language and nationhood; shelter life; and the social significances of Twitter.[24]

Wakus

Waku, the platform for producing "wakus"—a name for its publications had not been decided upon by August 2015—emerged out of a design process set off in the wake of the

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[24] A note on the course: It was a semester-long workshop made up of undergraduate and graduate students from the humanities, sciences and social sciences. Half were Japanese speakers. Each of the first six sessions combined discussion of readings around the disasters with readings around digital and audiovisual production. Alongside these discussions each student selected a topic and began to build a collection of materials. The duration of the course involved sharing emerging research and developing final presentations.
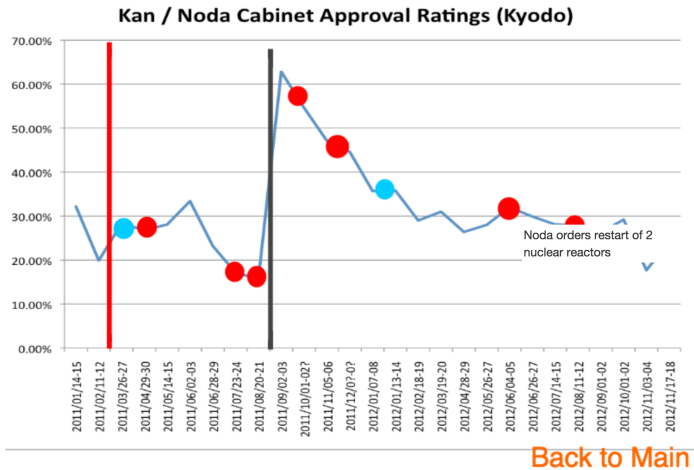
Figure 4.19: Pair of linked slides from student project.

Figure 4.20: Jessica Yurkofsky, mock-up for newsletter annotation.

course. For the sake of showing live design-oriented thinking around assemblage, interaction, and participation—and to highlight the conditions and limits of software development—I can offer a more thorough description of this process than I have around the collection editor and presentation editor. In January 2015, Gordon asked Yurkofsky and me to assess next steps for the presentation editor. What would be needed to improve the editor technically? Were there other features that could be added? Yurkofsky and I explored what a more drastic departure might involve. We did so because we were conscious of challenges made evident during the course: the extreme difficulties in building presentations; students' inability to integrate more sophisticated analysis; technical challenges in supporting the publication form on limited budget; and concern about redundancy inasmuch as other platforms available online could achieve similar ends. Within a few weeks, in dialogue with members of metaLAB, including associate director Matthew Battles, we had developed new concepts, and shared these with the key leader of the *JDA* project, historian Andrew Gordon, and then project manager Nick Kapur.

As they had most informed our thinking around successes and challenges in the course, we pointed first to two students' presentations. In one student's presentation, which focused on shelter life in the city of Kamaishi, we saw a novel attempt to produce a memory field that combined information and expressivity, and that pushed to the foreground primary materials rather than secondary description. But we also noted that the student faced significant challenges in producing the work, given the need to embed links to slides himself, and given the loading time demanded for such media. The second presentation we discussed concerned nuclear protest music in the wake of the Fukushima crisis. (Figure 4.11 is a slide from this presentation; Figure 4.18 is a view of this presentation from the editor side.) In this presentation we saw novel means of working directly with visual materials—documentation of protest performances—as both the

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analyzed objects and as navigational structure for the analysis. But we also noted that the overall complexity of the student's argument was hampered by that nonlinear navigational structure and, as with the first presentation, difficulty of production. Individual frames could not sufficiently support the student's interest in translating and analyzing lyrics. In addition to these two presentations, Yurkofsky and I also pointed to a single digital object that had informed our design thinking: a newsletter from the archive (figure 4.20). Ignorant as we both were of its contents, we nevertheless appreciated not only the spatial layout and the weaving together of text and image, we also appreciated the potential in developing annotation tools specific to such an object. What would it mean to have annotation capacity specific to different media types, as with the capacity to annotate audio files and videos at key moments, or to tag points within frames?

Though Gordon and Kapur were rightly concerned about too drastic a switch, and rightly supportive of the expansive work students had generated, they agreed about exploring the pursuit of new directions. Yurkofsky and I—with Yurkofsky leading the charge—sought a platform for producing micro-publications which would seize especially on the distinct advantages of the *JDA*, but which would not, as the presentation editor appeared to, seem to repeat functions found in other platforms or present the complications of nonlinearity. Our first proposal was a platform based in the vertical slideshow, and inspired by interactive online publications by news outlets like the *Guardian* and the *New York Times*.[25] Users could navigate the materials in this form one by one—or they could scan them through a slider—and examine author's item-specific annotations. Over time, however, the strict emphasis on sequencing individual annotated objects did not seem quite right. The scrolling approach proved interesting, and remains worthy of

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[25] See, for instance, "NSA Files: Decoded." *The Guardian*, November 1, 2013, http://www.theguardian.com/world/interactive/2013/nov/01/snowden-nsa-files-surveillance-revelations-decoded, accessed July 14, 2015.

further study, but it was difficult to discern use cases benefitting from not providing means for more editorial control. (In other words, would these significantly improve upon what collections allowed?) As did the students in building presentations, we faced the same fundamental difficulty with our prototypes around orienting the reader, and around supporting sophisticated forms of analysis and storytelling. Two essential shifts then took place.

The first switch came through interviews with users—a method we had not sufficiently pursued to that point, and from which the overall experiments with the *JDA* would have benefited, and which future research beyond this dissertation could pursue. We met with *JDA* curators Koko Howell and Anna Wada, who had built many of the *JDA's* collections. We asked what they consistently wished for. They agreed: the ability to organize items within collections. The concept had been on the table for a long time, but we had not conceived an evolution of the collection editor as employing it. The second switch came through turning our attention to the work going on with a sister project at metaLAB called Curarium. The latter was a platform that, like the *JDA*, compiled items and attendant metadata from disparate digital collections into a common interface and invites user curation. Developers of that project had built a deceptively simple tool for students in a Spring 2014 seminar—on Bernard Berenson's photographic collection of "homeless" paintings of the Italian Renaissance—to construct short-form presentations with sub-collections of materials. Projects consisted of two columns: on the left, a body of a text, and, on the right, a field to display images gathered from within the Curarium platform. [26] We recognized that the students in that class were performing complex analyses that granted especially close attention to the archival objects—and they could author and edit far more quickly than could students with slideshows. Our challenge became how to integrate the

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
[26] In Curarium, the publication was called a "spotlight." *Curarium*, https://www.curarium.com.

various desiderata into a single, accessible user experience: object-specific annotation; organization into sub-collections; linking between text and objects and sub-collections; and the capacity to develop strong interpretive arguments. Again using open-source libraries, Jessica built "waku," which means "frame" in Japanese. Waku was gradually integrated into the *JDA* over spring and summer 2015. Visitors could click a link from their own or others' collections to build a waku. By August 2015, only a handful of prototype wakus were available to public view.

Here is how waku worked as of August 2015. I begin with a collection—let us say a collection of materials on "debris" and the disasters. Those materials form the basis for the new output, the "waku." From there I toggle between several acts. There is writing: I work on the body of text in the text tray at left. The text can take any form I wish—story, argument, description. This is a screenshot of a sample waku I made during the design process (figure 4.21). There is annotation: I add "notes" to individual objects in my collection. These notes can include links to outside material. With images, notes can be linked to coordinates within the image (figure 4.22). With audio and video, notes can be linked to particular times, such that when a visitor clicks on the marked point on the timeline, they are taken to that point. There is also organization: I can produce hakos—"boxes" in Japanese—that are sub-collections of my materials. An object can sit inside an indefinite number of hakos, although, in this version of waku, annotations persist across all instances. (An example of a displayed hako is visible in Figure 4.10. That hako consists in three images and a website.) Finally, there is linking and embedding: I insert trigger points in my text for user to click on and call up items and hakos, or to link to outside material. The waku appears to the user as three interactive columns, as in this experimental version I made while we worked on waku (figure 4.23). At left is the text. At right is the figure plane. And in the middle are the icons for each of the figures used in the

Figure 4.21: Contributor view of waku editing interface.

Figure 4.22: Contributor adds a note to a photograph with waku platform.

presentation, along with their titles. The reader can trigger the appearance of the objects or

hakos—collections of objects—by clicking the icon in the list of figures, or by clicking on links

in the text. In Figure 4.23, the current object, a YouTube video, is cued to a point in the video

through the note below, which reads: "A widely published photograph shows the wave breaching

the embankment. See, for instance, this LA Times article."

II. Mapping an Aggregation-Based Genre

An alternative to the approach I take here would examine each of the platforms in turn. It

would ask questions like: What were the successes? What were the failures? Why? What lessons

were there for digital crisis archives? It might especially focus on the processes that had

converged to generate changes in the concepts for the project, several of which I have narrated

around waku. These were design processes, but there were also local convergences of culture and

constraint. It would then take stock of successes and failures, and might conclude with

recommendations for the *JDA* and for crisis archives in general. For a period, I conceived of my

integration of the *JDA* project into this dissertation in these terms. Eventually, however, I

recognized such an approach risked eliminating nuance in favor of describing and redescribing

the practical steps taken, and would not advance discussions around digital archival possibility

and around assemblage, interaction, and participation. The alternative I have pursued involved

mapping underlying features and principles as one would in discussing a genre of cultural

production. One hope in doing so is to provide vocabulary and concept building that can remain

relevant through potential change in technology and practice going forward. The division allows

us to flexibly address similarity and difference, and to identify areas of inquiry and practice of

enduring interest, even with shifts in the genre, and the emergence of new publication forms. (All

Debris

Waku by Kyle Parry

JDA collection by Kyle Parry

The debris produced by the tsunami: This short spotlight considers public interest outside the United States. It is the beginnings of a research project, but my hope is that others may find something useful in the seed idea and especially the collection of materials offered.

Firstly let's consider interest in the debris at its first release into the Pacific Ocean, during the unfolding of the crisis, where we might say the view, at least from outside Japan, was equally one of shock and fascination, as these tweets suggest. Like the videos of the tsunami itself, the images of the debris fields were unprecedented in the subject matter and visual distinction alike. Things that shouldn't come together lay open to view from above -- boats, houses, treasured objects. And those things were in places they shouldn't be, harbors, beaches, the open ocean.

This iconic image of a house floating, taken by a member of the United States Navy and dissemminated on their Flickr stream, is a powerful example of the issues I am pondering. Interest in the debris, and overall effects of the tsunami, ran so high that Fox News even dedicated an entire news segment to this photograph, the show's host asking if the image was indicative of the kinds of things the Navy was seeing. News sites and blogs featured the image as well, often cropping it to remove the blur of the helicopter on the left and right sides. Across these media channels we see registers of the many ways of looking at this photo and at the debris generally. Here we have something terrifying and heartbreaking. And yet at the same time there is a dissonance as well, the house's overall structure seemingly intact, as though gently removed from its foundation. Meanwhile it reads as distinctly Japanese and overall serves as a dense and disturbingly efficient icon of the disaster overall.

News stories like this one anticipated the arrival of the debris along the North American coast. Scientists called this a "tragic experiment" and released maps of possible trajectories based on currents.

The second concern of my budding research project: Fast-forwarding to the arrival on the coast, we see pictures begin to surface and nightly news coverage. These displaced objects, the Japanese characters sitting where they shouldn't be...News stories like this radio segment about whether debris on the coast does or does not come from Japan...Fears around radiation...Stories like a football returned to a tsunami victim.

[Japan earthquake and tsunami debris floating towards US West Coast | Mail Online]

JAPAN TSUNAMI 2011

CLICK HERE TO VIEW ALTERNATE ANGLE

6:03 / 14:49

Watch on YouTube.com

1. A widely published photograph shows the wave breaching the embankment. See, for instance, this LA Times article.

Figure 4.23: Visitor view of published waku.

three publications can manifest a certain characteristic; or only two can; or only one can in significant degree, and so forth.) This short section aims to set the methodological terms for the chapter.

As noted above, the inspiration and model for the approach is an essay by Carole Palmer, written when she was a professor in information science at the University of Illinois. Palmer's essay "Thematic Research Collections," published in *A Companion to Digital Humanities*, performs the same conceptual and expository moves as this chapter.[27] She gathers together apparently disparate instances of digital cultural production; she then proceeds to provide conceptual tools for understanding the genre qualities given instances express. In performing these conceptual moves, Palmer provides beginnings for a continued conversation while also highlighting aspects of the genre she recognizes as especially important. I would simply cite my debt to Palmer and proceed to the analysis, except that some of her insights about her subject genre bear upon the present investigation, and the conceptual approach she takes is non-obvious—and I partly modify it for our purposes.

Palmer's topic is what she calls, via John Unsworth, the "thematic research collection."[28] This is a new genre in Palmer's view: such collections are, in basic terms, "aggregations of primary sources and related materials that support research on a theme." They can serve as "virtual laboratories" where "specialized source material, tools, and expertise come together to aid in the process of scholarly work and the production of new knowledge." What she has in mind, writing in 2002, are websites like *The Walt Whitman Archive* and *Salem Witch Trials*.

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[27] Carole Palmer, "Thematic Research Collections," in *A Companion to Digital Humanities*, eds. Susan Schreibman, Ray Siemens, John Unsworth. (Oxford: Blackwell, 2004). http://www.digitalhumanities.org/companion.

[28] John Unsworth, "Thematic Research Collections," Paper presented at Modern Language Association Annual Conference, December 28, Washington, DC. Accessed August 10, 2015. http://people.brandeis.edu/~unsworth/MLA.00.

Both of these are made for and by scholars; both depend on resource collocation; both of them can include additional attributes that aid in exploration or add contextual meaning.[29]

Palmer begins by describing what she sees as the "basic features" of the genre. They are *digital*: "While the sources may also exist as printed texts, manuscripts, photographs, paintings, film, or other artifacts, the value of a thematic collection lies in the effectiveness of the digital medium for supporting research with the materials." They are *thematic*: "A collection theme can be an event, place, phenomenon, or any other object of study." And they provide for *research support*: "they are all intentionally designed to support research." (Palmer does not include another apparent basic feature in her list: that they are *aggregation-based*, as in they gather materials. That said, it is evident through the essay that Palmer asserts a common feature across all thematic research collection work as the practice of collocation.) From here, having established these basic affinities across the genre—having established a baseline of trust in the coherence of the category—Palmer then pursues what she calls its "variable characteristics." Unlike the basic features, she writes, "these characteristics are highly variable. They are not represented in all thematic collections, and the degree to which any one is present in a given collection is varied." This is a crucial move to mimic for present purposes. Variable characteristics allow us to move flexibly between universality, commonality, and specificity. They also allow us to analyze topics and issues that are not necessarily restricted to the genre at hand. Palmer divides these characteristics into two kinds: those concerning "content" and those concerning "function." With regard to content, she points to four characteristics. Thematic research collections are by and large *coherent*: their materials adhere to the theme. They are by

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[29] Among her other examples, all from 2002 or earlier—when the essay was written—are *The Complete Writings and Pictures of Dante Gabriel Rossetti: A Hypermedia Research Archive*; *The Dickinson Electronic Archive*; *Uncle Tom's Cabin and American Culture*.

and large *heterogeneous*: they contain multiple media formats and primary, secondary, and tertiary sources. Many are *structured*: their materials are coded and organized in recognizable formats. And they can be *open-ended*: "they have the potential to grow and change depending on commitment of resources from collectors."

Palmer devotes the bulk of the essay to the function-based variable characteristics. These "emergent function features" are things toward which the components and constituents of thematic research collections—their materials, interfaces, arrangements, textual matter, participants—work, rather than attributes of their content and their arrangement. She examines four. All of them are "scholarly" functions: *scholarly contribution*, *contextual mass*, *interdisciplinary platform*, and *activity support*. Rather than further summarize her claims for each kind, I can share her description of one, *interdisciplinary platform*. Of the project *Monuments and Dust* she writes, Palmer writes:

> The premise is that the aggregation of a diverse sources—images, texts, numerical data, maps, and models—will seed intellectual interaction by encouraging lines of research to have direct bearing on each another and making it possible to discover new visual, textual, and statistical relationships within the collection.

The duration of Palmer's essay is a series of reflections on relationships between thematic research collections and existing library, archival, and scholarly processes and frameworks. She devotes attention, for instance, to a concept of the "humanities laboratory":

> As with scientific laboratories, the most effective places will be those that contain the materials that need to be studied and consulted during the course of an investigation as well as the instrumentation to carry out the actual work. For humanities scholars, a well-equipped laboratory would consist of the sources that would be explored, studied, annotated, and gathered in libraries and archives for an area of research and the means to perform the reading, analyzing, interpreting, and writing that would normally take place in their offices.

As I said, I look closely at Palmer's work for two reasons: to flesh out the conceptual approach I take, and because her concepts bear upon the present investigation. I will draw in

some of her thinking in other instances below, particularly around the function of *contextual*

mass. But how I will draw upon and modify the approach she takes? I follow her inasmuch as I

propose the existence of a genre and pursue a conceptual division between basic features and

variable characteristics. Where I will differ is in the "kinds" of features and characteristics I

address. As noted, Palmer suggests there are two types of characteristics around thematic

research collections: those around content and those around function. In simple terms, this is a

heuristic division between what given instances in the genre are and what given instances do. If

we treat the *JDA* as a thematic research collection, for instance, we can put forward two

overarching variable characteristics. In terms of content, the *JDA* is highly *heterogeneous*: it

contains a wide variety of media types, which are user-generated, primary, secondary, and

tertiary. (By contrast, *ARLIS* is relatively *homogeneous*. The content of this archive is

photographs.) In terms of function, the *JDA* carries Palmer's broadly construed characteristic of

interdisciplinary platform, which I introduced above. On this count, in the second grant

application from which I quoted, we appeared to make such a claim:

> Natural and man-made disasters forcefully challenge disciplinary divisions because of the
> diversity and interdependence of variables they collapse together, from the natural to the
> social to the experiential. Moreover the sheer scale and complexity of their effects
> challenge the capacities of conventional modes of thinking, computing and presentation.
> It is clear that interdisciplinary, media- and data-integrated responses are crucial.[30]

The *JDA* "does" this work of interdisciplinary platform, and, like other function-based variable

characteristics, this characteristic could become the object of active intention on the part of both

builders and participants—through technological shifts, the addition of content, teaching

exercises, and so forth. For reasons that will become clear, the genre of the crisis archival sub-

assemblage suggests the addition of two further kinds of characteristics beyond content and

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[30] Reischauer Institute of Japanese Studies and metaLAB, "Hauser Grants 2012–2013 Full Proposal Information,"
(Grant Application, Cambridge, MA, 2012): 8.

function. "Context" will refer to the conditions of the sub-assemblage's production and reception: when and where sub-assemblages are made or viewed. "Process" will refer to characteristics around the participatory processes that go into their production. I thus explore content, context, function, and process.

III. Crisis Archival Sub-Assemblages: Basic Features

Like the variable characteristics I will address, each of these basic features could occupy significant analytical attention in itself—serving as the basis of an entire study in some cases. In what follows, in some cases I comment on questions for further consideration, but I reserve the core of the analysis for the variable characteristics in the following section, particularly those of function and process. Here then are basic descriptions of the basic features. There are five.

First, in terms of their content, sub-assemblages—of which collections, slideshows, and wakus constitute three kinds—are *digital archival*. They are made up of items logged within an archive—even if not uniquely held there—and those materials are digital. It is important to note, although we will not have the space to address this profound question, that the meaning of "item" is unstable—these are copies and, in the case of collections, the item is actually situated elsewhere. An item is perhaps more properly understood as a heterogeneous complex of preview and data, or as an assemblage of elements and processes. Second, the materials and the subject matters of sub-assemblages are, to whatever degree, *event-related*—they relate to the crises to which the archive is devoted. Of course, numerous issues are raised by this feature, but I would point to an inherent and again challenging one, which this dissertation has not yet addressed, and which I will leave open. What counts as event-related? At what level of causal remove is something deemed relevant? In effect, the crisis archival sub-assemblage makes a claim through

its very publication that its materials and subject matters re relevant to the digital memory of the given crisis. Third, sub-assemblages are, like thematic research collections and digital crisis archives, *aggregation-based.* That is, whatever the variety of outputs and other characteristics, sub-assemblages depend on processes of selection and gathering. This feature is responsible for many of the most important variable characteristics I will explore. It is also among the most important aspects in terms of the politics of inclusion and exclusion in this and other archives. What gets included? What gets excluded? Do digital crisis archives weigh attention too much toward what can appear within the digital? The latter question surfaced repeatedly at a January 2013 symposium at Harvard called "Opportunities and Challenges of Participatory Digital Archives: Lessons from the March 11, 2011 East Japan Disaster."[31]

The fourth and fifth basic features of sub-assemblages are less immediately articulated. The fourth: sub-assemblages are *configural.* That is, whatever the variety of outputs and other characteristics, sub-assemblages appear at least in part as collocations of elements, and depend in part on relationships between elements. Viewers of collections find discrete items and attendant metadata; viewers of presentations find frames constituted of archival elements, and the frames have individual standing; and viewers of wakus find referenced elements and attendant, discrete notes and annotations. There are connections between this quality of sub-assemblages and Lev Manovich's concept of the "database" as a cultural form manifest across multiple types of new media like websites, CD-ROMS, and video games. He writes in *The Language of New Media*:

> ...from the point of view of the user's experience, a large proportion of [new media objects] are databases in a more basic sense. They appear as collections on which the user can perform various operations — view, navigate, search. The user's experience of such

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[31] I wrote a "field report" on the ideas discussed at this event for the online journal *Contents*. Kyle Parry, "Notes from the Participatory Digital Archives Conference," *Contents* 5, January 2013, http://contentsmagazine.com/articles/notes-from-the-participatory-digital-archives-conference.

computerized collections is, therefore, quite distinct from reading a narrative or watching a film or navigating an architectural site.[32]

Manovich's metaphor of the database has the virtue of calling attention to the underlying architecture in new media, but it sacrifices attention to the associative and the experiential in configuration and assemblage. The use of the term "configural" is meant to highlight the necessarily relational quality of actual engagement. It is another way of naming the effects of assemblage, as with the photographs in *ARLIS* and the photographic collections in the *Memory Bank*, which generate formal effects through the combination of individual elements. (I see further reason to use the term "configural" here because it accommodates the inclusion of writing within the work upon slideshows and wakus. Authors produce configurations of verbal language and objects for their readers/viewers—yet another line of inquiry raised by this proto-genre.)

The fifth basic feature: sub-assemblages are *embedded.* The feature is instanced in the inclusion of the term "sub" in the genre's title. Sub-assemblages are dependent upon and enmeshed within a larger aggregate of archival objects, interfaces, and micro-publications. Consider the far more familiar alternative: publications like films, articles, or books that depend on archival materials, or upon reference to them, but which do not appear within archives. These travel through multiple channels. If they are to be housed in cultural collections, they will be housed in libraries, set within commercial databases. Sub-assemblages, on the other hand, are produced and accessed in and through archival contexts. With regard to the *JDA* sub-assemblages, the nature of their embedded-ness, as dictated by the nature of the platform, varied. Collections were accessible on a collections page, and, when selected, viewed "within" the archive. Presentations and wakus were accessible through links from the collections they drew

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[32] Lev Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2001), 219.

from, and viewed individually. (For my part, in the future, wakus would appear as collections do: on a common page, rather than yoked to and accessible from individual collections. Such issues were under only just under discussion as of August 2015.) As with the other basic features, the quality of embeddedness is worthy of closer consideration. We have to ask, for instance, what would motivate a would-be participant to devote work to publication at the archive versus in other channels or other contexts?

IV. Crisis Archival Sub-Assemblages: Variable Characteristics

Apart from the functions and processes addressed in what follows, there are a number of characteristics of content and context especially important to point to for the purposes of an initial mapping of the genre of the sub-assemblage. The first two of five concern "content" and are among those Palmer identifies for thematic research collections. For one, like thematic research collections, sub-assemblages are by and large but not by necessity *heterogeneous*: they contain multiple media formats and primary, secondary, and tertiary sources. Second, as can be some thematic research collections, sub-assemblages can be *open-ended*. That is, the sub-assemblage, while "published," can continue to grow and change over time. Palmer included this among the variable characteristics of thematic research collections. Michael Mizell-Nelson, the key leader of the *Hurricane Digital Memory Bank* project quoted in the last chapter, writes, "In an effort to build on the general understanding of time capsules, at times I cast the [*Hurricane Digital Memory Bank*] as a 'timeless capsule.' One may file and forget the information, but one

can also revisit the database and provide updates."[33] The proposition of endless modification of course raises a host of issues both challenging—volatility, reliability, how to indicate changes, versioning—and intriguing—on the fly correction, updating and improving, inviting others' input.

The other three important characteristics are of the additional type I have put forward as "context." Sub-assemblages can be *emergent*. They can gather together materials held in a common archive which reference events near-at-hand or ongoing. This term will stand for the distinctive sense in which networked archives conflict with our habituated picture of archival temporality: that archives hold materials long from the past, or that we view materials held in archives at historical removes. This strikes me as an especially relevant and suggestive feature, which the *JDA* could not fully seize upon, as it was not yet built at the time of the disaster. The emergency communication platform Ushahidi, on the other hand, is built for the sake of *emergent* additions to the database—communications that need to be addressed with action—but it does not carry with it the capacity for producing sub-assemblages, nor, as far as I am aware, are there protocols for preservation.

Sub-assemblages can be *collaborative*. None of the platforms, as of August 2015, enables multiple users to work on a single collection, presentation, or waku through more than one username—but participants can produce shared publications if they use a shared login. (Students in our class did just this in an assignment I will discuss below in the section on the characteristics of *assemblage-based learning*.) The last of the context-related variable characteristics I would point to is *transmissible*. There is not an adequate term for this characteristic: it indicates that

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[33] Michael Mizell-Nelson, "Not Since the Great Depression: The Documentary Impulse Post-Katrina," in *Civic Engagement in the Wake of Katrina*, eds. Amy Koritz and George J. Sanchez (Ann Arbor, MI: University of Michigan Press, 2009), 68.

users can pull materials from others' sub-assemblages into their own. Collections allow for this. Hypothetical evolutions of waku and the presentation editor could introduce this feature as well. This feature enables distributed processes of collaborative participation.

Trailblazing and Scaffolding

I now turn to the heart of the analysis: the variable characteristics of function and process—in short what sub-assemblages make possible for their makers and audiences in various endeavors of disaster memory, research, and communication, as evidenced through the *JDA*. Alternative studies of sub-assemblages would in all likelihood select an alternative set of variable characteristics from those I offer here. Choice depends on intent and perspective. In Palmer's case, she is focused on "scholarly functions," and selects out four articulated in vocabularies matched with the expectations of the field of information science. (These were *scholarly contribution*, *interdisciplinary platform*, *contextual mass*, and *activity support*.) I have analyzed those that reinforce or introduce new perspectives on the permutations of assemblage, interaction, and participation; that seem especially poised to have impact—but which are perhaps less readily discernible.

We can find anticipation of a first pair of variable characteristics—*trailblazing* and *scaffolding*—as far back as 1945. I am thinking of Vannevar Bush's "As We May Think."[34] The essay, a staple of media theory syllabi, is typically referenced as a laying of the conceptual groundwork for hypertext and the web.[35] An imagined machine called the "memex"—which combines "memory" and "index"—provides its user access to a world of microfilmed documents

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[34] Vannevar Bush, "As We May Think," *The Atlantic Monthly* 176.1 (July 1945): 101–108.

[35] See, for instance, Vannevar Bush, James M. Nyce, and Paul Kahn, *From Memex to Hypertext : Vannevar Bush and the Mind's Machine*, (Boston: Academic Press, 1991).

brought into association with each other through links. These appear on one or two panels, not

unlike computer monitors. Crucially, the user is not only a consumer of individual pieces of

information. She is also a producer and preserver of meaningful associations. She makes "trails."

Trails are essentially networks of linked records held within the memex:

> …when numerous items have been thus joined together to form a trail, they can be reviewed in turn, rapidly or slowly, by deflecting a lever like that used for turning the pages of a book. It is exactly as though the physical items had been gathered together from widely separated sources and bound together to form a new book. It is more than this, for any item can be joined into numerous trails.

Users can add comments:

> Occasionally he inserts a comment of his own, either linking it into the main trail or joining it by a side trail to a particular item.

Bush describes a number of scenarios for the use of trails:

> And his trails do not fade. Several years later, his talk with a friend turns to the queer ways in which a people resist innovations, even of vital interest. He has an example, in the fact that the outraged Europeans still failed to adopt the Turkish bow. In fact he has a trail on it. A touch brings up the code book. Tapping a few keys projects the head of the trail. A lever runs through it at will, stopping at interesting items, going off on side excursions. It is an interesting trail, pertinent to the discussion. So he sets a reproducer in action, photographs the whole trail out, and passes it to his friend for insertion in his own memex, there to be linked into the more general trail.

> Wholly new forms of encyclopedias will appear, ready made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified. The lawyer has at his touch the associated opinions and decisions of his whole experience, and of the experience of friends and authorities. The patent attorney has on call the millions of issued patents, with familiar trails to every point of his client's interest. The physician, puzzled by a patient's reactions, strikes the trail established in studying an earlier similar case, and runs rapidly through analogous case histories, with side references to the classics for the pertinent anatomy and histology. The chemist, struggling with the synthesis of an organic compound, has all the chemical literature before him in his laboratory, with trails following the analogies of compounds, and side trails to their physical and chemical behavior.

> The historian, with a vast chronological account of a people, parallels it with a skip trail which stops only on the salient items, and can follow at any time contemporary trails which lead him all over civilization at a particular epoch…

Bush then suggests:

> …There is a new profession of trailblazers, those who find delight in the task of establishing useful trails through the enormous mass of the common record. The inheritance from the master becomes, not only his additions to the world's record, but for his disciples the entire scaffolding by which they were erected.

> Thus science may implement the ways in which man produces, stores, and consults the record of the race.

His descriptions of trails end here—the duration of "As We May Think" proclaims the promise of yet grander innovations, including direct linkages between memex and the brain.

An array of observations and suggestive language—what does it offer to our discussion? It is tempting to read Bush's enthusiasm for the memex strictly in terms of storage and retrieval. Here is an imagination of hyper-enhanced accumulation and dissemination. And this is indeed partly valid as a description of trails: the individual user produces readily retrieved pathways to materials under a theme. Professionals and researchers consult those materials in familiar manners. But the world Bush conjures here is more complicated and unusual. The trail brings new processes of thinking and communicating into being. These depend on connection. (Bush writes, "The process of tying two items together is the important thing.") Unfortunately, Bush does not offer further description of this thinking and communicating beyond what we find here. We can adapt his provocations, however. Trails are record-based publications which embed knowledge and communicate in novel ways based in the arrangement of objects and the insertion of text, but which function differently than other forms built out of collections, in both the context of those trails' publication—embedded within the machine and its collections—and in the integrity the individual objects retain, not only referenced, but there, as copies. In other words, they are not quite articles or books, but they likewise depend on collections of materials. Bush's imagined trails can have many of the basic features and variable characteristics we have

described around sub-assemblages like *heterogeneous*, *open-ended*, *transmissible*. Of most acute

interest for our purposes are variable characteristics of process and function they exhibit. Bush

offers a term that explicitly describes a trail-specific process: *trailblazing. Trailblazing* is the

practice of combing through materials and conceiving of connections, not necessarily in that

order. (To use Palmer's language, the memex allows users to "capitalize on internal collocation

to create multiple collections with different structures and perspectives from an underlying base

of holdings.")[36] *Scaffolding* is less readily described. In one sense, Bush is suggesting the

material undergirding of given contributions—the different documents upon which his imaginary

researcher's—the "master's"—claims depended, for instance. But scaffolding also invites

imagination of something emergent: the relationships across those documents and what they

contain that fed into the research claim. Scaffolding thus names an epistemological and narrative

in-between. As scaffolding, whole trails or sub-sections of trails—collections of records, their

linkages, and added text—can function multiply: as archives of accessible materials, as readable

media artifacts, and the means and encouragement to further research or further trailblazing.

How do the two characteristics manifest in the three forms of sub-assemblages? With

what variations and implications? We can start with collections, which resemble Bush's

hypothetical trails in their simplicity as collocations of sequenced objects with minimal textual

addition. Consider the following pair. The first was published by Andrew Gordon in April 2014

(figure 4.24). Called "Tohoku History presentation materials,"[37] it is described hence, "This

collection contains materials offering post-disaster and disaster-inflected views of the history of

Tohoku, as preparation for a presentation on this topic in Fukushima in October 2014." The

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[36] Palmer, "Thematic Research Collections."

[37] Andrew Gordon, "Tohoku History presentation materials," *Japan Disaster Archive,*
http://jdarchive.org/en/collection/1696194.
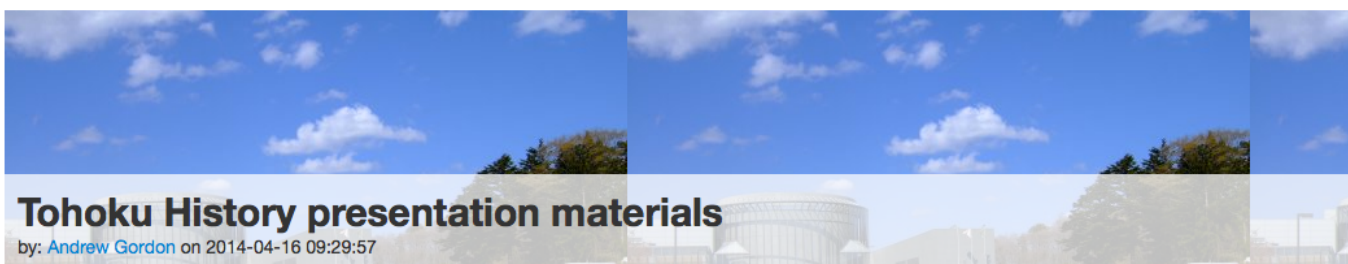
Tohoku History presentation materials
by: Andrew Gordon on 2014-04-16 09:29:57

Collection Description:

This collection contains materials offering post-disaster and disaster-inflected views of the history of Tohoku, as preparation for a presentation on this topic in Fukushima in October 2014

No location information
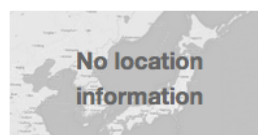
create Waku

29 items
☐ Exclude Re-Tweets   Relevant ▼

NHKスペシャル｜～震災ビッグデータ～
http://www.nhk.or.jp/datajournalism/

This is the public website for the extraordinary NHK special on using big data and mapping aspects of the disaster.For instance, the loss of business contacts of Tohoku companies to the rest of Japan

June 13th, 2014
12:00 PM

NHK archived report on 8-2011 festival

Report on 400 year old festival in Rikuzentakata and controversy over how to celebrate it, focuses on one young man who lost six family members

June 7th, 2014
12:00 PM

Figure 4.24: Andrew Gordon, "Tohoku History presentation materials" (collection).

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second was published by Koko Howell in October 2014 (figure 4.25).[38] It bears the title

"Disaster Prevention, Reduction & Education." Howell writes:

> This collection contains information on disaster education, which includes both successful examples from the 3.11 disaster and new disaster prevention education implemented after the disaster. Testimonials and newspaper articles listed in the collection send the strong message that disaster prevention education should start at an early age.

There follows a mix of archived websites, single photographs, PDFs, headlines, and two

testimonials. As will be the case with most of the examples I pursue here, my concern is not in

the first instance with the subject matter of the sub-assemblage, but with the lessons for the

proto-genre and for digital crisis archives that we discover. Here I am asking: Do we see the

characteristics of trailblazing and scaffolding at work in either of these collections? With what

inner workings and implications? We can consider trailblazing first. The two collections show

two different kinds. On the one hand, Howell's collection on disaster prevention is direct

trailblazing. She has constructed a vision of a topic and pursued production of an assembly of

items and attached attendant language. Numerous other collections among those produced as of

August 2015 were the result of this kind of work. On the other hand, Gordon's sub-assemblage is

framed as a kind of contribution of materials after the fact. It is a sharing of materials used in the

collection builder's focus on a research project—in generation of an output elsewhere.[39] If there

is "trailblazing" here, it is in the more diffuse sense of research as a process of drawing

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[38] Koko Howell, "Disaster Prevention, Reduction & Education," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1923634

[39] To provide another example with slight variation, consider another collection's self-description: "This collection is focused on gathering information regarding the manners in which the social media platform, Twitter, has been used as a tool in the aftermath of the disasters. Thus far the concentration of the usage has been geared towards using Twitter as way of gathering volunteers, spreading knowledge, providing hope, mini activism, and overall, helping others." In what follows, articles sit alongside tweets sit alongside videos. The author uses the submission of objects through the bookmarklet as opportunity to comment. She writes in one instance: 'Learning curve and lack of access to smart phones and computers restrict Slactivism [sic] to small subset of the population.'" Meg Quintero, "Meg – Twitter Data and Hope," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1534569.

Figure 4.25: Koko Howell, "Disaster Prevention, Reduction & Education".
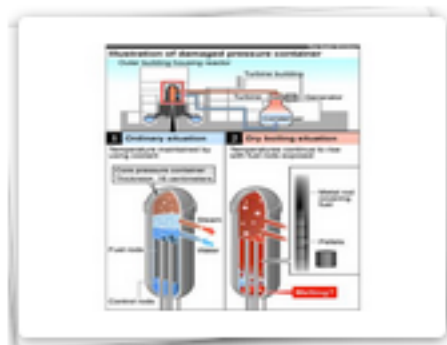
Figure 4.26: Pair of collection icons.

connections among materials, not as direct confrontation with the unusual proposition of generating meaningful assemblages imagined as eventually reused and recombined, and potentially carrying knowledge production that is non- or extra-narrative in nature.

What can we say of scaffolding in these two cases and others? Recall that I am using the term in a slightly modified sense from what Bush offers. (Again, we might well scan Bush's meaning for scaffolding as the materials used in research. But the meaning is more complex: it is both those materials and what, through selection and arrangement, has been generated for knowledge and understanding.) The measure of a sub-assemblage carrying the characteristic of scaffolding lies in the practices of interaction—reading, scanning—and interpretation and use they make possible. Has the sub-assemblage functioned as scaffolding, or can it in the future? Both of these instances manifest scaffolding, and do so in the multivalent fashion that distinguishes the function: For a researcher engaged in a relevant process, these materials can serve as means of advancing research in this area or in something related. Alternatively, the collection might serve more as communicative apparatus than as a repository of materials. Howell's prescriptive claim about disaster prevention education—that the materials "send the strong message that disaster prevention education should start at an early age"— might be taken as further inspiration, or as a point to resist, depending on that reader's evolving understanding. Should the reader/viewer spend time exploring these materials, she might find herself involved in a process of learning and illumination—unguided, as though paging through an album of materials without comment—which is not necessarily yoked to a pre-formed research agenda, or undertaken in an official research context. Sub-assemblages as scaffolding are publications intentionally in process.

How would we account for trailblazing and scaffolding in presentations and wakus? The reader will likely anticipate a claim that the latter are especially capable of exhibiting both characteristics. An experimental example of a waku, which I am imagining for analytical purposes, could test the suggestion. Consider a pair of collections published by Anna Wada, a member of the *JDA* team, in October 2013. We can use these as the basis—the scaffolding—for our experimental waku. One is titled "Radioactive water leakage (2011-2013)" and is introduced hence:

> In September 2013, Japan pledged nearly $500 million to contain leaks at the Fukushima Daiichi nuclear plant and decontaminate radioactive water. This collection includes related articles from 2011, leading up to the renewed discovery of highly radioactive water leaking from an aboveground tank in 2013.[40]

It contains 85 items, most of them websites. There are also tweets, and a testimonial. The other is titled "Radioactive water leakage (2013)" and is introduced hence: "This collection includes articles from various perspectives on the renewed discovery of highly radioactive water leaking from an above-ground tank in 2013."[41] The latter collection consists entirely of websites. Wada achieves several things with this pairing: she highlights an incident of apparent import in the history of the Fukushima crisis, provides materials for study of that event and others like it, and conveniently divides the materials by time—precursors to the moment of the discovery and records from the moment of discovery. In other words, Wada has taken an important event in the history of response to the Fukushima crisis as not only occasion but also structuring device for collections of materials within imagined potential use. This is a seminal instance of producing scaffolding, and doing so through more than mere collocation of items under a theme. There is a

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[40] AW, "Radioactive water leakage (2011-2013)," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1541829.

[41] AW, "Radioactive water leakage (2013)," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1541830.

Figure 4.27: Prototype waku, "Radioactive Water Leakage: Materials and Angles".

Figure 4.28: Andrew Gordon, "Tohoku History presentation materials" (waku).

temporal structure and research potential embedded in her pair of micro-publications. But it is also evident that there is some awkwardness in the realization of her concept. The two collections sit alongside each other, but there is not obvious indication that they belong to the same scaffolding (figure 4.26). A concept for a waku—my invention for present purposes—allows for realization of the concept: "Radioactive Water Leakage: Materials and Angles" (figure 4.27). It also invites further operations. She can embed perspectives and commentary. She can form items into sub-groups and annotate them. In short, she can provide scaffolding with far more dimensions and contextualizing information, but which is also cognitively manageable for the reader, and which remains situated in a single publication. Stepping back to consider the spotlight within the larger picture of knowledge production around the disasters, it is hard to imagine another context in which such acts of trailblazing and scaffolding construction are intelligible and supported. A journalist could assert the importance of this particular discovery of radioactive leakage, but she would not offer the assemblage of objects in the same way, nor would the piece lie embedded within an archive, its materials—in a conceivable future version of waku—transmissible into other sub-assemblages. Key questions haunts this assertion, and Bush's: Who is to perform this labor of trailblazing? Are we capable of constructing and reading scaffolding? What about reliability and veracity?

Finally, turning to presentations, at first glance, we might simply suggest that they follow wakus in favoring scaffolding. It is merely the manner of presentation that differs. But the experience of working with students in the course suggests a more complicated picture. Throughout the semester and in concluding reflections, students reflected on "cataloguing" as a problematic attraction for their work on presentations. In effect, this meant the construction of a presentation that compiled materials into the interface around a topic, but did not offer to the

reader/viewer significant narrative or argumentative structuring as well. (One student described the practice as one of embedding "implicit theses" rather than presenting "explicit theses.")[42] Our brief look at collections and wakus suggests that the provision of knowledge and communication in the form of objects and associations creates the effect of scaffolding, and can be done with relative ease. The lack of explicit theses is either unacceptable—inviting miscommunication and false interpretation—or a virtue, part of an alternative language for event representation and memory—contending with the difficulties in scale and complexity with which large-scale events confront us. Here, however, there are three confounding factors. For one, the presentation format is not especially suited to the reader/viewer's scanning and exploration of those materials. (Ease of immediate scanning was among the factors Bush identified as salutary for "trails.") Second, the level of labor involved in arranging and organizing materials into the frame format makes the effort overly arduous. And third, from the perspective of the producer and the visitor, the format can appear better suited to other modes of communication. In the language of this chapter, the presentation form of the sub-assemblage would appear to favor variable characteristics other than trailblazing and scaffolding. I will explore one of these, *exhibition*, in a moment.

Before doing so, it is worth shifting from a descriptive mode to a more prescriptive mode. In effect, I am suggesting that the *JDA* interpellates the user as a would-be trailblazer who would devote energy to producing and sharing scaffolding—whether produced in custom form or the legacy of an unfolding or past research process. Is this a worthy interpellation? Is it feasible to expect such production? We can consider a waku Gordon produced based on the above

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[42] That student elaborated: "There is a spectrum between the implicit theses that the categorization and organization of information contains, and the more explicit theses that interpretive, analytical reading of that information develops."

collection as a demonstration of the platform (figure 4.28).[43] The narrative of "Tohoku History

presentation materials" has two parts. The first part introduces the waku and gives background

on its production: it is meant partly to demonstrate the uses of the archive and of the waku

platform. The duration of the waku follows from this assertion: "My admittedly limited research

both into materials accessible in the JDA, and materials otherwise available in digital form and

collected through the 'bookmarklet' suggests that the history of Tohoku is discussed in three

main ways in post-disaster Japan, with a range of aspects within each category." He moves

through each of these ways of discussing the history of Tohoku: a commitment to preserve the

record and memory of Tohoku's history; "reinforcement of the idea that Tohoku has been as a

periphery or internal colony that has suffered as a result"; and efforts to articulate a history "that

denies or goes beyond that of subordination to the center." For the latter two, he includes sub-

perspectives. Throughout, Gordon refers the reader to materials—websites, images, and tweets—

to which he has appended notes.

Two things stand out about this waku that will aid in taking a prescriptive view of the

pursuit of trailblazing and scaffolding in sub-assemblages. On the one hand, there is a risk which

echoes that observed around the presentation: that a set of phenomena has been catalogued

extensively without the development of attendant theses and sufficient context. From this

perspective, Gordon has committed considerable labor, but the reader-viewer does not

necessarily have sufficient tools to appreciate the connections that have been drawn, nor are

lessons learned. On the other hand, there is a distinctive and rich mode of knowledge production

at work here. The sub-assemblage encourages conceptualization of post-disaster realities in terms

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[43] Andrew Gordon, "Tohoku History presentation materials," *Japan Disaster Archive*,
http://jdawaku.herokuapp.com/#en/proj/539203537e1b100200000021/view.

to which other media are not as conducive. A wide swath of history is engaged in a short space, and both researcher and reader-viewer are able to engage that history in both the conceptual categories offered, and in the actual pieces of evidence deployed. Furthermore, the openness in reception and potential re-use would appear to hold potential.

Exhibition

Like trailblazing and scaffolding, *exhibition* is a permutation of assemblage, interaction, and participation. The term will stand for sub-assemblages appearing and functioning in manners akin to physical exhibitions. The claim recalls the work undertaken in the first chapter in interpreting the dynamics of photographic assemblage in *ARLIS.* There I compared the effects generated through the gathering of photographs in Flickr to various media forms likewise based in collocation, in particular albums and comics. I suggested one subset of imagery, a sub-collection by John Lyle, could be understood as functioning like a photographic exhibition. The images belong to a shared thematic: oil and nature. The viewer can interpret the provocation of their convergence. There is affective force to their convergence. I read in particular the problems of ambiguity and invisibility in oil violence. Individual photographs were open to reading individually or in terms of the shared thematic.

As a "variable characteristic," *exhibition* is differentially likely and supported across the three forms of publication. I noted above that the slideshow appears especially suited to the function. We can interpret the thirteen slideshows across a crude divide of apparent successes and challenges and thereby get at the characteristic. Two student projects are particularly instructive around successes. Both seized upon the sub-assemblage as an opportunity to construct spaces of sustained contemplation of post-disaster realities. The first student's topic was art and

disaster. The presentation begins with a question: What role can art play in the wake of extreme violence? Following his invitation to further explore further frames, we encounter a carefully organized and vast catalog of instances (figure 4.29). Many of the artworks are accompanied by voiceovers with the students' ideas about the works and the larger question. At its best, the student's presentation situates the viewer in the middle of thinking through art practice as resilience. It is also an archive of documentation as much as of art. For my part, I find myself contemplating the partial traces that live performances leave in the network as much as I do the material force of music and performance in communities facing tremendous adversity. The second student's topic was life in shelters in the City of Kamaishi after the tsunamis. The student compiled and organized an extraordinary amount of material into a series of slides organized chronologically, populated by numerous media. For each navigation pane the student recorded a voice-over giving a general picture of the time period. From any given pane the user could dive into more material or opt to move to the next (figure 4.30). We see in this presentation a novel means of object-rich telling storytelling, an innovative hybrid of collection and narrative. At the same time, analytical stakes come through, as the student posed critical questions about the possibilities and political dangers in this provocative form of distanced, digital anthropology. He wondered about the potentials in pursuing

Alongside the apparent successes these two slideshows evidence in the form of exhibition—teaching, moving, and perhaps also leaving open room for viewer interpretation—two key challenges stand out, both of which I alluded to in the discussion of trailblazing and scaffolding. For one, these two presentations and many of the others were made only with great pains—and the platform could not accommodate ambitions the two had which other platforms

Figure 4.29: Sample slide from student presentation on art and disaster.

Figure 4.30: Sample slide from student presentation on shelter life.

might enable. The second challenge is expressed by the builder of the art and disaster

presentation in a reflective essay written at the conclusion of the course:

> Some students organized their resources in such a way so the sources told the story with minimal narration while others guided readers to the correct conclusion with a heavier hand. While much of the preparatory work remains the same in assembling these research projects, rigidities in the editor software limited the complexity of the stories that could be told while using it. Furthermore, creating a sensible navigational structure in the editor was a much more involved, time-consuming process than with a normal research paper outline…the argument became much simple than one presented in a research paper… presentations [had] much more limited complexity than intended upon at the beginning of the semester.[44]

It was well within both of these students' power to do the interpretive and design work to

integrate analysis with exhibition. But the interface constrained these opportunities and the labor

involved denied analytical effort time and space. Students would have been restricted to essay

writing beneath the frames, which would have meant departing from the basic ambition his

project and the value embedded in the editor: media-rich, spatialized and semi-immersive

encounter. As the student who built the Kamaishi shelter archive reflected, he had an ambition

toward "the minimization of text usage and the maintenance of the user's attention almost

exclusively on the frame itself."

At first glance, it would appear that the sense of spatial encounter and user-driven

exploration, and the curatorial act of granting networked location to disaster-related

phenomena—these important qualities of exhibition—require a format based in open canvasses

like the presentation editor. Furthermore, it would appear necessary to pursue a format that

explicitly mirrors the exhibition, or other spatializations of historical materials like archives, as

the students here have done. But some *collections*—for all their apparent bareness and strict

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[44] Out of respect for student privacy, I have only used materials—quotations and samples from projects—from students who kindly agreed to let me use their work, and I have not quoted any student by name. All quotations are taken from students' end-of-semester essays, which accompanied their final presentations, and were spaces for them to reflect on the course, on archives and disaster, and on digital research and scholarship.

function as repository and scaffolding—appear to generate comparable effects to exhibition-rich presentations, and do so in unexpected and powerful ways. Most striking is a collection published in November 2014 called "The Language of Flowers" (Figure 4.31).[45] The description reads:

> One may not notice, but flowers can play a powerful role in the emotional state of a person. Flowers hold many different and special meanings. In general, the action of giving flowers represent [sic] an act of kindness and for showing care. They also symbolize hope and rebirth. In the Fukushima Prefecture it embodied economic prosperity since it was their major product. For a short blog posting regarding "The Message of Flowers," visit: http://blogs.dickinson.edu/japanese-ecocriticism/2014/11/07/the-message-of-flowers.

Beneath the description sit, as of August 2015, twenty-seven items including news stories, images, tweets, a video, and a testimonial. The news stories describe mourning and resilience: "National mourning in pictures" and "Endangered flower blooms in Fukushima Prefecture after tsunami." The images reveal arrangements of flowers in devastated areas. Why would we count this collection among the sub-assemblages that manifest the characteristic of exhibition? Certainly, apart from such characteristic, the collection is an instance of trailblazing and scaffolding. Researchers can find materials of use; Rose has engaged in acts of finding potentially valuable and interesting trails through the common record. (And the blog post to which she links allows us to view some results of the scaffolding she develops.) But there is more at work. Through factors of topic, format, and arrangement, Rose has generated further qualities—the collection serves further functions. To call upon Chute's description of comics as archives referenced in the first chapter, Rose's collection "makes a location for ordering information to express history and memory."[46] The collection stands on the web as a space of

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[45] Jasmine Rose. "The Language of Flowers." http://jdarchive.org/en/collection/1933311.

[46] Hillary Chute, "Comics as Archives: MetaMetaMaus," *e-misférica* 9.1–9.2 (2012). http://hemisphericinstitute.org/hemi/en/e-misferica-91/chute.

The Language of Flowers (花言葉)
by: Jasmine Rose on 2014-11-07 01:30:29

Collection Description:

One may not notice, but flowers can play a powerful role in the emotional state of a person. Flowers hold many different and special meanings. In general, the action of giving flowers represent an act of kindness and for showing care. They also symbolize hope and rebirth. In the Fukushima Prefecture it embodied economic prosperity since it was their major product. For a short blog posting regarding "The Message of Flowers," visit: http://blogs.dickinson.edu/japanese-ecocriticism/2014/11/07/the-message-of-flowers/

No location information
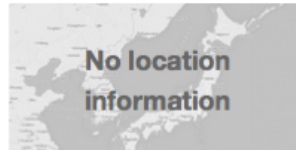
27 items   ☐ Exclude Re-Tweets   Relevant ▾

National mourning in pictures
by: Jasmine Rose

March 12th, 2012
12:00 PM

Sirens wailed, bells tolled and tears flowed across Japan at 2:46 p.m. on March 11, as the nation mourned victims on the one-year anniversary of the Great East Japan Earthquake.

Many people, many ways to pray at 2:46 p.m.
by: Jasmine Rose

April 12th, 2011
12:00 PM

A month has passed since the Great East Japan Earthquake struck, leaving more than 13,000 people dead and nearly 14,000 missing. In disaster-hit regions and across Japan, silent prayers were dedicated to the numerous v

Figure 4.31: Jasmine Rose, "The Language of Flowers".

testimony to a distributed practice of responding to crisis through flowers, and the topic of flowers is itself conducive to visual display. The collection has been configured to achieve more than the provisioning of access to materials under a theme. A photograph of flowers, rendered in triples, provides the background. The collection of objects is not strictly a set of materials awaiting a knowing researcher's scanning eye, but a chorus of embedded objects—narratives, fragments, images. The collection sits on the web as a commemorative site. Like an exhibition, it offers to display and invites close view. It serves to move and to teach as much as to provide a resource for remixing and research. Conceivably transformations of these materials could constitute the materials for an actual physical exhibition. Were a future version of the *JDA* to allow me to comment on her collection, I would offer a quotation from the philosopher Jean Luc-Nancy, written in response to what he perceived as the dangerous instrumentalization of the world laid bare in the violence of the Fukushima crisis:

> For estimation—or valuation—belongs to the series of calculations of general equivalence, whether it be of money or its substitutes, which are the equivalence of forces, capacities, individuals, risks, speeds, and so on. Esteem on the contrary summons the singular and its singular way to come into presence—flower, face, or tone.[47]

I will touch upon a concept of *archival dialogue* in the Conclusion.

Recombination and Redirection

I put forward *recombination* and *redirection* as two separate characteristics that can have close relationships with each other, which manifest especially in wakus, and that correlate with *trailblazing* and *scaffolding*. *Recombination* is a process characteristic. In the most general terms, this is the practice of navigating and analyzing existing arrangements of documentary materials

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[47] Jean-Luc Nancy, *After Fukushima: The Equivalence of Catastrophes*, (Oxford, UK: Oxford University Press, 2014), 39.

and representational arrangements, and responding to relationships of interest through the construction of new arrangements—new combinations. It involves consciousness of documentary and perceptual arrangements around large-scale events. I am thinking of Judith Butler's claim, seized upon in the previous chapter, around capacity and apprehension: "there are a number of structures—the media, in all its senses, that are working on our capacities for apprehension: restricting them, enabling them, organizing them in various ways."[48] I see in this reflection awareness of "structures" as both materials and their arrangement, as well as the frames through which we see and understand things. In other words, work upon documentary media is work upon our capacities. Such is a conceivable impetus for the collection on the novelist Murakami used to describe the production of collections above. The builder of the collection takes stock of documentation around Murakami's relationships to the disasters, their present appearance in the English-language web, makes a judgment around their relevance to thinking around nuclear disaster, their meaningfulness going forward—and commits to contributing to this capacity through a recombination of materials. Thus a process of trailblazing—collecting, arranging, framing materials from within and outside the *JDA*—is a facet of recombination, but recombination involves more active intervention in perceived documentary and discursive arrangements around of media and subject matter. *Redirection* is a function characteristic, which can, in some cases, rely on practices of recombination. Taken in the broadest possible sense, most sub-assemblages perform some work of redirection: they provide avenues for their audiences to see, think, and act differently. But I mean to highlight a more specific and intensive quality in which the apparatus of the sub-assemblage enables acute

[48] Bronwyn Davies, *Judith Butler in Conversation: Analyzing the Texts and Talk of Everyday Life* (New York: Routledge, 2013), 3.

and explicit redirection—moving toward new documents and new thinking—through the uses of topic selection, choices of objects, verbal description, and configurations of all of these.

The process of constructing a waku can illustrate the two characteristics and their interrelationships. Here is an imagined instance in which a non-expert sees fit to transform work done elsewhere to serve a number of aims. I choose the topic of the "Fukushima Fifty" as a useful example, which received extensive coverage and an English-language Wikipedia page—it is a site to which publics might look.[49] As the latter would have it on May 4, 2015, "Fukushima 50" is "the pseudonym given by the media to a group of employees at the crippled Fukushima Daiichi Nuclear Power Plant. Following the 2011 Tōhoku earthquake and tsunami, a related series of nuclear accidents resulted in a serious fire at the plant's unit 4 on 15 March 2011, these 50 employees remained on-site after 750 other workers were evacuated." The article that follows combines overview, a handful of interpretations, and resources for future study.

Our questions: What could a participant with interest in bringing the Fukushima Fifty into the *JDA* imagine themselves as offering through a waku? How would the characteristics of recombination and redirection figure in doing so? The *JDA* includes a collection that documents a website called "Save Fukushima Fifty," that, as the collection description says, "provides information on the storage of blood stem cells for the workers in the Fukushima Daiichi nuclear plant, in case of accidental radiation exposure."[50] The collection consists in nearly three-dozen articles from the blog. These are presented without appended comments. Such a collection points to one approach to a waku centered on the Fukushima Fifty: the focus is not directly on logging this aspect of the disasters and providing resources, but providing through a collection something

[49] "Fukushima 50," *Wikipedia*, https://web.archive.org/web/20150504213539/http://en.wikipedia.org/wiki/Fukushima_50 (accessed May 4, 2015).

[50] AW, "Save Fukushima Fifty," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1543995.

that would not appear in a network summary and might elude research through web channels. This collection is instructive for what a waku could look like: selecting out one feature for contemplation that does not appear, or does not appear sufficiently in other summary sites on the web. Inclusion with the *JDA* allows the collection to sit alongside others into which it may come into dialogue: other sub-assemblages around web-based advocacy, around radiation exposure. But there is more to say of what a waku could offer in this case that connects with recombination and redirection. We can suggest that the participant is faced with specific questions around memory and documentation of the crisis, and the potential importance of contemplating discourse and imagination around the Fukushima Fifty. Consciously or unconsciously, the producer might also interpret the affordances and valences of the archive and the sub-assemblage worth seizing upon. She might imagine the archive can serve in archive-facilitated processes like dissemination, access, organization, democratization, and interpretation. It can also, as this dissertation has emphasized, work with dynamics of assemblage to feed into classes of observational and interpretive interaction, including the kinds imagined with the *Memory Bank,* generating affective, cognitive, catalytic responses.

Such a participant might engage in a heuristic, recombinatory process of hypothesis proposing, checking against what exists in other documentary and interpretive sites, and against the affordances and limitations of waku. In looking at the Wikipedia page, for instance, the participants might notice that the "See also" section includes links to a page on "Liquidator (Chernobyl)," which is "a name given to workers who were employed to contain the damage resulting from the Chernobyl disaster." It then includes a link to another Wikipedia article called

"Nuclear labor issues."[51] On the June 14, 2015, as archived in the Internet Archive's Wayback

Machine, that article reads:

> Nuclear labor issues exist within the international nuclear power industry and the nuclear weapons production sector worldwide, impacting upon the lives and health of laborers, itinerant workers and their families.
>
> A subculture of frequently undocumented workers do the dirty, difficult, and potentially dangerous work shunned by regular employees. They are called in the vernacular, Nuclear Nomads, Bio-Robots, Lumnizers, Glow Boys, Radium Girls, the Fukushima 50, Liquidators, Atomic Gypsies, Gamma Sponges, Nuclear Gypsies, Genpatsu Gypsies, Nuclear Samurai and Jumpers.

A concept forms for a waku that amplifies the apparent seeding of a lens switch that happens

here through the linking from "Fukushima Fifty" to "Nuclear labor issues." That is: the

Fukushima Fifty risked their bodies for the lives of others. This has been rightly lauded,

celebrated. But that frame, of the heroic sacrifice, also could be seen as deceptive—the videos,

the mugs, the shirts produced with good intention and worth celebrating, but serving to reduce

the narrative at the expense of deeper recognition of the politics of precarious labor. A

conception forms for a waku that does not embed a strict essay or argument that proposes the

truth or the real story about the Fukushima Fifty, but which provides an archive-based avenue for

expansion and reframing—for redirection. The waku would seek to provide a pivot point. It

becomes, "Reframing the Fukushima Fifty." The process of assembling and writing the

presentation could involve further exploration of primary media online, or it could come to

include calling upon other resources. Political scientist Richard Samuels, for instance, writes:

> Dubbed the "Fukushima Fifty" by the foreign media, the story of these workers was too enticing for some hagiographers to ignore. A headline in the *Asahi Shimbun* declared that "The Struggles of the Fukushima Fifty Will Not End," and the newspaper reported that 'bearing the burdens and uncertainty, they continue to battle an unseen enemy." There

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[51] "Nuclear labor issues," *Wikipedia*, https://web.archive.org/web/20150614010318/https://en.wikipedia.org/wiki/Nuclear_labor_issues (accessed June 14, 2015).

were two problems with these accounts. First, there were far more than fifty workers—TEPCO said that the actual number of workers who returned to the plant was closer to seven hundred. Only small numbers could enter at one time, and only for brief periods, so they rotated through quickly. More problematic, many of these workers may not have been the "samurai salarymen" of legend or even "volunteers" at all, but low-paid and exploited contract workers who had no other employment options. Indeed, in its 2010 annual report, TEPCO disclosed that fewer than 20 percent of the employees at Fukushima Daiichi were regular TEPCO staff and reports that fully 100 percent of severe injuries to plan workers were incurred by contractors in 2009, up from 89 percent in 2008.[52]

The eventual production would have a distinctive place within the field of possible memory and reflection around the disaster in the English-language web. It could prove capacity-building. The process that has led to its construction is recombination: responding to current arrangements of documentation and conceptualization. The work it seeks to perform is redirection: should researchers and publics find their way to this waku, they would discover encouragement to alternative thinking presented in the form of narrated scaffolding.

Assemblage-Based Learning

The topic for the sixth week of the Fall 2013 course was mass media and disaster. In our original conception, students—undergraduates and graduates from the humanities, social sciences, and sciences—would come to class having read a handful of texts written by journalists reflecting on mass media coverage, and they would have viewed a handful of examples we had selected—including among the first broadcasts from 24-hour news and shows at the one-year anniversary. Class would take the form of a seminar discussion followed by the usual review of projects, and we would move to view the first of their collections. As the week approached, however, the teaching team—a historian of Japan, an anthropologist of Japan, and a visual and

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[52] Richard J. Samuels, *3.11: Disaster and Change* (Ithaca: Cornell University Press, 2013): 44–45.

media theorist—recognized the fundamental missed opportunity in this top-down conception. It would not seize upon the basic affordances of the *JDA*. Instead of asking students to view illustrative examples selected in advance, we would ask them to find and contribute a handful of items from across the web to a shared collection called "Media Coverage." Students would return to class, and discuss their findings in small groups. We would then convene as a full class, share group hypotheses, and pursue further discussion in dialogue with the readings.

Some students reflected positively on their experience of this assignment in their essays written at the end of the semester. (These were 6–8 page reflections on the course, their own projects, and on digital archives and crises.) They write, for instance, that the assignment jumpstarted the collaboration process with fellow students; it exposed them to materials they might not have otherwise encountered; it allowed them to find connections with each other's projects. One student, whose semester-long project examined satire and disaster, described his experience hence:

> The assignment to examine news media was a fascinating one that gave me a great deal of satisfaction. Not only was it an opportunity to interrogate the many faces of news media (well-supported by our assigned readings) and the way their echoes coalesce in the corridors of cyberspace, but it was also a way to harness the power of the camera as witness to bring the immediacy of the events into the classroom. It was a highly interesting experiment for me to view the reactions of my classmates to provocative visual material…Would they be shocked by Larry Kudlow's intimation that the 'economic toll' for Wall Street was more important than the disasters' 'human toll'? This was my first experience of the impact of provocative visual material on a class. It was also a great opportunity for me to think about the poetic power enjoyed by visual media over the emotions and interest which text, for all its sophistication, cannot match.

From my perspective, the process not only produced a lively discussion, which included exploration of bloggers' sophisticated critiques and satires of Japanese television coverage, it also had further benefits: the act of collecting examples with an eye toward collaborative conversation encouraged students to cultivate their own interpretive vocabularies, and had them

following research paths neither they nor the teaching team could have anticipated. A further virtue was the afterlife of the assignment. The collection lives on the *JDA* site as "Media and Disaster" (figure 4.32).[53] Unfortunately, the publication form did not enable embedding of the hypotheses students formed—much was lost.

In retrospect, I recognize the media collection assignment as having seized upon an important variable characteristic in sub-assemblages, which was manifest in other ways during the course, and which alternative assignment structures, platforms, or publication forms could further seek to engender. We can call this *assemblage-based learning*. The term parallels the use of "collection-based learning" in secondary school, museum, and higher university settings, and relates closely with the more familiar *object-based learning* and the general concept of the object lesson. The latter has formed the subject of increasing discussion in pedagogy, around the virtues of teaching contexts that confront students with common objects, or that ask them to engage in depth with individual things, particularly material objects. Certainly future versions of this course would have much to learn from engaging this theory: How does one approach an item with the *JDA* collection as an object? How do objects become sources of shared inquiry?

These connections are crucial, but I would claim the distinction of *assemblage-based learning* through the basic senses of plurality and process, and the important dual sense of assemblage as verb and noun. In the context of the media coverage collecting assignment, the sub-assemblage of the collection—notably through aligning a number of basic and variable characteristics like *embedded, assemblage-based, collaborative, heterogeneous*—enabled the structuring of a learning experience in which exercising capacities in discerning patterns coincided with critical and collaborative conversation. Beyond this assignment, as the students

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[53] 1923 Seminar, "Media and Disaster," *Japan Disaster Archive*, http://jdarchive.org/en/collection/1541996.
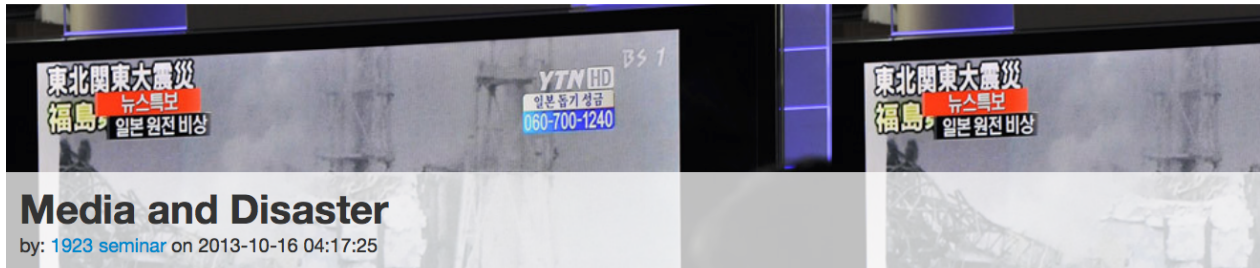
Figure 4.32: Collaborative Student Collection, "Media and Disaster" (thumbnail view).

pursued their projects, the pivot of course processes around the production of archival sub-

assemblages—in building collections and grappling with questions of how to configure and

interpret them in their slideshows—served further ends. One student reflected:

> During the research process, it is often common to feel directionless or uninspired.
> Viewing the collections of others on topics differing from mine allowed me to gain
> further comprehension of the possibilities of the archive features and inspired me to try
> different and new search queries. Learning by example is an incredibly powerful method.

Another observed:

> This collaboration allowed us to learn faster and more about a greater number of topics
> that we would have in a more traditional class. Each student essentially became the
> expert on a certain portion of the disaster and through their presentations and research,
> we all were able to gain a better understanding of their topic, especially because we could
> see it evolve and change as the research took shape.

Another student de-emphasized the tool in itself in favor of the social exchanges produced: "It

was by catalyzing and facilitating those conversations that the digital tools had the most

profound effect." But I do not want to pretend these were solely positive experiences. Several

students rightly noted these virtues for learning also presented challenges and potential risks, as

processes of large-scale collecting might sacrifice criticality in the examining of sources. One

student observed:

> …the vast expansion in the nature of our sources creates issues of focus: who or what is
> the object under investigation? Part of the indeterminacy is due to the still-
> unsystematized nature of the sources within our disciplines: does a tweet give clear
> evidence of a social mentality, and if not, what does it speak to? Even reading a tweet or
> meme for authorial intent is problematic, since it so often of amalgam of other online
> content. Like any type of writing, tweets have structural constraints and common
> features, such as the need for a clear referent, a higher degree of intercommunication with
> other tweeters and of intertextuality more generally, and the presence of deliberately
> crafted authorial persona. All of these features function in topographies that are very
> different to the habitats to which students of history are accustomed. Moreover users
> familiar with the technology easily gull themselves into believing that they have an
> implicit knowledge of each of the complex factors underlying the analysis of its
> products—a conclusion no more justifiable in the case of the computer than for the
> printing press…The beguiling appearance of the digital lures us into taking its products at
> their face value rather than digging beneath their surface[s]; to achieve the latter will

require the acquisition of a toolkit no less sophisticated than that employed for more conventional textual or statistical investigation.

Many also observed that the charge to assemble and assemble could lead to unnecessary scales of accumulation, and the very practice of dealing with hyper-abundances of information proved overwhelming. A student wrote: "There is an (over)abundance of data, in the form of tweets, pictures, videos and opinions on internet for a, but there are no ready arguments to be made, and the data is available only in a most disorganized form. This mean that hypotheses are hard to test, and data is hard to marshal into concrete arguments; it requires a lot of rigor and sensitivity to determine what evidence is relevant, and consequently to put forth any argument convincingly." Reflecting many of my sentiments, a student responds to these concerns with these words:

> …it would appear crucial to set time aside for examining, in a thoroughgoing manner, not only the ways in which scholarly work might draw upon multimedia modes of presentation, but also the kinds of reading and information management practices one may need in order to capitalize on the multiplicity of formats in which one may consume and produce knowledge…future iterations of this course could be highly valuable for a for the development of students' capacities in this area.

Assemblage-based learning appears as a promising—if also risky—function for the genre of the crisis archival sub-assemblage. Our development of the waku platform was heavily influenced by the prospect of this potential in the classroom, although we did not articulate the potential as such. The tool would lend itself especially well to assignments like that around media coverage. Rather than simply aggregate materials, students could also annotate and organize their discovered materials in advance of the class. A follow-up assignment could ask that they interpret a set of collections of items. This would have the virtue of close study of individual instances. The legacy of the students' thinking could be available to the public as a single sub-assemblage which the teachers could curate and extend, and potentially use in future assignments, or which other teachers could seize upon in their own teaching. We would have to

find better ways, however, to ensure that close engagement with richly informed research had been undertaken.

Further Variable Characteristics: Preservation and Contextual Mass

The conceptual model of examining "variable characteristics" across a genre of cultural production invites a potentially endless exercise of articulation and analysis. I could, for instance, pursue further characteristics that have stood out to me, like the employment of writing in relationship to objects and assemblages, or the production of digital micro-histories, which would take advantage of the fine grains of time and space embodied in time-stamped tweets and geo-located imagery. (The latter has been an especial point of interest of HyperCities and of Jeffrey Schnapp, director of metaLAB.) As noted above, I have selected the foregoing set for their suggestiveness for future inquiry and practice, and for their connections with concerns this dissertation has pursued around assemblage, interaction, and participation. The concluding section of this chapter will more directly distill the lessons around those topics and around digital crisis archives more broadly.

Before turning there, however, it is worth making note of two further variable characteristics of interest. The first of these is *preservation.* The term has, of course, been left to one side as I have pursued processes and functions that bear upon interactions of research, memory, and learning. But the concern is deeply relevant. For one, sub-assemblages can and should serve directly in this archival aim. Among those in the *JDA*, it has been collections that have performed this work in the most direct sense of getting cultural material into siloes devoted to their perpetual accessibility. Several of the collections produced by Howell consist entirely or almost entirely in pages from websites. The bookmarklet which enables her to do so also sets off

a process of preservation: the links are sent to the Internet Archive and will ultimately remain

accessible through their Wayback Machine. One website for which a contributor supported

preservation stood out to me: the blog of the person accused of landing a drone carrying

radioactive materials on the house of the prime minister, an historical object likely to fade. She

notes the suspect had posted about contemplating the act.[54] The second crucial relationship of

preservation and sub-assemblages is whether and how they will be preserved. How are they to be

retreated? As technological changes persist, how would we find ways to "emulate" the

experience of engagement with a stream in *18 Days in Egypt* or with the three forms engaged

here? These questions of "data curation" are daunting and essential, although we cannot assume

the archival model is only admissible when the conditions of preservation are set. In other words,

there can be good reason to pursue the gathering and presentation of media in archival

modalities, even without protocols for long-term keeping.

    A second important variable characteristic is one Palmer conceives around thematic

research collections: *contextual mass*. Here is her description:

> Collections built on a contextual mass model create a system of sources, with meaningful
> interrelationships between different types of materials and different subjects, that work
> together to support deep and multifaceted inquiry in an area of research. Although many
> of the resources referenced in this chapter contain large, complex cores of primary
> materials, this is not necessary to achieve contextual mass. For instance, the *Decameron
> Web* project, a collection devoted to the literary, historical, and cultural context of
> Boccaccio's famous text, contains an established critical edition with translations and a
> selection of related materials, such as annotations, commentaries, critical essays, maps,

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[54] Kim, "Drone Landing・首相官邸ドローン事件," *Japan Disaster Archive*,
http://jdarchive.org/en/collection/1968171.

and bibliographies. The pedagogical intent of the site is obvious in its content and layout, but it is simultaneously strong as a research context.[55]

I find two things important about contextual mass for our purposes. First, it would appear as something that sub-assemblages are especially poised to support. Collections, presentations, and wakus manifestly enable their producers to assist in creating a "system of sources with meaningful interrelationships"—and they do so through many of the processes and functions I have described. The second important thing about contextual mass is that it is a characteristic distinctive from those I have identified. Not necessarily a function or a process, it is an emergent quality that appears across multiple sub-assemblages. Future research around sub-assemblages could seek out not only functions and processes as I have here, but also other emergent qualities participants have already sought or will seek in future. We could ask what other less tangible, cross-archival "functions"—the word does not seem right—sub-assemblages could serve. What does it mean, for instance, to work toward a democratic archive? What is a variable characteristic as large as "democratize"? I leave the question open.

V. Conclusion: Genre Lessons

The diversity of material for analysis and the conceptual proposition of mapping the genre have produced a ranging investigation. What are the overriding lessons? How does the study figure within the broader project of this dissertation? In answering the first question, I can

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[55] She continues: "A number of existing thematic collections exemplify the notion of contextual mass in their depth and complexity, as well as in their explicit goals. The core of the Rossetti archive is intended to be all of Rossetti's texts and pictorial works, and this set of primary works is complemented by a corpus of contextual materials that includes other works from the period, family letters, biography, and contemporary secondary materials. In the Blake archive, "contextual" information is at the heart of the scholarly aims of the project. The documentation at the website explains that works of art make sense only in context. In this case this involves presenting the texts in the context of the illustrations, illuminated books in the context of illuminated books, and those in the context of other drawings and paintings. All of this work is then presented in the context of relevant historical information."

recapitulate the chapter's main observations around the genre of the crisis archival sub-assemblage. Among a variety of potential analytical responses to the *JDA*, this chapter has engaged the three forms of assemblage-based participation built over the course of 2011–2015: collections, presentations, and wakus. I have conceptualized existing and future publications as instances in a proto-genre reflected in at least two other places, partly the *Memory Bank* and fully in *18 Days in Egypt*: the crisis archival sub-assemblage. In dialogue with the broader project of exploring the genre of the digital crisis archive, I have pursued a provisional mapping of the proto-genre. In doing so, I have followed the two part structure in Carole Palmer's mapping of her proposed genre of the "thematic research collection." Both of these genres—the sub-assemblage and the thematic research collection—can be described in terms of their "basic features" and "variable characteristics." Basic features apply across all instances. Variable characteristics are "variable" inasmuch as they are not represented to the same degree in all cases, and in some cases not at all.

The core of the chapter's analytical work has consisted in explication of variable characteristics function and process that constitute permutations of assemblage, interaction, and participation. *Trailblazing* refers to the process of generating connections among swaths of content, a new kind of labor, in the vein of an information worker at Bush's imagined memex machine. *Scaffolding* refers to sub-assemblages as means of exploring and further pursuing objects through assemblies of objects and configurations. While all three forms of publication can involve scaffolding, collections and spotlights are especially suited. *Exhibition* refers to the function of sub-assemblages as sites of putting on display and sustaining visitor exploration, and often involves qualities of affect and instruction, leaving room for visitor interpretation. The form of the slideshow is especially suited to the expression of this characteristic, although

collections, in all their informational density and bare appearance, can exhibit the characteristic as well. *Recombination* and *redirection* were presented together. Recombination is the process of exploring and engaging arrangements of documentary material and of visibility around given topics. Redirection is the function of pointing to alternatives of perspective, understanding, and emphasis through combinations of object assemblage and textual guidance. *Assemblage-based learning* rounded out the set. Among the important lessons was that discovered through a class exercise of open-ended thematic collecting. The exercise involved habits of pattern recognition and serendipitous discovery while setting the stage for object-driven critical discussion.

Such is an overview of the main lessons around sub-assemblages: both the means of analyzing them, and the set of conceptual tools derived of the three collective experiments. What can we say of the larger lessons this investigation suggests for understanding and practice in the world of digital crisis archives? The first of two sets of lessons concerns the emergence of new potentials that have the potential to grow over time: for varying practices that involve both mechanics and concepts of assemblage and interaction—from the practice of dragging and dropping items to the careful construction of emergent scaffolding—to constitute meaningful acts of participation in a common architecture of memory and communication around a large-scale crisis. The efforts at constructing these three platforms are describable as contingent and provisional efforts to enable participants—scholars, citizens, students—to pioneer new permutations among these three: assemblage, interaction, and participation. Their efforts feed into both traditional and novel forms of research. Questions linger around the viability of such work, around levels of investment, and around the potential for reach and impact.

The second set of lessons concerns further potentials that have been explored in the *JDA*, and around which future digital crisis archives can produce new manifestations. In shorthand

these are potentials in the actual forms of interaction that the objects and architectures of digital

crisis archives can facilitate. Such has been a central concern of the dissertation so far: what

varying forms of crisis-related media in aggregation and juxtaposition can perform, from

photographs viewed in succession in *ARLIS* to transits among tags, images, and text in the

Memory Bank. In its provisional mapping of the genre of the sub-assemblage, the chapter has

surfaced discussions of formal problems implicitly. Consider, for instance, the practice of

generating redirection through the waku "Reframing the Fukushima Fifty" as a practice of

writing and assemblage. The practice demands the use of formal techniques of citation and

timing. Or consider the active construction of the characteristics of exhibition. Choices made

around the layout of collections affect the parameters in which participants can use objects and

spaces to communicative and affective ends. I have focused on the formal effects of visual

assemblage in this dissertation; it seems important to seek out languages and precedents around

forms of assemblage that integrate text and image, still and moving.

As with the first two chapters, various factors—scale, novelty, complexity—have

demanded the bracketing of topics which nevertheless appear important to pursue. For instance,

in this chapter, unlike the former two, I have devoted significantly less attention to shortcomings

and contradictions in the archive and its attendant platforms and publications, which would have

to include, in this case, challenges around making the platform stable and usable. I have also not

analyzed the *JDA* in terms of the broader forms of documentation, discourse, and memory

around these disasters—of what citizens and researchers would find in the *JDA* versus other

sites, and the politics of memory and representation thereby. Rather than all too briefly address

these complex questions in the short space that remains, I will instead conclude by adding a

variable characteristic to our roster that would raise as much as answer such concerns. It is a

characteristic in crisis archival sub-assemblages that collections, presentations, and wakus do not manifest: *archival dialogue*, a practice of direct conversation at the archive through sub-assemblages. I was surprised to discover its expression in theory in an essay by the sociologist Roger Simon on the practice of "remembering together" in uses of social media in response to crises. Most of his essay is concerned to articulate distinctions between less potent "serial" and more democratic "dialogic" forms of memory and discourse around crises, following on the work of the philosopher Jean-Paul Sartre. Echoing Timothy Recuber's concerns around the "atomizing" nature of contributions to the *Hurricane Digital Memory Bank*, for instance, Simon writes:

> If 'remembering together' is to be more than a collective archiving of personal experiences of those caught up in specific events, we must concern ourselves with its potential for being a digital space where diverse people address the significance of how various histories right dwell within their current and future ways of being together in then world. On such terms, remembrance is a question of history as a force of inhabitation, as stories we live with, that intertwine with our sense of limits and possibilities, hopes and fears, identities and distinctions.[56]

At the conclusion of his essay, Simon switches from the descriptive to the prescriptive. He discusses design propositions. He writes:

> ...thought should be given to how future software design might render a structure of possibility with the potential to support more dialogical forms of memory work...this would entail developing software that would enhance the potential for practices of remembrance through which people might work through the significance of the past, sharing divisions and agreements, and informing and (re)forming their social and affective connections through a dialectical engagement with each other.[57]

He continues:

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[56] Roger I. Simon. "Remembering Together: Social Media and the Formation of the Historical Present." *Heritage and Social Media: Understanding Heritage in a Participatory Culture* Cambridge, UK: Routledge (2012), 92.

[57] Simon, 102.

> When people engage in the practice of remembering together, conversations may be enriched by each participant having access to a multi-modal archive of relevant material that could be flexibly tagged, cross-referenced, and queried.[58]

He adds:

> ...since contributions to remembering together often include substantial expressions of affect, one might explore new ways of enhancing the capability of digital platforms in regard to communicating and storing multi-modal contributions wherein text would be supplemented by images and sound...affect might be elicited that would enrich the communicative capacity of dialogue at any given site.[59]

Simon, a present day critically-oriented version of Vannevar Bush describing the memex, concludes his hypothetical design sketch with a concept for including associative algorithms that would suggest items in the archive to the user's attention—a feature imagined but not carried through, for lack of resources, by the *JDA*. What would archival dialogue of the kind Simon imagines—"sharing divisions and agreements," drawing upon a "multi-modal archive"—look like in the context of *JDA* or other digital crisis archives? We would follow the lead of participants. Perhaps new ecologies of archival participation could grow—and potentially serve in the larger project of addressing the realities of environmental precarity that have warranted these archives' co-construction.

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[58] Ibid., 103.

[59] Ibid.

Chapter 5 | Further Perspectives

The foregoing has been a media theoretical exploration of an understudied form of cultural production—the digital crisis archive—driven by three investigations of three instances. In addition to a recurring inquiry into crisis photography in the plural, I have pursued two central lines of inquiry. The first has concerned the category of the digital crisis archive. As the Introduction outlined, the category is conceivable as a "genre" constituted by a heterogeneous roster of cultural artifacts united by the basic act of aggregating disaster-related data and media into online contexts; not always guided in the first instance by ambitions of preservation; and often geared at use and development by more than traditional archival patrons. The second line of inquiry has concerned what crisis archives can make possible. I have looked to a variety of post-disaster practices undertaken by visitors—like exploration, imagination, and understanding—as well as by contributors—like storytelling, intervening, and remembering. In mapping these possibilities through the three instances, I have been concerned with finding ways of articulating the familiar and distinctive means through which digital archives—their objects, interfaces, and constituents—can facilitate such practices and generate new ones. I have also consistently sought to qualify and nuance such accounts through assertion of the inevitable contradictions and shortcomings in the genre. And I have consistently argued that the most novel and distinctive in digital archival potentials emerge through permutations of the three phenomena of assemblage, interaction, and participation.

What can these concluding remarks offer that the reader will not find in the Introduction or in the three studies? My purpose is to offer further perspectives and suggest future paths of inquiry. The first section does so by recapitulating and consolidating the key lessons in the three chapters through three defining questions they have pursued. I compare and integrate the range

of answers to each. These are questions other studies could pursue with other archives, and which could inform the production of, and contribution to, digital crisis archives in multiple forms—whether basic collections, interactive timelines, participatory maps, participatory archives, networked archives. The second and third sections will address questions around the genre of the digital crisis archive that the Introduction and three studies set to one side, but which are necessary and important to ongoing understanding and future investigation. The second section will look to apparent cousins to digital crisis archives produced outside the networked sphere. I will examine instances produced in response to the *Exxon Valdez* oil spill and Katrina that are physical or cinematic, but that bear important resemblances to digital crisis archives in their forms and functions. The latter suggest important future avenues for critical and creative intervention around archives, memory, and disaster—digital or otherwise—and indicate interesting avenues for media historical and media theoretical investigation. The third, closing section will pick up on the diachronic account of the digital crisis archive in the first pages of the Introduction. I will ask: Are there evident trends in the construction, function, and use of digital crisis archives? Can we, in spite of their quantity and diversity, make sense of the futures in digital crisis archives?

Possibilities, Implications, Contributions

The first of the three questions: *What becomes possible through the consolidation of digital, crisis-related media into common architectures?* Generally, I have proposed that contexts of media consolidation can function as highly multivalent apparatuses of memory and engagement and, where appropriate, participation. Seas of archival materials become contexts of potentially transformative exploration. Goal-driven research is one possible mode of interaction

with such worlds, but there are others. They become catalytic. They become means of collaboration. Throughout, things we do not typically associate with archives—process, relationship, transformation—become essential: how the user opts to move from one set of items to the next, the ways relationships between elements get read, what the engagement or string of engagements makes newly possible. A broadly construed area of reading and production appears to open, which I have put forward as "assemblage." The chapters have revealed forms of assemblage-based meaning making and communication that exist across multiple scales.

At the smaller scale, we have the generation of assemblages of media that visitors and readers actualize through interaction. In *ARLIS*, subsets of photographs enter into relationship in carrying meaning, contesting existing representation, enabling spectatorship; in the *Memory Bank* unions of image and text at the single item and the cross-item scale variously move and instruct; and in the *JDA*, various instances of sub-assemblages occasion a range of processes and functions, offering opportunities to recombine documentary arrangements, serving as scaffolding for further research, moving and teaching in the form of online exhibition, to name a few. At a middle scale, there are assemblages that appear to exceed the grasp of a given interactant, or which appear to exist only as static wholes, but serve potentially meaningful ends in forms of research and civil memory. The full collection of *ARLIS* photographs and the tag cloud are the definitive examples here. Interacting at this scale appears to serve in a kind of unfolding encounter that involves movement, catalysis, recombination, and surprise. Finally, at the larger scale, there are effects of assemblage that exceed the capacity of any individual to explore or cognize. These include the full gamut of materials compiled in the *Memory Bank* and the *JDA*. Methods of visualization and abstraction could render these large data sets into generative assemblages: from mapping networks of communication and media production to rendering

expressive interactive timelines. But we would have to ask whether these data-driven

assemblages opted strictly for aesthetics of accumulation and display over commitments to

relationship and engagement.

A second broad question is bound up with the first. *What are the implications of the shifts*

digital crisis archives introduce into flows of media and memory around given events? The

chapters have generally emphasized the salutary qualities in archival production and encounter. I

have argued that mobilizing the dynamics of assemblage in transit through *ARLIS* means re-

visualization, recombination, reinterpretation; persisting in interaction with the *Memory Bank*

means affective transit, instruction, provocation, orientation. Engaging in the production and

reception of sub-assemblages in the *JDA* means discovering alternative paths of research,

conceiving of disaster at micro- and macro-scales, collaborative co-learning. As much as I have

aimed to illustrate these potentials in depth, I have also, however, consistently attempted to draw

attention to an overriding sense that there are consistent conflicts in more expanded visions of

the digital archive. Most novel additions come with potential flip sides. A given imagined

contribution is unfeasible or compromised. Preservation is difficult. Aspects of events that

citizens would assert as demanding representation are underrepresented. One crucial challenge,

which I have only touched upon briefly, is the problem of context and attention. In simple terms,

we have to ask: Can we expect sustained engagement as visitors and as contributors from publics

at web-based memory sites? The generative assemblages that await audiences at digital crisis

archives necessarily exist in the ad-hoc configurations of their browsers—amid other tasks,

alongside other, faster, less daunting, less intensive media engagements. Given the scale and

complexity of digital crisis archives, and the novelty and difficulty of the interactions they

beckon, the problem of attention is only exacerbated.

Let us say we bracket this larger question, however. What can we say of challenges and contradictions in what researchers and publics—not mutually exclusive—would encounter and do with archives? There are, of course, generalities, the kinds of criticisms we would pose of any documentary site like misinformation, sentimentality, aestheticiziation—any number of potential phenomena critical eyes would look out for. But there are problems specific to the convergence of assemblage and digital memory in crisis archives. In the case of *ARLIS*, for instance, the thoroughness of the photographic exploration could appear to some as a substitute for direct engagement with otherwise valued narratives and facts—a false sense of having engaged in depth with this history of corporate malfeasance and environmental and social violence. In the case of the *Memory Bank*, the claim of the archive is one of centrality and inclusiveness—and yet the very configurations of the site apparently privilege the neutrality of a natural disaster over the human-caused disaster of the floods. In the case of the *JDA*, among many issues, there are basic problems with generating ambitions difficult to reach, and of finding means as an institution to maintain the site and ultimately preserve the work of contributors. There are also open questions around what cross-national memory construction should look like. In short, there are countless issues raised the model of the digital crisis archive. No one account can suffice. We must cultivate in this field of inquiry and practice methods of thinking and habits of mind sufficient to spaces of uncertainty and contradiction and heterogeneity. This dissertation has found the construct of genre, and Palmer's use of "variable characteristics," especially fruitful to these ends.

The third essential question concerned participation. *What roles can contributors play in the constitution and arrangement of digital crisis archives?* Following on the assertion of scales of assemblage, it is possible to conceive of the contributor as a potentially creative and active

agent working at the level of the individual item and the small assemblage while also interacting

with and conceiving of the larger archive and, as I addressed in the fourth chapter around the

practice of recombination, the broader, evolving documentary field. In the case of the *Memory*

Bank, it would appear that several of the contributors selected, crafted, and curated their

contributions—stories, images, tags—with provisional interpretations of the project as a shared

memory field. The nature of the selection; the choice of tag; the framing of story—the work of

participants in the *Memory Bank* suggests these can shift in response to actual encounter with

fellow items and contributors, with personally held conception of the whole, and with

imagination of in what audiences of crisis archives could engage. In the case of the *JDA*, the

archive actively invites participants to work as constituents of an evolving archival assemblage.

The tools seek to facilitate a distributed and constantly evolving ecology of small to large-scale

assemblage and reconfiguration. Additions of social features could speed and diversify these

processes. They could deepen linkages between digital archival processes and on-the-ground

practices, out in the field, in the community, or in the classroom. Overall, the three archives

suggest greater optimism around the potentials in archival participation than existing studies

have suggested.

Non-Digital Assemblage

In both the study of *ARLIS* and the study of the *Hurricane Digital Memory Bank*, I turned

to media artifacts other than digital crisis archives in order to find analytical vocabularies. Recall,

for instance, my reference to comics in each of those chapters. In the chapter on *ARLIS*, I drew

upon Hillary Chute's concept of the comic as archive in order to make a claim for the archive as

comic. To use her language, the digital crisis archive can constitute a "world" for the visitor to

study at her own pace. Furthermore, instances of assemblage serve to embed history and memory and generate interactions. In the chapter on the *Memory Bank*, I looked to *A.D.: After the Deluge* in making sense of the ways in which reading and viewing contributions to the archive constituted nested acts of contemplation of disaster-related memory. In the comic, panels embedded within the overall architecture lay on the flat plane of the page emanations of memory, and the reading of each is undertaken with awareness of the overall memory field. In the archive, a similar effect for reading is possible, and individual contributors appear to have approached their contributions as public acts of "facing memory."

What happens when we reverse such media theoretical comparisons? Are there ways in which non-digital media artifacts produced in response to crises carry "basic features" and "variable characteristics"—to use Palmer's terms—akin to those this dissertation has surfaced around digital crisis archives? In researching both the *Exxon Valdez* oil spill and Katrina, I was consistently surprised by the variety and individual richness of artifacts that either in part or as a whole consisted in the aggregation of crisis-related "elements"—records, registers, concepts, numbers—gathered into a common architecture of presentation. Around the *Exxon Valdez* oil spill, there are a number of artifacts that either by chance or intentionally work with formal features of archival assemblage, and which have some bearing upon understanding of dimensions of the disaster. These include a "visual history" of the State of Alaska's response to the spill by special assistant to the Governor Ernie Piper made up of still images and newspaper headlines, much of this material available in the Governor's oil spill archive.[1] The artist Carole Fisher produced multiple installations over a twenty-year period called *Sticks in the Mind:*

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[1] *Hard Aground: a Visual History of Alaska's response to the* Exxon Valdez *Oil Spill* (1992; Anchorage, AK: Alaska Department of Environmental Conversation, Oil Spill Response Center), VHS.

Alaska Oil Spill Project, variously combining imagery, recorded interviews, and sculpture.[2] In a

2009 piece called *The Day the Water Died*, the artist Andrea Bowers, as narrated by a reviewer,

"scanned every page of the collected transcripts of the 1989 Citizens Commission Hearings on

the Exxon Valdez oil spill and presented them as archival prints within a hardbound book.

Pictured on the cover of the book, and also on loan to the gallery, was a large banner that hung

from a Kachemak Bay boat in the aftermath of the spill, declaring, 'Alaskans Still Fighting for

the Earth.'"[3] There is a VHS tape in the Alaska State Archives that presents fifty minutes of

comedic references to the disaster in late night television shows in 1989, in the manner of a

YouTube mashup.[4] A handful of libraries in the United States carry *The Two Billion Dollar*

Cookbook: a Collection of Anecdotes and Treasured Recipes from the Hearts and Homes of the

Alaskan Oil Spill Cleanup Workers, Their Families and Friends.[5] On a shelf in the physical

library of ARLIS in Anchorage, there is a binder of photographs of exhibits from the trial of

captain Joseph Hazelwood.[6] Sitting in that same library is a satirical board game that is a kind of

box of event memory called "On the Rocks: The Great Alaska Oil Spill," made by Valdez

bartender Richard Lynn.

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[2] Description and documentation was available at "Carole Fisher - Sticks in the Mind: Alaska Oil Spill Project, 1989–2011," http://mcad.edu/events-fellowships/gallery-exhibitions/carole-fisher-sticks-in-the-mind, accessed March 29, 2014.

[3] David Duncan, "Andrea Bowers," *Art in America*, January 15, 2010, http://www.artinamericamagazine.com/reviews/andrea-bowers, accessed March 29, 2014.

[4] Tape 334, 1990, Exxon Valdez Oil Spill Tapes, Series 612 Public Information Files, Alaska State Archives.

[5] *The Two Billion Dollar Cookbook: a Collection of Anecdotes and Treasured Recipes from the Hearts and Homes of the Alaskan Oil Spill Cleanup Workers, Their Families and Friends* (Anchorage, AK: Ken Wray's Printing, Inc, 1990).

[6] "State of Alaska, plaintiff, vs. Joseph Hazelwood, defendant: trial exhibits," 1990, Alaska Resources Library & Information Services, Anchorage, AK.

Like digital crisis archives, each of these artifacts instances conditions of archival and

documentary surfeit. Each also beckons much the same pluralistic and contradiction-aware

analysis applied to *ARLIS*, and each serves in one way or another to produce novel modes of

engagement and embed novel meanings through effects of assemblage and compilation. Quite by

chance, viewed together, the photographs of exhibits from the trial of the captain, for instance,

simultaneously defamiliarize and complexify the story of the grounding of the ship.

Paradoxically, they remove the element of narrative and fault—the captain's alleged

drunkenness—and foreground the technical and the social, through page after page of maps,

objects, instruments, documentation of physical models, even a schematic drawing of the bar

Hazelwood visited before setting off on the fateful journey. An exhibition, or a re-scanning in

Andrea Bowers' vein with *The Day the Water Died*, could seize upon these qualities. The board

game is especially interesting. Here is a description of the game in a 2015 NOAA blog post on

pop cultural responses to the spill: "Each player navigates through the game using an authentic

bit of rock from Prince William Sound. The goal was to be the first player to scrub all 200 miles

of oily shore. The catch was that you only had about 6 months and $250 million in play money to

accomplish this."[7] In setting these rules, the game positions the player in the disembodied

personhood of the corporate actor, situated high above Prince William Sound, subject to a reality

in which any occurrence bears on time and money (figure 5.1). Here is Exxon not only fighting

against the static forces of nature in a linear path toward restitution it ultimately succeeds in

completing, as the corporation's narrative would have it, but constructing its own parameters, its

own game, and partaking in selective engagements either seized upon for the goal, or kept from

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[7] "From Board Games to Cookbooks, How the Exxon Valdez Oil Spill Infiltrated Pop Culture," *NOAA Office of Response and Restoration*, July 22, 2015, http://response.restoration.noaa.gov/oil-and-chemical-spills/significant-incidents/exxon-valdez-oil-spill/board-games-cookbooks-how-exxon.
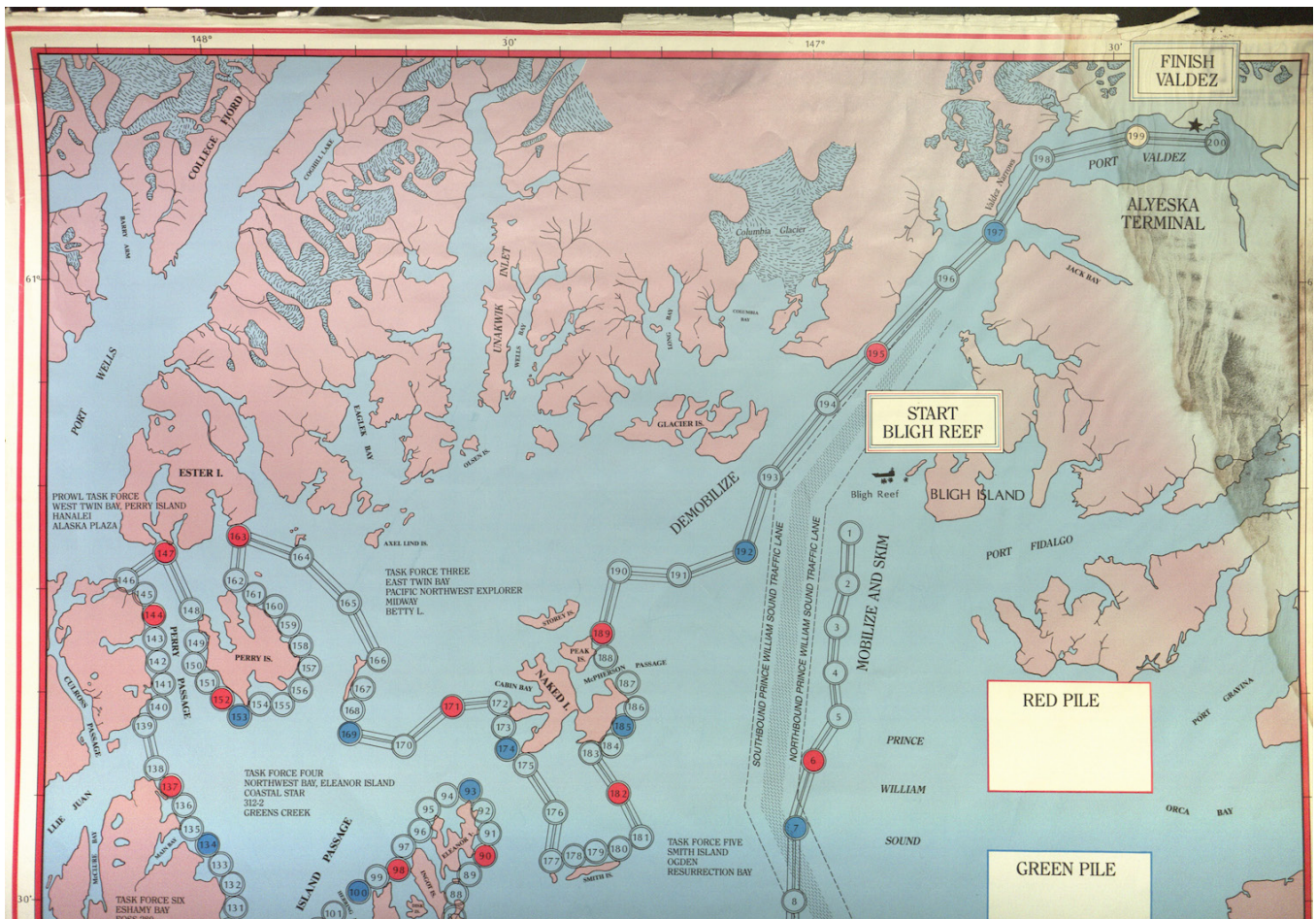
Figure 5.1: Board, *On the Rocks*.

Figure 5.2: Game pieces and cards, *On the Rocks*.

incurring on the established parameters of success. Meanwhile, the cards that players pull when landing on red or green spots are instances of an index of the crisis and aftermath: of events and types of events; of friends and enemies; of relationships and entanglements; of strategies of avoidance; of lack of emotion (figure 5.2). They run like headline after headline, reflecting the media life of the crisis. To use a register of description we would not expect for a board game—which was sold at $16.67, the hourly wage paid by Exxon to cleanup workers—*On the Rocks* is materialized conceptual scaffolding for criticism of Exxon and for seeing the disaster as an event for culture and discourse. It is also describable as simply clever.

I have already introduced several instances of documentary assemblage at work in non-digital medial responses to Katrina: *A.D.* and the photography books by Richard Misrach and Robert Polidori. As addressed by the critics James Johnson and Anthony Hoefer, these uses of assemblage call for engaged, critical reading on the part of the viewer, and serve as tools of empathy and imagination. The same might be said of another post-Katrina project, artist Paul Chan's "field guide" produced in conjunction with his collaboration with local citizens in New Orleans on a production of *Waiting for Godot*.[8] The field guide combines documentation of the play's production and performance with copies of archival records from the crisis. Another instance of post-Katrina assemblage outside the networked sphere, is a component of a medial response to Katrina, rather than an artifact overall: the closing credits of Spike Lee's 2006 HBO documentary *When the Levees Broke*.[9] Following four hours of interwoven interviews, the film cuts to closing credits in which each of the interviewees sits or stands for the camera, filmed through a physical frame, either held by the interviewee or suspended with fishing line. The

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[8] Paul Chan, ed., *Waiting for Godot in New Orleans: a Field Guide* (New York: Creative Time Books, 2010).

[9] *When the Levees Broke*, directed by Spike Lee (2005; New York: HBO Video), DVD.

Figure 5.3: Selections from closing credits of *When the Levees Broke: A Requiem in Four Acts*.

frames range from the plain to the ornate (figure 5.3). Each person speaks his or her name, names his or her profession (or refuses to), and describes his or her affiliation with New Orleans. One can look across reviews and essays on the film to find different interpretations of Lee's gesture: it is meant to convey that these are living breathing people; to convey that each interview is a portrait; and to get across that the camera always sees through a particular frame and is shaped by a particular point of view. None of these is right or wrong or exclusively the case, of course. These closing credits are a paradigm instance of forms of visual assemblage as open to multiple readings. To my mind, the sequence serves in part as a recapitulation and reconfiguration of the construction of the film and the viewer's experience. It is a display of the modes of engagement in which the visitor has and indeed should have participated: encountering others, gaining imagination of the crisis, engaging particular frames. The frames also make a critical claim. They serve to align and differentiate at the same time. Each of these people is a part of the same story: the violence of the flood; the injustice in its aftermath; the resilience in its aftermath. But there is never a single story, and there is always more than any narrative structure can contain.

What can we say generally of these apparent overlaps between digital and non-digital productions? It is tempting to put forward a proposition of a larger "genre" of media that cuts across multiple mediums and contexts: archive, book, film, even board game. These "crisis assemblages" would have as unifying features some of the basic features identified around crisis archival sub-assemblages: *event-related*—for obvious reasons—and *configural*—they are approachable as elements arrayed in relational plenitude. As when investigating the latter, we could seek out variable characteristics that cut across these kinds: constructing non-narrative spaces, aiding in imagination. The prospect is compelling, and it is a worthwhile endeavor, which could well provide useful fodder for the construction of such assemblages. At the same

time, it would seem there is a risk, at least from an analytical perspective, in overlooking crucial differences across the forms of media, and the contexts in which they are produced and engaged. Digital crisis archives present us with exactly this temptation and challenge—thinking across considerable medial difference, contemplating what is "medium specific."

Quantitative Increases, Virtual Spaces, Participatory Documentaries

I conclude by switching to a diachronic perspective. The dissertation used the alignment of *ARLIS*, the *Memory Bank*, and the *Japan Disaster Archive* to largely media theoretical ends—generating language and understanding around what digital crisis archives appear to make possible, by what means, and with what implications. But the alignment naturally raises questions around historical progression. Can we observe trends across the three? Can we make sense of futures in the genre? Were the digital archive *ARLIS*—as opposed to the photographs themselves—to have been generated *before* the *Hurricane Digital Memory Bank*, we could easily make claims toward trends of increase in scale and of increase in interactivity, broadly construed. That is, digital crisis archives are gaining in quantity and variety of media, and they are also increasing in the levels of potential user engagement with the archive: permutations in paths of exploration, capacities to influence the constitution and arrangement of the archives. But *ARLIS* was generated in 2010 with photographs produced in 1989 and 1990, and, arguably it is *more* "interactive" in the sense of close engagement with object and interface than the *Memory Bank* and the *JDA*. Such nuances confound the historical claim of increases in scale and interactivity. And this is useful. Trying to trace historical shifts and trends in the genre, we should maintain the sensitivity to complexity and variability that the theoretical analysis of the three archives has maintained. For any one apparent trend, or any one assumed future, there will

likely be counter-examples or outliers. With these concerns voiced, I would nevertheless close

this Conclusion by pointing to trends of increase that *are* taking place, and to two forms of crisis

archives which seem poised to persist and grow, and which depend on increasingly intricate

unions of assemblage, interaction, and participation—the virtual space and the participatory

documentary.

Trends of quantitative increase appear along multiple vectors—scale, access, speed, and

granularity. Around scale, there have been increases at the individual archive level. Where the

September 11 Digital Archive gathered together 150,000 items, the *Japan Disaster Archive*

gathers together in excess of a million. There have also been increases in scale at the cross-

archive level. That is, events that motivated the production of digital crisis archives have

motivated an increasing variety. The triple disasters in Japan in 2011 are the paradigm instance

here; in the fourth chapter, I listed several among dozens of projects produced in the wake. Still,

we have to ask whether this will be repeated, and we must remain cognizant of conditions of

economics and culture around technology. Around access, there are increasing capacities for

search. *CEISMIC*, which I mentioned in the Introduction, provides powerful means of searching

dozens of repositories of materials related to the 2010 and 2011 Canterbury Earthquakes. Those

materials have been organized and categorized extensively, enabling rapid exploration. Such

search was not possible in 2005, though the founders of the *Memory Bank* dreamt such

potentials. Around speed, there are shifts along at least two lines. In terms of the speed of active

collecting, digital crisis archives can and do now emerge within the first hours of the beginning

of a crisis. The Internet Archive's Archive-It platform stands at the ready, and organizations can

facilitate collection with relative ease. In terms of the speed of more involved user participation,

even projects with more complex structures of contribution can appear within a relatively short

time. Beyond increases in scale, access, and speed, we could also put forward increases in granularity, of both time and location. Standing out in this regard are the efforts of HyperCities to archive tweets produced in response to the Japan disasters and other crises. These tweets mark seconds rather than days or months in the aftermath of crisis. They can also mark locations down to the street level. Thus a researcher could reasonably expect to find tweets indexing at fine grain to how people responded to new reports on radiation data, or to the ways of social media was used in planning for an anti-nuclear protest.[10]

Alongside such trends, we can discern the emergence of two relatively distinctive archival forms, which appear likely to persist, and which depend on permutations of assemblage, interaction, and participation. The first—virtual space—would include involved efforts to generate experiences of physical-virtual correlation populated by digital media. These platforms take large quantities of materials and compile them into imaginative spaces that enable immersive or quasi-immersive experiences of data and media. I am thinking of three cases. Two were produced in response to the triple disasters in Japan. *Memories for the Future* invited users to engage an interface of before and after street views of damaged and evacuated areas, which creates an uncanny experience of stereoscopic vision defined by temporal dissonance and revealing continued disarray or the beginnings of reconstruction, as the case may be (figure 5.4). One is tempted to assert the production as mere spectacle viewed from a safe remove—and yet these visions assert in return the realities of these disasters. The *East Japan Earthquake Archive*, a self-described "pluralistic" or "multidimensional" digital archive, gathers together media from a variety of sources into a three-dimensional Google Earth environment including captioned

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[10] For an extended discussion of HyperCities, see Todd Presner, Todd Samuel, David Shepard, and Yoh Kawano, *HyperCities: Thick Mapping in the Digital Humanities* (Cambridge MA: metaLAB Projects/Harvard University Press, 2014).
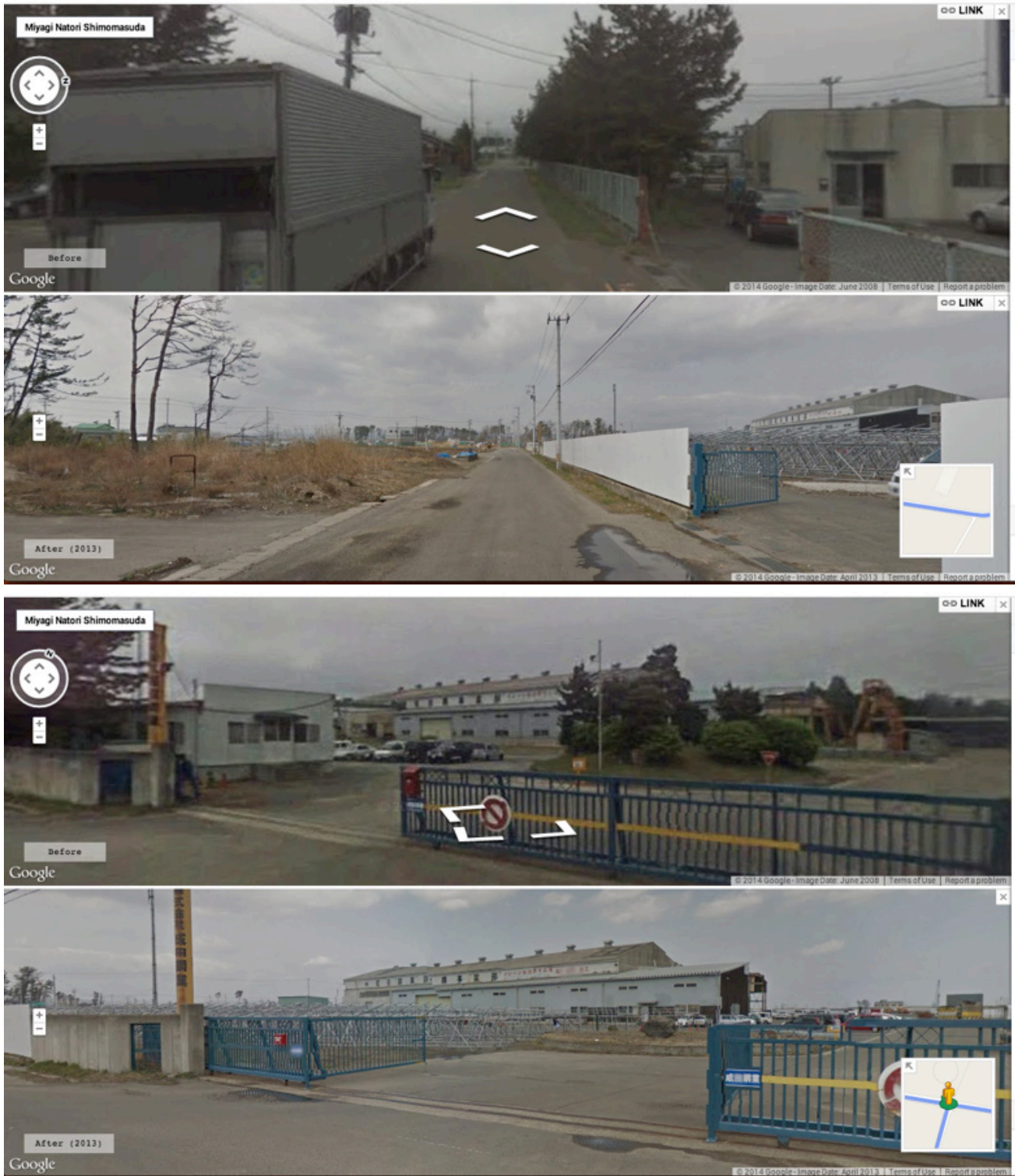
Figure 5.4: *Memories for the Future* comparative street views, February 2014.

photos, YouTube videos, written testimonials, and tweets. Users fly by pieces of individual

content that appear and come into juxtaposition; one zooms out and zooms in; adjusts to get the

right view. As with *Memories for the Future*, the site seems open to critique as merely favoring

spectacle and surface encounter. Alternatively, for an attentive user, the three-dimensional

archive is not a hyper-catalog of extreme media and distant sufferings but a confrontation, and

succeeds in proposing the visitor act as a civil observer open to perceptual manipulation,

mnemonic revision—to being pressed upon by events of vast scale and visibility. The third

example of the construction of virtual space was produced in response to the 2012 "Superstorm

Sandy," a highly destructive hurricane that caused damage from the Caribbean through Maine.

Called *Katrina/Sandy*, the project presents a curated set of audiovisual narratives around the

experiences of and personal and public responses to not only Sandy, but also Katrina. Organized

into four time periods—"storm," "aftermath," "recovery/rebuilding," and "future"—the interface

presents these side by side with preview images that suggest direct correlations (fig 5.5). Here is

the self-description:

> As documentarians investigating Katrina and Sandy, we wondered what we could learn
> by stepping back and exploring the stories in conversation with one another – and by
> incorporating a growing amount of research, data, and analysis, to promote a deeper
> understanding of community rebuilding in the wake of disaster.
>
> At face value there are stark differences between these two disasters. But as we look
> closer we can see that there are many similarities that speak to arguably some of the
> biggest challenges we face in the 21st century.
>
> These engaging personal narratives – of loss, of leaving, of looking ahead – are layered
> with multimedia resources from scholars, journalists, and advocates. You can follow your
> own path through the timeline, discovering fresh perspectives and insight into survival
> and community resilience.[11]

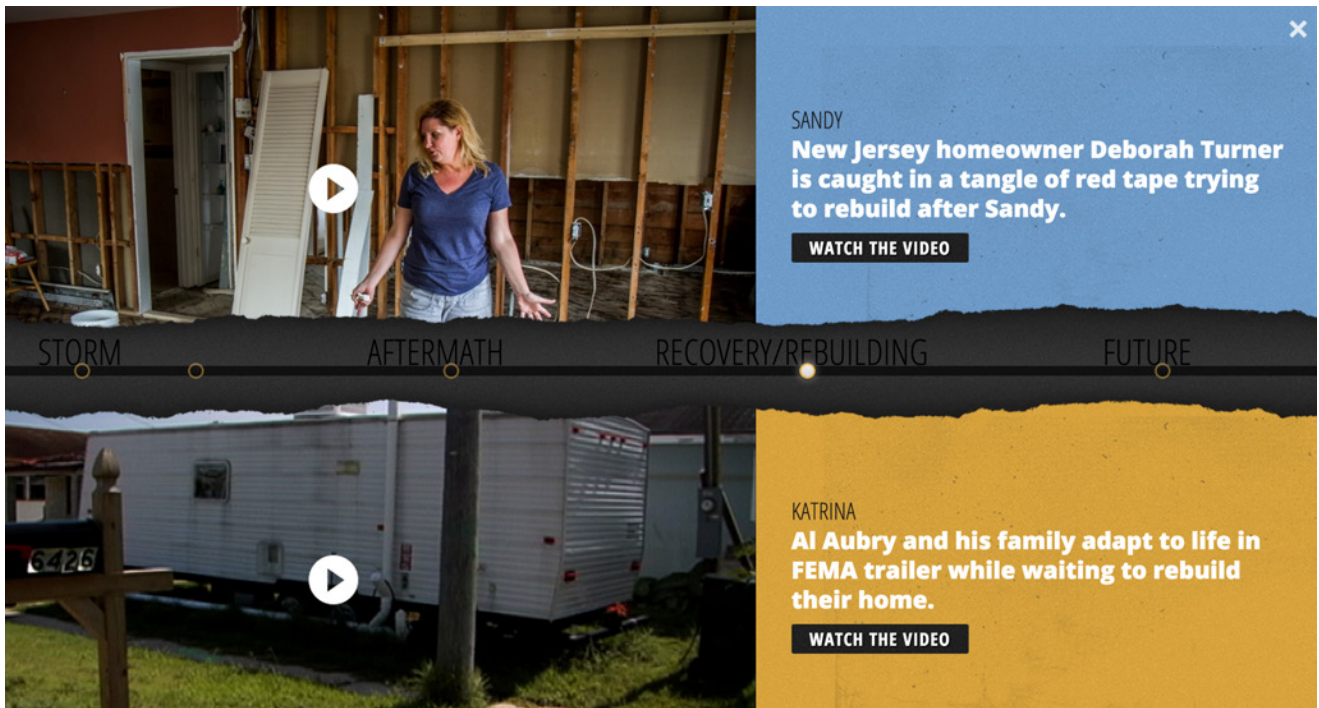[11] *Katrina/Sandy*. http://www.sandystoryline.com/katrinasandy.

Figure 5.5: *Sandy/Katrina,* August 2015.

Among other things, the site serves as a poignant assertion of historical repetition while providing suggestive new directions for crisis archives that assemble and recombine the documents of multiple distinct crises.

Two projects—*Sandy Storyline* and *the center for remembering 3.11*—stand out as illustrative of a second emergent form of digital crisis archive with which I will conclude this chapter and this dissertation. The website for *Sandy Storyline* websites present audio, video, and short-form narratives around Superstorm Sandy (fig. 5.6). The above virtual space *Katrina/Sandy* is one of its component sub-projects. The website for *center for remembering 3.11* presents a similar mix of materials around the 2011 disasters in Japan (fig. 5.7). Its materials were produced in a remarkable space in Sendai, Japan—a city hard hit by the tsunami—called Sendai Mediatheque, a community authoring space in the city. As of August 2015, the site has received over six million views.

The form of crisis archive these sites estimate—which we could call the participatory documentary, following *Sandy Storyline's* self-description, or perhaps the "archival studio"— shares with all the other digital crisis archives explored in this dissertation the common feature of gathering and presenting collocations of crisis-related data and media. But this form, or so these two archives suggest, is set apart in at least two respects. For one, both of these archives are activist, community-based, and persistent. Authorship has taken place in community settings: for *Sandy Storyline* at different locations including the New York Public Library, for *center* at the citizen media production studio in Sendai. Those contexts provide opportunities for conversations around these crises and others, while also providing education in media production and literacy. Contributions are treated as new entrants to a collective narrative assemblage as much as to a common, enduring archive of individual items. Project architects and contributors

Figure 5.6: Browsing storylines in *Sandy Storyline*, August 2015.

Figure 5.7: Item view and tag cloud, *center for remembering 3.11*, February 2014.

seek to generate communicative spaces. Part and parcel, *Sandy Storyline* and *center* frame

contributions as acts of community-oriented authorship—the addition to an emerging "storyline"

in the former, the collaborative process of retrospection and lesson sharing in the latter.

The second quality provides a fitting conclusion to the dissertation. Both of these

archives place documentation and discussion of *response* to crisis at center stage, right alongside

the documentation and discussion of the crisis "itself." The process of recovery is woven into the

very self-understanding and framing of *Sandy Storyline*. The comparison with the aftermath of

Katrina in the interactive timeline redoubles this focus. The *center's* call to memory is a call to

remember the tragedy in what took place on 3.11, but is always embedded within an effort to

document support activities and engaging in ongoing live dialogue in physical spaces or in live

broadcasts. Further, as noted, the project is explicitly aimed at providing lessons for future

responses to crises. Thus these archives—these archives in the form of participatory

documentaries or archival studios—are actively oriented around two kinds of events, rather than

one: as much as they serve as archives of the shared event violence and loss—the crisis—they

also serve as archives of the vast, ongoing event of response. In doing so, they call to mind

Rebecca Solnit's provocative assertion that events of massive violence can, against odds and

against expectations, give rise to profound, non-hierarchical communities as well as extremes of

individual and social creativity.[12] In exploring the genre of the digital crisis archive, I have been

consistently in awe of what I have witnessed of citizenship and ingenuity in the wake of crises,

whether performed in the midst of profound material struggle, or undertaken over the web at

some geographic or temporal remove. It would seem among the most important purposes of

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[12] Rebecca Solnit, *A Paradise Built in Hell: The Extraordinary Communities That Arise in Disasters*, (New York: Viking, 2009).

digital crisis archives going forward is to provide platforms—both networked and live, both technological and cultural—for the expression, exploration, and enablement of such community, resilience, and invention—and to do so while nevertheless maintaining testimony to the extremes of tragedy and injustice that first occasioned them.

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