

Notes from the Field: Digital History and Oral History

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Since the 1980s, technological changes—often collectively referred to as a *technological revolution*—have played an important part in the shaping and reshaping of traditional historical practices, expanding our capabilities to reach potentially vast audiences and to create innovative compositional works that meld visual, aural, and textual narratives into digital forms that can engage both scholars and the general public in discourse. The technological revolution has transformed how we collect, preserve, and disseminate historical knowledge. It has had an especially strong impact on oral history and on my own work as an oral, labor and business, and public historian.

Like others of the post-World War II, baby-boom generation, I was not born into an already underway digital revolution, but grew up with it through its embryonic and early developmental years. But unlike many others among my peers, an early appreciation (perhaps “infatuation” is a better word) with technology led me to throw myself wholeheartedly into the emerging revolution, totally immersing myself in its earliest conceptual and experimental stages. Proudly, in my small way, I tried to shape its development. So, let me start with some personal history which encapsulates indirectly the evolution of the relationship of oral history and digital technologies, and some of the ways in which oral history has been influenced by technical developments in the last three decades.

My embrace of computers, radio, sound recording, and digital technologies preceded my encounter with oral history. Back in White Plains High School in the late 1960s, I was already helping my nerdy friend build a computer in his home. At the same time, I was also developing an avid interest in radio, film, sound, and sound recording, spending hours listening to radio storytelling (mainly Jean Shepherd on WOR), an equal amount of time putting together shortwave radios and amplifiers (Heathkits), and getting heavily involved in my school's audio-visual center. I ended up as the student head of AV services as well as our theater program's sound crew. For our theatrical productions, I would record and edit sound effects, carefully splicing them onto 7" reel-to-reel tapes with ample white leader tape between segments so that I could identify and quickly cue up the next effect. I still have my cue tape from our production of *Our Town*. I also still vividly recall when we brought in blues guitarist Buddy Guy to play at our high school and how he kept asking me to crank up the volume on our sound system—and how difficult it was to do without generating feedback since he kept on moving the monitor speaker!

In high school, I learned to edit 16-mm film, repair tape recorders and projectors, and troubleshoot problems in all sorts of electronic devices. A considerable amount of my allowance and work money went into audio and camera equipment. (I worked every day after school and on Saturdays at a local pet store.) My prize possession from those years was my Tandberg reel-to-reel tape recorder, still working but now unused and in storage. It was also in high school that I began to explore *multimedia* composition. In 1968, instead of writing a traditional final paper in my English class, I asked for and got permission to produce a slide/sound presentation on Carl Sandburg. It was my first experience with script writing and my first multimedia production. I used several photographs from Edward J. Steichen, Sandburg's brother-in-law, in the production. No one taught me copyright law then. I could use anything—any image and any recordings of Sandburg—in my production. No problem. (Of course, who would ever sell and distribute my work?)

Sometime in my senior year, I also volunteered to work at WBAI in New York City, mainly editing tape. I had become a regular listener to the station for some time and wanted to get more involved in radio and especially in politically engaged broadcasting. Though a long illness in my final year of high school prevented me from pursuing my volunteer work for more than a short spell, my connection to WBAI and Pacifica (the foundation that owned WBAI and several other community, non-commercial stations around the nation) was nonetheless established. It would be a lifelong connection.

Once I got to college, my earlier projects with computers and my interest in technology and science made it almost inevitable for me to learn a couple of computer languages. I recall taking courses in Fortran IV and Basic. This was in the early 1970s, when I was still a science major taking lots of science and

math classes, but by the time I graduated from Cornell University in 1973, I had switched to history and comparative literature. I had always been drawn to history and very much enjoyed both my high school and university history classes. The turbulent early 1970s and my growing interest in literature, anthropology, and especially intellectual history—the latter mainly through the influence of one of my teachers, Dominick LaCapra—made it increasingly difficult for me to imagine spending my life in a laboratory and unengaged with the world. It was also at Cornell that I obtained my first experience with oral history, working with a friend on a series of interviews conducted in Buffalo, New York, focusing on the Attica prison uprising of 1971, and used in an article for the *Cornell Daily Sun*. (The recordings were sent down to WBAI for their use and have since been lost.) I was still using an analog reel-to-reel recorder—this time a portable SONY recorder that weighed around ten pounds.

After a short spell in Europe and England, and taking odd jobs in upstate New York, I entered graduate school in the mid-1970s, receiving my MA in 1978 and my PhD in 1983, both from the Maxwell School at Syracuse University. Though my MA was in European history, I switched to a US focus for my PhD. My research while I was a European history student had focused on the intellectual history of critics of capitalism—particularly English, pre-Marxian socialists. When I switched to US history for my PhD, I retained my interest in capitalism and its critics but concentrated less on intellectual history and more on social, labor, and business history. Starting around 1978, I was drawn to the study of corporate welfare capitalism. I had become interested in questions pertaining to the response of workers to corporate paternalism and decided to focus my dissertation work on one company renowned for its corporate welfare work—the Endicott Johnson Shoe Company based near Binghamton, New York.

Though poorly trained in oral history at the time, I adopted it quickly in my dissertation research, in part because it was absolutely necessary for the sort of analysis I had in mind—one balancing the voices of managers and workers and involving a close, highly detailed, dialectical analysis of complex economic institutions, relationships, and phenomena that required going beyond textual, archival documents. My examination of welfare capitalism through an analysis of one firm uncovered how workers and managers jointly created and sustained a business culture founded on mutual worker and management obligations. Corporate paternalism at Endicott Johnson and at other firms was built precisely on *negotiated loyalty*—a loyalty preconditioned on escalating labor expectations and fulfillment of managerial promises. Oral history provided me with a methodology to gauge the response of workers to corporate paternalism through their own voices and memories.

While I was a neophyte to oral history, I was far more familiar with its tools. I took my Sony reel-to-reel recorder with me on my regular trips down to Endicott, Johnson City, and Binghamton, New York, to conduct my interviews

but soon replaced it with a high-quality cassette recorder. At the time, analog open-tape recording was still the standard for high-quality recording, though I would hardly call my recordings at the time *high quality*. I was much more concerned with obtaining an audio record of my exchanges with Endicott Johnson workers and managers for use in my dissertation than I was in obtaining radio-quality recordings (which was too bad, as I had to employ some audio artisanship recently to clean up the interviews well enough for Joe Richman to use in his National Public Radio piece on George F. Johnson and corporate paternalism at Endicott Johnson).¹

My research fieldwork soon led me to embrace oral history wholeheartedly. I loved the personal relationships it helped me establish, the depth of insight it provided me into daily work relations in a corporation, and the intellectual labor required to make sense of the rich and diverse personal perspectives and memories that I collected. While my utilization of oral history was not very sophisticated initially, the influence of such writers as Alessandro Portelli, Studs Terkel, Ron Grele, and Michael Frisch in the late 1980s and early 1990s helped me refine my interpretive skills. When I received a tenure track position at the University at Albany, SUNY, it was in part because of my oral history and computing expertise. The job description, if I recall correctly, placed a premium on such skills. I was expected to develop courses in local and regional history and oral history to serve the public history program that the department had recently created, as well as a course in quantitative methods for historians. I soon became the department's "tech person."

In 1985, the year I got my job, there were only two of us with personal computers—myself, with a brand new Zenith Z-series computer with an 8088 processor, and Robert Dykstra, who was working on a highly quantitative study of race relations in nineteenth century Iowa. Most serious computing at that time still relied on terminals linked to mainframes in centralized computing centers, with data saved on tape and IBM cards. In fact, when I developed a quantitative history course soon after my arrival, data analysis was carried on in that way, with the mainframe processing submitted data. Students would submit their *jobs* via a terminal and then pick up their SPSS and SAS (statistical data analysis programs) output at the university computing center. Within a few years, we shifted to a PC-based system, but it was hardly as simple or elegant as present-day personal computers. By the early 1990s, I had also begun working on the Internet, joining H-NET (begun in 1992 by Prof. Richard Jensen at the University of Illinois at Chicago) very early on and developing, with the assistance of one of my graduate students, one of the earliest departmental websites on our campus. That website soon became a vehicle for delivering all sorts of multimedia content to viewers.

With the expansion of digital technologies in the 1990s—particularly digital audio in the form of DAT (Digital Audio Tape) and MiniDisc recording—I soon began shifting my oral history recordings to digital format (always being careful

to create analog cassette copies, since DAT tapes were very poor storage mediums). By that time, I was also teaching an oral history course, and though the department had invested in cassette recorders which I continued to utilize in my course, as funds became available, I began to slowly update our loaner recording kits to digital formats (DAT and MiniDisc), and later, the more reliable, cheaper, and easier to use SD/SDHC card recorders.

At the same time, as recording technologies were evolving, a number of companies and technical consortiums had been developing media compression standards and formats that would allow for the delivery of media over the Internet. In the mid-1990s, RealNetworks introduced an audio-streaming format that could deliver audio over low and high bandwidth networks, and they soon followed up with video streaming. The MP3 format was also evolving through the early 1990s. By the middle of the decade, it was possible to see a future in which both audio and video content could be integrated and easily delivered to users around the world. Excited about all of these prospects and deeply believing that all historians should be *public* historians, sharing their work with as broad an audience as possible, I began putting recordings on our servers and making them available to Internet users as streaming files, and soon as both streaming and non-streaming formats (MP3).

Public oral history projects became an important focus of my academic work and reflected my concern with the overly inward-focused and arcane debates taking place in my own and related fields. Of course, there were others who were equally concerned about this. Sherna Gluck was beginning her pioneering work at California State University, Long Beach, creating the Virtual Oral/Aural History Archive, which emphasized the importance of providing access to “the actual spoken words of oral history narrators, rather than seeing a written version of them in the form of a transcript.”² Other oral history programs soon followed her lead. At the University at Albany, SUNY, we began a number of community-based oral/visual history projects whose aim was to record and disseminate interviews and documentary work over the World Wide Web (WWW); most are still in progress. “The Glovers of Fulton County, New York” was a research and documentation project created to explore and record the history of a once major but then near-death industry in upstate New York—the glove industry of Fulton County. It yielded dozens of hours of videotaped oral interviews, thousands of scanned documents (government reports, union publications, newspapers, memoranda), and a large collection of material objects related to the glove industry. The material is currently archived and in storage, but we hope to mount a multimedia exhibit and complete a documentary film utilizing these materials in the near future. A preliminary website was created for the project during the latter part of the 1990s, and included some of the earliest examples of online video interviews. Now, of course, such interviews are widely available and common practice; in the 1990s they were not so.

Other projects were also begun in the 1990s and early 2000s: “The General Electric Corporation: A Digital History,” “Life and Labor in a Corporate Community: An On-Line History of the Endicott Johnson Corporation,” and “Capital Voices, Capital Soundscapes.” The latter yielded a number of student-produced, oral history-rich documentary radio productions focusing on topics related to the history of the Capital Region of New York. Susan McCormick, who became involved in much of this early work after the mid-1990s, and I also began to offer talks and workshops on oral history and digital history in Fulton County, Albany, and at historical conferences. In 2000, we ran a workshop on “Oral History as Public History” devoted to technical instruction in multimedia oral history presentations (Oral History Association Meeting, 2000), and I delivered presentations on history and digital multimedia scholarship at Skidmore College, Cortland College, Oneonta College, and at the American Historical Association and Oral History Association annual meetings.

Oral history archival projects became an early emphasis of my work as a labor historian in the 1990s and early 2000s as well—again, with an emphasis on utilizing digital technologies and the WWW to make historical resources available to a wide audience. Working with Jane LaTour, we created an online audio and manuscript archive focusing on the work of Nathan Spero in the United Electrical Workers Union (UE): “Nathan Spero: A Life in the UE.” Spero served for four decades as the research director for the United Electrical Workers Union, from 1944 until 1983, and before that, he worked as statistician for the National Research Project on Productivity and Technological Change for the US Department of Labor (from 1937 until 1943). After digitizing the interviews conducted by Jane LaTour between 1994 and 1996 as well as supplementary documentary materials on Spero’s life and career, LaTour and I—with the assistance of Patricia Logan, Aaron Wunderlich, and Susan McCormick—put together the oral history-rich site devoted to Spero and his career. Continuing similar work, more recently with the help of one of my graduate students, Carolyn Wavrin, we also worked on an oral history online archive to supplement LaTour’s book, *Sisters in the Brotherhoods: Working Women Organizing for Equality in New York City* (2008), which focused on pioneering young women who sought to break down gender barriers in traditionally male, blue-color jobs in New York City during the 1970s and 1980s. The archive documented LaTour’s 20-year long oral history efforts to document the stories of these women and featured audio and transcripts of the Sisters interviews as well as material from LaTour’s book.³

I began other labor history related oral (and *aural*) history projects, including the “Sam Darcy Oral History Project,” a collection of interviews, oral memoirs, and home recordings pertaining to the life and career of Communist Party USA leader and activist Sam A. Darcy. All of these became part of what I called the “U.S. Labor and Industrial History World Wide Web Audio Archive” and

linked to *Talking History*, a production, distribution, and instructional center for all forms of “aural” history that I began in the mid-1990s.⁴

The widening of digital horizons in the mid-1990s and my reawakened interest in radio in the early 1990s led me into two enterprises that had widespread implications. In 1996, consistent with my long-term interest in the use of both old and new media to communicate history to a wide audience, I founded *Talking History*, an aural history production center with a weekly FM radio program that is also broadcast over the Internet (www.talkinghistory.org). A year later, with Julian Zelizer and Susan McCormick, I co-founded the *Journal for MultiMedia History*. By that time, McCormick had also joined me as co-producer on *Talking History*.

I had begun broadcasting on WRPI-Troy in 1995, producing a politically engaged show called *Capital District Progressive Radio*, and soon afterward, I tried to create a segment devoted to history. Taking a name suggested by my colleague Robert Dykstra, *Talking History* began as a local history show but soon adopted a broader focus. Partnering with Creighton University at first, and later independent producers and stations around the country and world (including broadcasting agreements with the Australian Broadcasting Corporation, Radio Netherlands, and the Canadian Broadcasting Corporation), we began showcasing history-focused radio programming on the show. Typical broadcasts included documentaries, interviews, oral history segments, and archival audio segments. By the late 1990s, we began preparing streaming versions of our broadcasts in low-bandwidth versions, available to WWW listeners equipped with 300+ baud modems, and soon afterward in 2002, we moved into higher bandwidth online content, including MP3 format. We also provided an early storage platform for a number of independent radio producers, digitizing and placing their radio documentaries on our servers for delivery through their own websites. Both David Isay and Joe Richman took advantage of our services; now their prominence and more stable financial situations enable them to archive their programs on their own sites and on National Public Radio’s servers. David Cohen (New Jersey Historical Commission), Dan Collison (Long Haul Productions), and oral historian Charles Hardy III also contributed their radio productions to *Talking History*, and their work is still available on our site.⁵

Talking History’s aim was to “provide teachers, students, researchers and the general public with as broad and outstanding a collection of audio documentaries, speeches, debates, oral histories, conference sessions, commentaries, archival audio sources, and other aural history resources as is available anywhere.” It sought to expand the aural focus of historical research and scholarship by providing a production, distribution, and pedagogical venue for aural history (including *oral* history) and encouraging scholars and documentary producers to explore the audio dimensions of our past. Pedagogically, my work on *Talking History* was soon tied to a new course I created in the History Department titled “Historical

Documentary Production for Broadcast and Internet Radio,” and it soon caught the attention of the *Chronicle of Higher Education* and National Public Radio producers. The course, then probably the only one focusing on narrative aural history production taught in a history department, focused on the historical study of sound, soundscapes, and sound recordings, oral history techniques for radio, aural history composition techniques (radio documentaries, features, aural essays, and museum audio installations), and audio delivery technologies to communicate historical ideas to broad audiences. It included coverage of textual and archival audio source research; twentieth and twenty-first century historical radio documentary work; analysis of audio documentary forms and non-fiction storytelling techniques; script writing; technical instruction in the art of audio recording and postproduction editing and mixing; discussions of audio preservation and restoration techniques; and an introduction to traditional and modern technologies for the transmission and dissemination of documentary and related audio work. The *Chronicle* recognized it for its unique pedagogical approach and organization, its unique exploitation of the WWW, and its involvement of guest documentary producers—many independent radio producers then engaged in historical documentary production, including David Isay, Dan Collison, and Joe Richman.⁶

By the late 1990s, oral history and digital history had become a central aspect of all of my research projects, but I also recognized that while the tools and the technology of the field had begun to shift toward a digital standard, the fundamentals had not really changed: the dialogic nature of oral history, the need to establish good rapport with an interviewee, the importance of deep listening, the critical role of patience and good interrogatory skills. Neither digital recording nor delivery innovations altered these, and they remained central to my pedagogical work. I emphasized to students, who seemed to want to focus on the tools of the trade, that recording technologies come and go but the essential aspects of good oral history, on the level of the individual interview, are not matters of technology.

Through the 1990s and into the following decades, the proliferation of affordable digital recorders made extremely high quality recording possible and accessible to a growing number of people. Perhaps most exciting were the new compositional opportunities and possibilities that opened up for oral historians. Interpretive essays, if published in digital form, could now integrate multimedia content and oral history excerpts directly into analyses of that content. This became a major element in my initial venture into digital online publishing: *The Journal for MultiMedia History (JMMH)*. Initiated in 1997 and co-edited by Julian Zelizer and me with Susan McCormick as the Managing Editor, the *JMMH* was established as a free, peer-reviewed, online historical journal devoted to presenting hypermedia articles, documentaries, aural essays, and reviews. At the time, the idea of publishing historical multimedia essays and content as

electronic journal *articles* was still new, and there certainly was no peer-review process in place to evaluate such scholarship. While a handful of text online journals were starting to publish around the time we began—for example, *The Journal of the Association for History and Computing* (begun in 1998) and *Common-place* (begun two years later, in 2000)—no historical journal was devoted to exploring the potential of *true* digital publishing, where audio, video, graphics, and text could be integrated into intermedia compositional works. The *JMMH* was to demonstrate how hypertext and multimedia technologies could truly transform research, documentation, and dissemination of historical scholarship. With respect to oral history, the World Wide Web had introduced a revolution in publishing. It made the dissemination of both raw oral history interviews (in transcript and audio versions) and interpretive, analytical essays that relied on oral history easier and more ambitious. Now online projects could reach hundreds of millions of potential viewers and readers instead of a few thousand.

The *JMMH* came out of conversations taking place within the History Department by members of a newly formed History and Media Committee, which I chaired. The participants were devoted to broadening the margins of academic historical discourse and pushing academic history into the realm of both traditional and digital media scholarship and publishing (audio/radio, video/film, television, CD/DVD, Internet/WWW). As we explained in our first issue, “We wanted to bring serious historical scholarship and pedagogy under the scrutiny of amateurs and professionals alike, to utilize the promise of digital technologies to expand history’s boundaries, merge its forms, and promote and legitimate innovations in teaching and research that we saw emerging all around us.”⁷ We especially believed, then and now, that digital, hypermedia publication would be more exciting and accessible to an entire universe of non-academic readers and would inject history more directly into public discourse.

The first issue of the *JMMH* came out in 1998. It was a visually rough but promising beginning and demonstrated in its first article—“The 1939 Dairy Farmers Union Milk Strike in Heuvelton and Canton, New York” by Thomas J. Kriger⁸—how oral history can be incorporated into digital compositions. Kriger’s article included audio excerpts from several oral history interviews conducted in the course of his research of the 1939 Dairy Farmers Union strike. Other pieces in our first issue included recordings of speeches as well as multimedia reviews of CD/DVDs, websites, films, and radio programs, all integrating audio, graphic, and video elements into the reviews. The *Journal* was clearly promoting a digital, mixed media (*hypermedia* or *intermedia*) approach to historical argumentation and evidentiary presentation, and it began to challenge traditional approaches to historical publication.

Of course, none of what we wanted to accomplish was easy, and we faced many challenges. Our first was obtaining quality submissions. We were *not* looking for traditional text submissions. We were looking for *articles* that fully utilized

the potential of digital presentation and argument and that focused on visually and aurally rich topics (especially those that were directly experimenting with new hypermedia grammars and digital compositional ideas). In many ways, we had to become missionaries as well as very actively engaged editors. We held long and productive discussions with potential authors, convincing them of the merits of presenting and exploring their subjects in hypermedia format. We often worked tirelessly with authors to develop an effective structure and form for their submitted pieces. Editorial work at the *JMMH* thus clearly involved more than the traditional work of journal editors. We also faced the daunting challenge of producing for multiple operating systems, browsers, and monitor screen sizes and resolutions, which at the time was a far greater challenge than today, when more uniform coding standards have been adopted and widely disseminated.

There were other challenges, as well. The journal was a path-breaking venture and few historians then had the necessary skills to engage in multimedia publishing. (Most still lack those skills today.) Production of core articles and reviews involved preparing the visual and aural elements as well as writing much of the HTML and JavaScript code that created the look of the finished pieces. Authors submitted essays and the elements that editors had to incorporate into the finished online articles. In a few cases, submissions did arrive in fairly polished hypermedia form. Tom Dublin and Melissa Doak submitted an excellent and generally precoded piece titled “Miner’s Son, Miners’ Photographer: The Life and Work of George Harvan,” an in-depth profile of documentary Pennsylvania photographer George Harvan and his work. Though additional coding work was required by *Journal* editors, the bulk of the most difficult coding was done by Dublin, Doak, and their technical consultants at the University of Binghamton, SUNY. The final work included 280 photographs, hours of oral history interviews, flash slide exhibits, and an analytical essay with hyperlinks to various visual and aural resources. That piece demonstrated how to utilize the full potential of electronic publishing in scholarship focusing on photographic, video, or audio subject matter.⁹

Charles Hardy and Alessandro Portelli’s “‘I Can Almost See the Lights of Home’: A Field Trip to Harlan County, Kentucky,” was another important project that appeared in the *JMMH*, and it challenged traditional publication conventions more directly—especially those followed by oral historians.¹⁰ Although begun as a purely audio project, Hardy and Portelli decided after we spoke to submit it to the *Journal* and reconfigure it for the World Wide Web. After outside reviewers recommended publication, *JMMH* editors worked closely with the two authors to construct the online version. “I Can Almost See the Lights of Home” suggested a new mode of thinking about and presenting oral history. Joint authors Portelli and Hardy termed their work an *aural essay* and—borrowing freely from my introduction to the essay in the *JMMH*—attempted to create

a new aural history genre that counterpoised the voices of subject and scholar in dialogue, the dialogue that took place in the real time of an oral interview *and* the one that followed as interpretations and scholarship were generated. Dialogic elements pervaded the work in both the conversations between Portelli and Harlan County residents and in the verbal exchanges between Portelli and Hardy as they discussed the underlying themes and meanings imbedded in the interviews. “I Can Almost See the Lights of Home” was also clearly an intellectual manifesto that both challenged *oral* historians to engage the “orality” of their oral sources and encouraged historians to consider alternative modes of presenting interpretations (modes that would make the very act of interpretation transparent).

With such works as “Miner’s Son, Miners’ Photographer: The Life and Work of George Harvan” and “I Can Almost See the Lights of Home,” the *JMMH* had a profound influence on promoting original works that explored new presentation modes for oral history. As a review article in the *Journal of American History* acknowledged, “The effect of the sound files paired with contemplative writing is more evocative of place and thought than are most standard journal articles.”¹¹ That’s precisely what we hoped multimedia publishing would help accomplish.

Still, in spite of its promise, the *Journal* faced formidable obstacles beyond those already mentioned. It operated on a very small budget and with a volunteer staff, and though it clearly improved from one issue to another—visually, conceptually, and stylistically—and matured in its understanding of the syntax of digital scholarship, it could not sustain that evolution without considerable resources and full-time editorial attention. Furthermore, soliciting and attracting quality submissions continued to be a major challenge. Younger historians, very much concerned about professional visibility and enhancing their academic credentials and reputations, remained hesitant to devote considerable time to digital projects that might or might not be viewed as equal to traditional text publications. These and other obstacles limited the progress of the *JMMH* and led to the cessation of publication after three issues. Attempts to locate another home for the *Journal* continue, and Matrix¹² at Michigan State University has expressed interest in reviving the journal. Only time will tell if it will indeed be resuscitated.

My work in multimedia digital scholarship and on the *JMMH* led me into several projects that sought to more directly explore hypermedia composition. One experiment in hypermedia writing, which I began over a decade ago and which continues to evolve, focused on General Electric’s Association Island. The essay, containing aural and visual elements as well as extensive oral history excerpts woven around an analytical, textual narrative spine, examines a half-century of managerial recreational life at a corporate-sponsored retreat on Lake Ontario. While others were experimenting with *digital non-linear narratives*, facilitated by dense hyperlink composition, I was more engaged with *multimedia narrative writing*. I wanted to preserve my authorial voice and interpretive responsibility

but provide readers with more direct access to my evidence and a richer and deeper appreciation of a subject than traditional textual narratives could offer. The media components—corporate films, oral history excerpts, archival recordings, music and songs, photographs and graphics—contributed to the overall interpretation of the transformation of General Electric’s corporate culture over time and suggest how multimedia elements can be combined into a single argument presented in digital hypermedia form.

A second project, *The Lamont-Doherty Earth Observatory of Columbia University: An Oral History, 1949–1999*, was released as a double audio CD set. Produced as an anniversary retrospective on the history of one of the nation’s top oceanographic laboratories, the compilation demonstrated as early as 1999 how online technologies could facilitate the collaborative work of oral historians.¹³ The final product was produced by the Columbia Oral History Research Office (with then-director Ronald J. Grele), Lamont-Doherty Earth Observatory staff, and me and a gifted undergraduate student at the University at Albany. The process of putting together the two-CD compilation involved digitally processing and weaving together narrative introductions with oral history excerpts (from interviews conducted by historian Ron Doel) into a coherent sequence of narrative interviews highlighting some of the central achievements of the observatory. I served as the producer and audio editor/engineer of the project, and the work of composing the finished CDs was carried out through an innovative, collaborative, online review process that I implemented at the University at Albany. Each edit was uploaded in streaming audio format for the project participants to listen to and comment on. Suggestions for revisions were shared through email exchanges, and revisions were made and reposted. The process continued until each segment was satisfactory to the members of the editorial board. Now, in the second decade of the twenty-first century, collaborative online work is easy and common. This was not the case in the 1990s; the ease of working collaboratively on digital oral history projects was greatly facilitated by the development of digital recording, encoding, and transmission technologies.

Perhaps the greatest impact on *oral* history is the development and maturation of visual oral history. My current work continues to heavily utilize oral history—but in the form of videotaped interviews—and it suggests the changes that are currently underway in the field. Major oral history programs are turning more and more to the use of digital video cameras to document interviews and to conduct field recordings in non-traditional outdoor and industrial settings. The growing accessibility and affordability of digital video cameras, together with the recognition by many oral historians that visual interviewing may offer important supplemental and substantive information for oral historians, have led many into the realm of video history, including DVD and online distribution of video interviews. The growing presence of documentary film sessions at the Oral History Association also suggests that

visual documentary scholarship is indeed growing in importance to the organization and the field in general.

Technical advances will undoubtedly continue to expand oral historians' abilities to share their work with wider and larger audiences and to engage in innovative compositional work that heavily incorporates oral history recordings. Visual oral history and online documentary work will no doubt expand. The ability to conduct oral histories (and visual interviews) online will inevitably introduce controversies about distance interviewing and its impact on rapport and trust, as well as on how such practices impact the quality of dialogic exchange. The ease of digital video recording of interviews and growing expectations for *all* interviews to be video recorded will challenge our emphasis on *orality*, as visual oral history introduces another layer of content to be recorded and analyzed by scholars. All of these layers will make the field that much more exciting in the future, but as I noted earlier, the central concerns of oral historians will remain the same: building a trusting space for dialogue, generating probing and effective questions, developing deep listening skills, and producing sophisticated interpretations of orally expressed memories.

Notes

1. Joe Richman radio documentary, "The Legacy of George F. Johnson and the Square Deal," *Radio Diaries*, accessed May 5, 2014, <http://www.npr.org/2010/12/01/131725100/the-legacy-of-george-f-johnson-and-the-square-deal>.
2. *The Virtual Oral/Aural History Archive*, "Welcome to the Virtual Oral/Aural History Archive," accessed September 8, 2012, <http://www.csulb.edu/voaha>.
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4. *US Labor and Industrial History World Wide Web Audio Archive* (Department of History, University at Albany, State University of New York), accessed September 8, 2012, <http://www.albany.edu/history/LaborAudio>.
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7. *JMMH*, 1(1) (1998), accessed June 5, 2014, <http://www.albany.edu/jmmh/vol1no1/v1n1.html>.
8. Thomas J. Kriger, "The 1939 Dairy Farmers Union Milk Strike in Heuvelton and Canton, New York: The Story in Words and Pictures," *JMMH*, 1(1) (1998), accessed June 5, 2014, <http://www.albany.edu/jmmh/vol1no1/dairy1.html>.
9. *JMMH*, 3 (2000), accessed June 5, 2014, <http://www.albany.edu/jmmh/vol3/harvan/index.html>.
10. Charles Hardy III and Alessandro Portelli, "'I Can Almost See the Lights of Home': A Field Trip to Harlan County, Kentucky," *JMMH*, 2(1) (1999), accessed June 5, 2014, <http://www.albany.edu/jmmh/vol2no1/v2.html>.

11. Mary Larson, "Potential, Potential, Potential: The Marriage of Oral History and the World Wide Web," *Journal of American History*, 88(2) (September 2001): 600–601.
12. MATRIX Center for Digital Humanities & Social Sciences, accessed June 5, 2014, <http://www2.matrix.msu.edu/about>.
13. *Lamont-Doherty Earth Observatory of Columbia University: An Oral History, 1949–1999* (New York: Columbia University Oral History Research Office, 1999).