Interfaces • Studies in Visual Culture

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Steve F. Anderson

Technologies of History

Visual Media and the Eccentricity of the Past

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Contents

Acknowledgments vii
Introduction 1
1 ▪ Fantastic History 17
2 ▪ Cultural Memory 49
3 ▪ Found Footage 68
4 ▪ Home Movies 88
5 ▪ Materialist History 101
6 ▪ Digital Histories 122
Conclusion 162
Notes 171
Bibliography 195
Index 203

6 Digital Histories

It is a truism of the post-Foucauldian world that the very existence of categories of knowledge and institutionalized disciplines shapes what and how we think. Just as the emergence of the photographic apparatus altered nineteenth-century perceptions of the world,[1] increasingly powerful digital tools for storing, retrieving, and combining historical information now impact the way the past is conceived and reconstructed.[2] The global reach and virtually limitless storage capacity of the Internet, in particular, has inspired universities, libraries, and archives to reposition themselves as producers and distributors rather than simply preservers and guarantors of information. As a result, institutional resources are increasingly redirected toward the digitizing and organizing of historical information into databases that are accessible via both public and proprietary computer networks. The growing conception of computers as offering access to a master network of interlocking databases points to a transformation of fundamental notions of the past and the nature of historical research. It is within this milieu that Hal Foster asks, "Is there a new dialectics of seeing allowed by electronic information? . . . Art as image-text, as info-pixel? An archive without museums? If so, will this database be more than a base of data, a repository of the given?"[3]

One answer may be found in the movement toward recombinant or "database histories"—that is, histories comprised of not narratives that describe an experience of the past but rather collections of infinitely retrievable fragments, situated within categories and organized according to predetermined associations. These collections in turn offer users, whether they are artists, gamers, or geeks, both the materials and structures by which the past may be conceived as fundamentally mutable and reconfigurable. Taking advantage of the logics of remix and computational culture and the kinds of repetitions and modifications built into video games, these projects rest along a continuum, moving from serious artworks to pop-culture hacks; however, they share a staunch refusal of the stability of a single "history," instead offering us a relation to the past that is always already open to continual revision and reinterpretation.

Writings in literary theory and the philosophy of history have demonstrated that the various forms that historical writing have taken are deeply entwined with the prevailing ideologies and literary conventions of their

time.[4] In recent decades, similar efforts have been undertaken to theorize relations between motion pictures and "history." With the provisional incorporation of cinematic and televisual histories into academic curricula, historians have begun to recognize the unique power of media to bring the past "to life," promoting public interest in and—with some caveats—knowledge of historical events. A degree of experimentation with form, telescoping of temporality, and character compositing is even tolerated in the interests of pursuing "serious engagement" with the past.[5] Although much that is written about film and history remains devoted to correcting the media industries' more flagrant departures from fact, larger questions pertaining to the impact of visual media on fundamental conceptions of the past lie just beneath the surface.

When the perceived reality of the cinematic spectacle is mobilized against, rather than in service to, the interests of a consensual historical narrative, strategies of historical construction and rhetorics of authenticity are brought to light. This is particularly important within the realm of digital historiography, where the already problematic ontological status of photographic realism confronts even greater challenges. However, rather than focusing on the potential for artifice, the majority of public discourse surrounding the move to digital image acquisition has focused on the ability of digital video to capture or emulate the real world beyond the capabilities of conventional cinema. Returning to cinema verité's long outworn association of authenticity with the immediacy of a newly mobilized cinematic apparatus, the Danish Dogme 95 movement, for example, eschewed all forms of Hollywood artifice, gratuitous action, and generic convention. Directly inaugurated by the high-quality images captured by small, consumer-grade mini-DV cameras, Dogme 95's "Vow of Chastity" required its signatories to declare, "My supreme goal is to force the truth out of my characters and the frame of the action."

Considerations of the role of digital image processing in Hollywood have likewise tended to emphasize the potential for verisimilitude. Historians have approvingly noted Ridley Scott's elaborate reconstructions of ancient Rome in *Gladiator* (2000) and Steven Spielberg's meticulously researched, prehistoric microcosms created for the *Jurassic Park* trilogy (1993, 1997, and 2001). Computer-generated imagery, thus deployed, reinscribes these cinematic visions of the past within a narrative realist tradition that is coextensive with the type of literary history theorized by Hayden White in the 1970s. In spite of its potential for radical experimentation with eccentric forms of historiography, digital media's potential to construct willfully counterfactual histories—for example, the compositing of Tom

Hanks into archival footage in *Forrest Gump*—has been largely written off as a symptomatic excess of postmodern culture.[6]

In practical terms, the implications of digital technology for archiving have largely focused on technical questions of how best to preserve and disseminate historical data using rapidly expanding networks, notoriously transient file formats, and unstable storage media. Equally important debates have emerged around questions of intellectual property and the control of archival images, film, video, and sound recordings.[7] With the concentration of image and sound archives in the hands of a decreasing number of media conglomerates, the ability to construct widely distributable visual histories increasingly necessitates cooperation with, or oversight by, corporate entities. A few organizations have been established to advocate noncorporate-dominated solutions to these problems, including the Long Now Foundation, which is devoted to long-term planning for the preservation of digital culture; the Electronic Frontier Foundation, which promotes freedom of expression in the digital domain; and the Open Video Alliance, which promotes open standards and nonproprietary tools and codecs as fundamental to the production, dissemination, and archiving of digital video. It is ironic—perhaps even tragic—that historiography, at the very moment when it is poised to reap the greatest rewards offered by digital technology, is instead faced with its greatest threats to innovation, longevity, and accessibility.[8]

Total Archives

Well before the advent of the computer age, the analytical philosopher Arthur Danto described the "Ideal Chronicler" in 1965, using the term to designate a hypothetical model for the ultimate form of history writing.[9] For Danto, the ultimate historian would be one who could produce a complete record of all historical events—including analyses of their significance from multiple perspectives—at the same moment they are happening. Although originally postulated in order to demonstrate the impossibility of an objectively perfect form of historiography, the values reflected in Danto's ideal—comprehensiveness, multiple perspectives, and immediacy—resonate with those promised by the proliferation of today's searchable databases and digital distribution networks. Like the map described by Jorge Luis Borges in "On Exactitude in Science," in which the map of a territory becomes so detailed that it replicates the territory itself, Danto's ideal chronicler is symptomatic of a view of historiography as a totalizing process rather than one that is necessarily

fragmented, indeterminate, and partial.[10] Setting aside for a moment those euphoric expectations of the wholesale transformation of culture that was supposed to accompany the digital age in the late twentieth century, information technologies—for better or worse—have undeniably altered the way historical data is captured, processed, and disseminated. Coupled with the totalizing impulse described by Danto and Borges, contemporary digital historiography seems destined to continually promise a direct and unproblematic relation to the past that awaits only the technical apparatus capable of rendering it in its totality.

But even if such a form of historiography were possible, the resulting accounts of the past would be about as useful as Borges's map. Histories that are not subject to revision and debate are also drained of dynamism and interest. More importantly, this type of "total history" is removed from the arena of social and cultural politics, where meaning is formed in relation to the needs of the present and desires to transform the future. A more valuable conception of historiography is not one that recovers or preserves an objective factual history but rather one that engages actively in the conflicts and uncertainty of the past. We are not constrained by the impossibility of total historical preservation. Rather, we are freed by it to construct a relationship with the past that is imperfect and improvisational and to understand "history" as constituted through multiple voices and cascading layers of meaning.

We may find hope in the fact that digital technologies have also enabled strategies of randomization and recombination in historical construction resulting in a profusion of increasingly volatile counternarratives and histories with multiple or uncertain endings. At the heart of these alternative visions of the past are the database and search engine, still the primary mechanisms for organizing and disseminating information within digital archives. Whereas, since the 1970s, literary tropes have been recognized as offering a foundation for much historical writing,[11] the database and search engine enable nonlinear accessing and combining of information into forms that defy both literary and historical conventions. Works of history once understood to comprise an expanding field of collective historical knowledge are thereby repositioned as raw materials in infinitely reconfigurable patterns of revision, remixing, and recontextualization. These two divergent thrusts within digital historiography represent competing conceptions of the past and give evidence of increasingly contested paradigms for historical epistemology.

An additional, a cautionary note from Borges may be found in the short story "Funes the Memorious." Also written long before the advent of

digital culture, Borges's story presents a critique of the debilitating weight of the perfect recall seemingly promised by increasingly capacious digital archives. The story's eponymous character suffered a head trauma as a child, which left him with the mind-numbing ability to remember every detail (visual, emotional, and somatic) of every event he ever experienced. Overwhelmed by the continuing overaccumulation of data in his head, Funes is eventually forced to spend his days sequestered in a darkened room, avoiding all sensorial experience.

> In effect, Funes not only remembered every leaf on every tree of every wood, but even every one of the times he had perceived or imagined it. He determined to reduce all of his past experience to some seventy thousand recollections, which he would later define numerically. Two considerations dissuaded him: the thought that the task was interminable and the thought that it was useless. He knew that at the hour of his death he would scarcely have finished classifying even all the memories of his childhood.

Borges proceeds to suggest that his character's inability to forget has driven him to the brink of madness, devising ever more arcane numerical and linguistic systems in an attempt to structure and regain control over the contents of his mind. "Without effort, he had learned English, French, Portuguese, Latin. I suspect, nevertheless, that he was not very capable of thought. To think is to forget a difference, to generalize, to abstract. In the overly replete world of Funes there were nothing but details, almost contiguous details."[12]

In Borges's story, the burden of recall prematurely ages and eventually destroys Funes's body, while his mind ceases functioning except in its efforts to control the rising flood of memories, compounded by each recollection and recollection of a recollection, like the infinitely compiling data of a feedback loop. By the end of the story, Funes can neither process nor make sense of the details he holds in his mind. He can no longer think, the story's narrator notes, because thinking requires forgetting, abstracting, and generalizing. Funes is immobilized by his inability to balance the active interplay between remembering and forgetting by which meaning is constructed.

The challenge, likewise, for digital archives is their inability to forget —or rather, their inability to forget *creatively*. We are all too familiar with the capacity for digital information systems to lose or corrupt our data. But it is equally debilitating when data is inadequately tagged or organized, not just for access but also as vehicles of interpretation. Memories,

then, are best understood not as data but rather as the raw materials for interpretation and transformation into vibrant, critical histories.

The Role of the Historian

Along with the shift to digital histories comes a change in perception of the role of the historian. The medieval historian, as White noted, was exemplified by the disinterested chronicler or annalist whose sole responsibility was to record the facts of the past as a realization of God's will, free of interpretation or context.[13] The historian of the modern era, in contrast, is often characterized as a detective, a lone, single-minded professional trained to seek out and judge the authenticity of historical evidence, artifacts, and testimony. These shifting conceptions of historical work and historical evidence suggest yet another model for the working historian—that of the computer hacker who is able to freely traverse computer networks and databases, discovering, reproducing, and linking data into new combinations.[14] The primacy once accorded to narrative in the structure of history writing is thus being significantly challenged by the recombinant potential of the database. The work of the historian, once understood as the "assembling of progressively larger historical truths,"[15] must now contend with the construction of open architecture databases and the accretion of huge volumes of data referencing historical events, facts, and images.

Dana Polan has noted that, in literature and film of the twentieth century, the figure of the university history professor is typically presented as an ineffectual and disconnected technician. Polan suggests that this is symptomatic of popular conceptions of the work of the historian as being the production of "reliable mimesis," citing the popularity of E. D. Hirsch's *Cultural Literacy* (1988) as a prime example of the repositioning of the past as "fixed pieces of knowledge and of history as positive retrieval."[16] With its list of five thousand references—dates, names, and facts—that "every American needs to know," Hirsch's annoying but influential book presents historical information in a database form that is structurally free of narrative and interpretation.[17] Historian Robert Rosenstone likewise notes that historians in popular culture suffer from an "image problem" exemplified by the figure of the history teacher in *All Quiet on the Western Front* (1930) who misrepresents the experience of combat in order to encourage young men to fight in World War I. Rosenstone also describes his profession's gravitational pull toward a mode of investigation that he calls "*Dragnet* history," which is characterized by the single-minded pursuit of "just the facts."[18]

Within popular culture, a few notable exceptions to these characterizations of the professional historian have appeared, including the figure of Spielberg's Indiana Jones.[19] Played by Harrison Ford, Jones first appeared in *Raiders of the Lost Ark* (1981), followed by *Indiana Jones and the Temple of Doom* (1984), *Indiana Jones and the Last Crusade* (1989),[20] and, after nearly two decades, the comeback feature *Indiana Jones and the Kingdom of the Crystal Skull* (2008).[21] Although unforgivably anachronistic in their unproblematic resuscitation of colonialist ideology, Spielberg's films offer a fascinating fantasy portrait of the heroic, modernist historian. In *Raiders of the Lost Ark*, Jones is a mild-mannered history professor who turns into a whip-cracking adventurer in order to rescue a biblical artifact from the Nazis. At the conclusion of the film, Jones has successfully subdued the natives on multiple continents, defeated the Nazis, and transported the "ark of the covenant"[22] from Africa to the United States. However, rather than being received as a world-changing historical relic, the ark is packed into a numbered crate and deposited in a massive government archive.[23] The film ends bitterly, with a crane shot that pulls back to reveal thousands, perhaps millions, of similar crates stacked floor to ceiling in a warehouse-like archive from which, it is clear, retrieval would be next to impossible.[24] For all his daring and selfless courage, Indiana Jones is, in the end, defeated by not the forces of evil or the supernatural but rather the implacable bureaucracy of a federal government archive.

More than a decade later, Spielberg would offer his own response to the irrelevance and obscurity of the total physical archive. During the production of *Schindler's List* (1993), Spielberg was reputedly so moved by hearing spontaneous testimonies of Holocaust survivors who came to witness the shooting of the film on location in Poland that he decided to begin recording survivor testimonies on video. Following the success of *Schindler's List*, which earned seven Academy Awards including Best Picture and Best Director, Spielberg established the Survivors of the Shoah Visual History Foundation. The foundation was charged with the Sisyphean task of videotaping testimonies by every living survivor of the Holocaust. Part of the goal was to create an undeniable mountain of evidence that would have a continuing presence generations after the last survivor has died. The Survivors Project resulted in interviews with over fifty thousand Holocaust survivors from fifty-seven countries, conducted in thirty-two languages, and compiled on over one hundred thousand hours of digital videotape.[25]

Faced with the overwhelming challenge of making this body of material accessible, the foundation began work on a proprietary, high-speed delivery network capable of providing access to all one hundred thousand hours of testimony at selected sites—mainly Holocaust museums and educational institutions—around the world. The interviews now reside in a system that allows viewers at multiple locations to retrieve full resolution video and sound over a fiber-optic network via a searchable, cross-referenced database.[26] The foundation has experimented with numerous systems for making this overwhelming array of video information accessible and usable, including a system for automatically generating montage sequences by tying a database of archival film images to an index of approximately eighteen thousand keywords associated with the spoken testimonies. The project databases were configured for dynamic combination so that, if a survivor referred, for example, to riding on a train, the video automatically cut to an image of a train while the audio continued in voice-over. In addition to adding somewhat generic visual variation to the interviews, this practice served to authenticate the memories of the survivors as direct historical evidence, a strategy in keeping with long-standing traditions of oral history and documentary filmmaking.[27] Innovative efforts to maximize the impact and relevance of the collection continue, and in 2007, the entire Shoah Foundation collection was relocated to the University of Southern California, where a full-time staff of researchers and archivists works to develop strategies for making the collection available for research and the production of scholarly works by students and faculty members.

The Survivors Project's singular privileging of experience in the case of Holocaust survivors may be viewed as a return to the role of the historian as an impartial chronicler and assembler of evidence. Due to the explicit preservationist motivations of the foundation, questions regarding the accuracy or verifiability of the oral histories captured on tape are elided entirely. The need to establish a primary record of these vanishing accounts in the face of historical revision and widely perceived tendencies toward cultural amnesia superseded the historian's conventional need for verification and cross-referencing of testimonial claims. In addition to the stated goals of the foundation, this vast archive, the overwhelming size of which renders its contents inseparable from its systems of access, may offer its greatest potential as not a total archive but rather a basis for subsequent interpretations and recombinations—a resource for future historical discourse as much as an end in itself.

The History You Deserve: Terminal Time

How can historiography be reconsidered not in terms of factual reclamation but instead as an active process of construction, animation, and recombination? The radical potential of the open architecture historical database lies in the prospect of reconfiguring the categories of knowledge on which our understanding of "history" is based. Much has been written about the complicity of technology in developing systems of social control and instruments of surveillance—both corporate and governmental. However, as Michel Foucault reminds us, the specific apparatuses of information storage and retrieval can also be tactically redeployed against constraining fields of knowledge. Foucault critiques the archive not simply because its structure conceals the networks of power from which it derives its authority but also because it creates static, categorical divisions of knowledge, obscuring how knowledge is acquired and deployed. As a repository of historical knowledge, the archive further promotes an image of unity and stability that belies the discontinuity of "history." Above all, Foucault argues, knowledge does not form itself into discrete unities. Like the past, it is discontinuous, disjunctive, and chaotic.

In *The Archaeology of Knowledge*, Foucault describes his own historical practice as marking a shift from viewing "history" as a grand, totalizing narrative to a splintered conglomeration of subdisciplinary investigations, each emerging from, and self-consciously subjected to, their own rules of formation. Foucault notes this movement away from a single "history" toward fragmentary histories as an important step toward acknowledging the chaos of the past and the unruliness of human thought. Discrete statements, he argued, must always be analyzed within a field of discourse and considered in relation to disruptions, discontinuities, thresholds, mutations, and limits.[28] Within the realm of visual historiography, one of the most provocative examples of this critical redeployment may be found in a project known as Terminal Time.

Created in 2000 by a group of artists, computer scientists, and filmmakers calling themselves the "Recombinant History Project," Terminal Time is an artificial intelligence-based interactive multimedia apparatus that constructs real-time historical documentaries covering the past one thousand years of human history. The creators of Terminal Time describe it as "a history engine: a machine which combines historical events, ideological rhetoric, familiar forms of TV documentary, consumer polls and artificial intelligence algorithms to create hybrid cinematic experiences for mass audiences that are different every single time."[29] Utilizing an

applause meter to gauge audience responses to a series of questions regarding values and beliefs, Terminal Time bases its historical narratives on a database containing thousands of still images, video clips, and written commentaries, which are rendered through a text-to-speech program. Each "history lesson" deploys the characteristic strategies of a conventional historical documentary—omniscient narration, reenactment, archival images and film clips, documents, artifacts, testimony, and so forth. The resulting minidocumentaries are broken down into three parts representing the time periods 1000–1750, 1750–1950, and 1950–2000. Following each narrative, the audience is asked a series of questions intended to refine and focus their attitudes toward ideologies of race, gender, colonialism, technological positivism, and so on. The content of the documentaries reflects a slightly exaggerated version of audiences' stated values, often making humorous associations and carrying historical ideologies to hyperbolic extremes.

Terminal Time's ironic appropriation of the audience-survey format critiques individuals' complicity in electronic data-gathering technologies used to create marketing profiles. As Terminal Time's creators note, "Especially as more computer-mediated interaction moves into networked environments (e.g., the Web), the very acts of user intentionality, those manifestations of the power of free choice lauded by information technology enthusiasts, have become the raw material for corporate data collection."

The questions asked by the Terminal Time apparatus self-consciously mimic the demographic sampling strategies of the consumer survey. Part performance, part installation, and part cinematic spectacle, the project's tag line is, "At long last, Terminal Time gives you the history you deserve!" The introduction to the Terminal Time apparatus clarifies its operating premises for the audience with the following tongue-in-cheek affirmation of Enlightenment rationality and order.

> With every new day, a new chronicle of history is born, arising from the ultimate design of the universe. Yet there is not the slightest theoretical importance in a collection of facts or sequence of facts unless they mean something in terms of reason—unless we can hope to determine their vital connection within the whole system of reality. We, as citizens of history are obliged to make and to be made by this system of reality since the beginning, and until the end, of time.

At a typical performance of Terminal Time, the apparatus is presented twice to a single audience. During the first presentation, the audience is encouraged to respond genuinely to the survey questions, expressing

actual biases and opinions. The second time, however, audiences are encouraged to elicit different responses from the apparatus in order to demonstrate its ability to respond to varying ideological beliefs.[30]

In one Terminal Time presentation, for example, an audience whose members first described themselves as optimistic, white liberals who were committed to technological progress chose, in the second presentation, to describe themselves as African Americans who believed that the greatest problem facing society was that people were forgetting their ethnic heritage. They also claimed to be in favor of legalizing drugs and continuing the decolonization of the Third World. The resulting "history lesson" portrayed Rastafarians as the central historical players with the main threat of globalization characterized as the breakdown of ethnic divisions. When the "documentary" reached the twentieth century, Nazi Germany was described as having the right idea about racial purity but being misguided in believing that the European races were superior to Africans. And in a subliminal flourish, each historical segment was accompanied by a reggae musical score. The stark contrast between these two visions of the past resulted in precisely the kind of humorous, yet critical, juxtaposition Terminal Time's creators intend.

Of greatest interest is not simply Terminal Time's illustration of the fairly commonplace assertion that "history" is open to multiple meanings that are dependent on ideology and preconception. A more provocative historiographical argument is posited in the premise of the apparatus that encourages audience members to lie—to pose as someone other than themselves—in order to generate alternate histories. In Terminal Time, historical truth and insight into the past are rendered accessible not through the conventions of academic historiography—exhaustive research or the careful treatment of facts—but rather through the dynamic interplay of truth and lie. Arguably, Terminal Time fails to pursue its own logic much beyond this observation, but in light of the remarkable persistence of positivist history, there is much to be gained from work that dissolves the binaries dominating discourses of film and history—fact/fiction; history/memory; and real past/invented fiction—and demythologizes the ideological investment of historical documentaries.

In another presentation of Terminal Time, the audience activated the antitheological "rationalist" historical narrative via the applause meter. The resulting historical narrative embraced and hyperbolized the premises of Enlightenment rationality: "Amazing technological advances flowed from the minds of the scientists. In England one of the first computers was built to crack the military codes. At the radiation lab at MIT, radar was developed, allowing ships and planes to see through night and fog." The proscience narrative voice-over proceeded with its celebration of the advancement of science, accompanied by images of scientists and industrial manufacturing. In a voice-over, linked to images of atomic explosions, the narrative concluded, "And some of the greatest physicists in the world developed the atomic bomb, perhaps the ultimate symbol of science and progress. When the atomic bomb shined the light of reason on Japan, the war was over." This final, horrific line is delivered—without emotion—by the digitally synthesized voice of the Macintosh voice synthesis program. The impassiveness of the artificial voice adds to the chilling impact of the statement and, by extension, poses a critique of the omniscient narrator's voice in conventional, expository documentary films. The detachment of Terminal Time's narrative voice also invites an ironic critique of the artificial intelligence apparatus as a means of transforming and recombining historical information. The computer faithfully delivers its programmed narrative without regard for the content of the story it tells. In light of the surfeit of computer data, artificial intelligence represents the most likely hope for traversing and channeling the networks of databases promised by information industries. Terminal Time thus offers yet another—increasingly problematic—model for the "historian" as an artificial intelligence apparatus that dispassionately traces associative threads within predetermined fields of possibility.

Overall, then, Terminal Time presents a three-pronged critique of documentary conventions, historical authorship, and utopian discourses of interactivity. Terminal Time further suggests a radical conception of historiography as enabled by digital technology and the proliferation of narratives driven by the logic of databases and search engines rather than the codified conflict-resolution structure of most commercial cinema and mainstream documentary filmmaking. The possibilities for permutation and recombination of historical information created by the Terminal Time apparatus guide viewers to embrace a mode of historiography that thrives on mutability, multiplicity, and lies. At their best, these technologies may give rise to a profusion of counternarratives and alternative histories constructed from the point of view of traditionally disenfranchised or voiceless peoples. However, the question of whether these works undermine fundamental conceptions of historical meaning remains open. Even in the midst of a culture of paranoia, the desire for coherent, historical narratives that rationalize the present remains powerfully seductive.

Nonetheless, the ease with which Terminal Time mobilizes historiographical and documentary conventions in the interests of ideology and

exploits the digital archive's capacity for repetition and recombination usefully calls into question the epistemological premises that have guided debates over media and history during the past three decades. Significantly, Terminal Time offers a form of participatory history in which individuals and groups are positioned as possessing the potential to radically alter conceptions of the past. In addition to highlighting the inherently ideological and mutable nature of "history," Terminal Time constitutes an unusually elaborate joke at the expense of historical documentary conventions. But it also poses a serious intervention in an entangled array of cultural discourses related to technology, corporatism, and historiography. Although Terminal Time represents a much-needed provocation and a rare exception to the rule, the goal of thinking about historiography in terms of not accuracy and factuality but rather recombinant multiplicity remains a faint glimmer on the horizon of mainstream studies of media and history.

The JFK Assassination in Digital Space

It is difficult to imagine a more thoroughly mediated historical event than the assassination of John F. Kennedy in Dallas, Texas, on November 22, 1963. The American cultural obsession with the assassination is well known, and I will not attempt to summarize it here.[31] Instead, I would like to focus on some of the ways the assassination has been textualized via digital media and technology. The body of media "evidence" surrounding the JFK assassination has continued to grow, ranging from the sober reenactments filmed by the Secret Service just days after the assassination, to the video art collective Ant Farm's ironically embodied performances documented in *The Eternal Frame* (1975), and to cinematic and televisual treatments such as Oliver Stone's *JFK* (1991) and *Quantum Leap* ("Lee Harvey Oswald," 1992). More recently, the proliferation of increasingly accessible 3-D models, digital reconstructions, and hybrids of photographic and computer-generated imagery have opened additional avenues of historiographical potential. As with the totalizing archival impulse of the database histories described above, this proliferation of "secondary" evidence yields a paradox: the combination of more information and increasingly powerful tools for organizing and accessing that information does not necessarily lead to greater certainty regarding the assassination itself. Indeed, these tools and their associated historical data make it possible to imagine a vast range of histories that do not necessarily move toward more accurate visions of the past.

Lee Harvey Oswald reenactments clockwise from top left: Sam Bakula in *Quantum Leap* (1992); Kevin Costner in *JFK* (1991); U.S. Secret Service, *The Assassination of President John F. Kennedy* (1963); and *JFK Reloaded* (2004).

The transition to digital imaging that occurred in the 1990s had both technical and epistemological implications for cultural discourse surrounding the assassination and its media records.[32] On one level, the "digital remastering" of documents such as the 8 mm movie film taken by Abraham Zapruder is coextensive with previous, photochemical processes to stabilize and clarify the film's grainy imagery.[33] And while both restoration efforts resulted in improved image quality, no definitive transformation of the film's interpretation has been forthcoming. Numerous attempts have also been made to use 3-D modeling to replicate the space of Dealey Plaza where the assassination took place. In 2003, for example, the Discovery Channel commissioned a comprehensive digital reconstruction of the plaza and produced an episode of the *Unsolved History* series called "JFK—Death in Dealey Plaza." This hour-long TV documentary proposed to bring together all known physical documentary evidence of the assassination (as well as filmed and photographed reenactments of their own) with the 3-D model in order to reexamine prevailing theories about the assassination. The emphasis, in these re-creations, was on establishing continuity and visualizing the physical spaces that were captured on camera, in essence, using digital models to create a spatialized context for a still primary set of *photographic* documents.

As the tools needed to create correctly scaled 3-D models of real spaces

have become more readily available, a number of virtual Dealey Plazas have appeared, each with varying investments in exploring the forensic aspects of the assassination. Perhaps the most controversial of these is the online video game *JFK Reloaded*, by the Scottish game design company Traffic, which was released on November 22, 2004, the date of the forty-first anniversary of the assassination. The premise of the game was determinedly minimal, presenting an opening screen that stated simply,

> Dallas Texas
> 12:30PM November 22nd, 1963
> The Texas Schoolbook Depository, sixth floor
> The weather is fine
> You have a rifle

The stated challenge of *JFK Reloaded* was simple: the player who most closely approximated the timing and trajectory of the three shots recognized by the Warren Commission's report on the assassination could win a cash prize of "up to $100,000." The competition lasted only three months, and the game went offline in August 2005 amid widespread controversy.[34]

The condemnation of *JFK Reloaded* in the press was nearly unanimous, with public figures including Senator Edward Kennedy coming forward to denounce the game. I am not interested in adding to the chorus of moral condemnations of the game, or even in decrying its uncritical reification of the Warren Commission report. What interests me instead is the way the game has continued to live on, not in interactive form, but rather in the form of video documents of player interactions. With the game's official Web site offline, the closest thing to experiencing *JFK Reloaded* is through machinima[35] video recordings of playthroughs of the game, dozens of which are readily viewable via online video sharing services such as YouTube. Even a cursory survey of these videos reveals a remarkable array of the divergent trajectories of digital historiography outlined above. Although they are in the minority numerically, a significant number of the videos are posted by players who have attempted to adhere rigidly to the game's rules and have documented their highest-scoring playthroughs. The game encourages this type of reflection by offering postmortem repetitions of the gameplay viewable from multiple perspectives, including a ballistics report showing the impact points of each shot and a view from the virtual viewpoint of Zapruder. Players are thus invited not only to "make history" by playing the role of Lee Harvey Oswald as scripted by the Warren Commission but also to create their own Zapruder film—

complete with image quality that is processed to resemble early 1960s Kodachrome—as a memento of their marksmanship.

A far greater number of *JFK Reloaded* machinima videos, however, take a different approach, exploiting the potential for the game engine to depart radically from not only the historical record but also the laws of physics. For example, a player choosing to shoot not at the president but rather at the drivers in the motorcade can create multiple car crashes resulting in extreme carnage in the plaza. Carefully placed shots can even result in a pileup of cars in the motorcade, causing vehicles to be propelled high into the air. Still other videos reveal more perverse targeting strategies such as one titled "LBJ Reloaded," in which the vice president riding in the second car is assassinated, and another titled "Historical Inaccuracies" that focuses on car crashes, while other videos target the president's wife, the motorcycle escorts, Secret Service agents, and so on.

Only a few critical treatments of *JFK Reloaded* have bothered to look beyond the ethical aspects of the game and its repeated citations by politicians and anti-video-game-violence pundits for whom *JFK Reloaded* makes a convenient scapegoat. Among these is a commentary by designer-theorist Tracy Fullerton, who considers the game in terms of its place in an emerging "documentary" tradition in video games. Fullerton correctly views *JFK Reloaded* as part of a continuum in documentary film production that expands the purview of the documentary mode into such nonobjectivist forms as essayistic or performative representation.[36] Likewise, Gareth Schott and Bevin Yeatman, in an article titled "Subverting Game-Play: *JFK Reloaded* as Performative Space," discuss the game in terms of its deployment of the qualities of "ludus" (game) and "paideia" (play), or the extent to which a game rewards adherence to rules and intended uses, compared with a more free-form approach to appropriating the possibilities of play.[37] However, neither of these accounts of the game focus on the assassination as a historical event or its implications as a form of historical re-creation.

Taken in isolation, *JFK Reloaded* might seem like an inconsequential aberration, but as a limit case, it exemplifies the two extremes (total order versus total chaos) enabled by digital re-creations. In between these two extremes, users of the multiuser virtual environment Second Life (SL) can visit a region called Dealey Plaza Dallas, created by a designer called TheHino Merlin for the SL-based advertising agency Avatar Promotions.[38] The Dealey Plaza simulator features an empty convertible that makes continual circuits of the plaza, while rifle shots are heard each time the car passes through the stretch of road where the assassination took place. Signs placed in the center of the plaza invite prospective advertisers to

buy space in the plaza, but as of this writing, no contemporary advertising may be seen, although a large-scale billboard for Hertz Rent-a-Car appears on the roof of the book depository, as it did in 1963. At the base of the Hertz sign, one of the few indicators of the use to which the space is put is an announcement of the meeting of a virtual T-birds car club every Tuesday. Periodically, Avatar Promotions also holds more complete re-creations of the assassination that are closed to public view, and the company promises that future iterations of the space will allow partial re-creations in which visitors may bring guns to the space and shoot at other avatars, though the convertible is designed to prevent avatars from occupying Kennedy's seat in the vehicle.[39]

As tools for representing surfaces of the earth continue to multiply, a useful comparison with the SL environment may be found in the Google Earth location corresponding with Dealey Plaza. Like most spaces in Google Earth, the rendering of Dealey Plaza allows access to multiple layers of information from widely varying sources. These include an assortment of commercial business listings and reviews, traffic and weather patterns in the area, embedded tourist photographs and videos, as well as reproductions of the Zapruder film and excerpts from various documentary accounts representing both sides of the conspiracy debate. There are also links to high-resolution "Panoramio" images of the plaza, Wikipedia entries, and so on. Perhaps most interesting are the community-contributed information placemarks, which articulate various narratives, some of which are interpretive or speculative, but the majority of which recapitulate versions of historical events from predictable perspectives. Beyond these publicly accessible information nodes, Google Earth allows for a virtually limitless array of privately interpretive data sets to be embedded in a Google-owned database. Taking the form of extremely compact KML files, competing histories of the assassination may be articulated, visualized, stored, and distributed via a single interface.

Google Earth, along with parallel efforts such as Microsoft's Virtual Earth project, is indicative of the movement toward increasingly hybrid online representations of physical spaces. Although somewhat tangential to the focus of this chapter, these systems for capturing and representing the world have historiographical implications. The long-term vision of these projects seeks a thorough integration of the physical world with the data world—or, more precisely, the linkage of photographic representations of the physical world with data *about* the physical world. As tools for mapping photographs onto 3-D models—such as Michael Naimark's Viewfinder project for Google Earth and Microsoft's Photosynth for Virtual

Earth—seek to seamlessly merge these two representational paradigms, the power of combining the efforts of distributed communities of users with centralized computational systems becomes apparent. Increasingly, the structural capacity of these tools for including annotations (text, photographs, audio, and video) in conjunction with map coordinates suggests a provocative merging of geospatial and historiographical documentation. The evolving transformation of conceptions about space occasioned by this combination of tools and social practices thus also has implications for our ever-changing relations to the construction of history.

Visualizing Histories

Visualization has emerged as one of the most powerful modes of digital historiography of the past decade. Tools for automating and customizing the display of historical information have proliferated in parallel with the evolution of the dynamic Web and protocols such as XML, RSS, and APIs that facilitate the circulation and recombination of data from multiple sources. As with other tools for digital historiography, the current and ever-changing slate of timeline visualization tools has the potential to faithfully present consensual visions of the past as well as more contentious or discontinuous forms of historiography. Without exception, however, these tools are conceived and presented as powerful tools in the service of making accepted histories broadly legible and encouraging the curation of specialized collections of events by historians and amateurs alike.

One example is TimeGlider, a free, online tool formerly known as Mnemograph, which offers this summary of its capabilities:

> There is a wealth of historical information available on-line today, but much of it is organized in long web-page tables so that the information is there, but much of the meaning is held captive. The time has come for a new way to visualize and share historical information. TimeGlider is a free web-based timeline application. Already used by academics and amateur historians around the world, it represents a new and intuitive way of visualizing historical information. An interactive axis of time runs across the screen around which you create, import, and categorize events. A canvas stretching from the big-bang to any point in the future, it lets you zoom out to see millennia and zoom in to see details down to the minute.[40]

TimeGlider also includes a tool for analyzing the frequency of keywords appearing in the *New York Times* and is architected to accommodate

similar data streams from other sources. In its API documentation, the *New York Times* Web site marks an interesting distinction between the digested news offered in its print and online editions and the raw data by which the contents of the paper may be reconfigured. "You already know that NYTimes.com is an unparalleled source of news and information. But now it's a premier source of data, too—why just read the news when you can hack it?"[41] The ability to scrape parsed text data from the *New York Times* has given rise to numerous projects that take the *Times* up on their offer to "hack" the paper's contents, but few of these efforts attempt to genuinely revise the dominant narratives of this mainstream news source, instead serving to reify the authority of a corporate entity as a primary arbiter of historical information.

The Massachusetts Institute of Technology's (MIT) open source Simile project offers another example of the dynamic Web being mobilized for a range of data visualizations and reconfigurations. Two of the group's earliest efforts include Timeline and Timeplot, widgets for capturing time-based data from Web sources and visualizing them in a customizable, extensible, interactive interface. Interestingly, the first public sample of Timeline maps the events of the JFK assassination into a scrollable interface, drawing information from multiple sources and offering users the ability to add commentary or annotation to each item in the timeline. Based on the same underlying Simile architecture, Timeplot adds the ability to plot quantitative information onto a timeline, allowing users to visualize statistical changes (e.g., energy prices, presidential approval ratings, and immigration patterns) over time. Commercial software for creating timeline-based visualizations such as Beedocs have also appeared in recent years, encouraging the creation of 3-D and graphically sophisticated timelines for presentations and online publication. Never before has the creation of visually compelling, convincing, and complete histories been so readily available to would-be visual historians. But even as content-agnostic tools continue to proliferate, we must ask whether the paradigms we have for thinking about the past have kept pace with the sophistication of such expressive platforms. The most interesting histories are not necessarily those with the greatest capacity for multiplicity, reconfigurability, or even managing quantities of diverse data.

Augmented Histories

Often cited as the first "location aware narrative," "34 North 118 West" was created by artists Jeff Knowlton, Naomi Spellman, and Jeremy Hight

in 2002, using still novel GPS tracking in conjunction with a laptop computer to embed audio files in the urban landscape of downtown Los Angeles. Users of the system were guided around the streets and open spaces surrounding a former train depot (currently home to the Southern California Institute of Architecture). When users entered a virtual hot spot, an audio file was triggered, conjuring a fictional audio narrative and sound effects from the area's presumptive past. A similar project, Jan Torpus and Nikolas Neecke's "LifeClipper," was launched in the city of Basel, Switzerland, in 2004, providing a historical overlay with images and narrative elements depicting the city's rich medieval history. Users of LifeClipper's augmented reality system wear a head-mounted display and headphones through which the surrounding environment is mediated, blending historical overlays with real-time video images of the spaces of the city. The user moves through GPS-identified zones that include content pertaining to the city's past—an eight-hundred-year-old paper mill, for example, or the image of medieval soldiers who walk along one of the city's fortress walls. Pressure sensors placed in the user's shoes transmit signals to a computer system that is carried in a backpack, signaling whether the user is walking at any given moment, which in turn affects the contents of the video overlay.

The "blended histories" of LifeClipper are also reminiscent of the core trope of visual historiography developed for a series of DVD ROMs produced by Marsha Kinder's Labyrinth Project between 2000 and 2005. Several of the Labyrinth projects, including "Bleeding Through: Layers of Los Angeles, 1920–1986" and "Cultivating Pasadena: From Roses to Redevelopment" feature the ability to interactively merge current and past images of Los Angeles and Pasadena, California, respectively. The visual trope of the "bleed-through" was initially developed by members of the Labyrinth design team, which includes Rosemary Comella, Kristy Kang, Andreas Kratky, and Scott Mahoy, for the digital adaptation of Norman Klein's book, *The History of Forgetting: Los Angeles and the Erasure of Memory*. The premise underlying both Klein's book and Bleeding Through is the instability and uncertainty of history, which is amplified by the amnesia-inducing omnipresence of the media industries in Los Angeles. Indeed, the central figure of both projects is described as "Molly, a fictional character based on a real life person who may have murdered one of her husbands."[42] Klein's book is additionally remarkable among works of cultural history in its deliberate inclusion of fake footnotes and references to imaginary historical events such as the emigration of Walter Benjamin to Los Angeles in the late 1930s, making it an ideal source for

the historiographical orientation of Labyrinth. For more than a decade, Kinder's Labyrinth Project has created some of the most evocative explorations of the intersection of digital scholarship, cultural history, and personal memoir, simultaneously destabilizing the authority of archival history while reasserting the importance of histories that emerge from the conjunction of personal and culturally specific narratives.

Each of these components of historiographical augmentation comes to fruition through the capabilities of the current generation of GPS-enabled mobile devices, which obviate the need for backpacks, laptops, and head-mounted displays to incorporate historic images into the experience of real spaces. One such project is the Museum of London's augmented reality project Streetmuseum (2010). Streetmuseum allows iPhone and iPad users to access hundreds of historical images from the museum's collection, creating overlays with the physical spaces of contemporary London when accessed in conjunction with GPS coordinates from a mobile device. A free application created by Thumbspark, Ltd., Streetmuseum offers users "a window through time" with supplementary "historical facts" available at the tap of a button. The narrative of Streetmuseum positions users in the role of a tourist-detective faced with the challenge of reconciling historic evidence of "both everyday and momentous occasions in London's history, from the Great Fire of 1666 to the swinging sixties" with the reality of today's downtown London:

> Of course, with thousands of years of turbulent history, London has changed many times so some streets or buildings may not exist today. Where precise locations aren't available, relish the challenge of identifying recognisable landmarks which may offer you clues as to the current day site. A street name in the background or a church spire in the distance may be all you need to find the view. Our descriptions can also help you locate the right spot.[43]

Although Streetmuseum is far from the first to pursue the conjunction of historical materials and real-world spaces, the richness of its archive and accessibility to a growing user base make it worthy of note and a likely precursor of many similar projects to come. As GPS-driven technologies for merging real and virtual spaces become increasingly ubiquitous, we may expect that the current fixation on experimentation along the temporal axis (i.e., GPS-based positioning is still used instrumentally to achieve the "correct" registration of historic images or narrative data in contemporary spaces) will give way to explorations of the potentials of augmented history that include more complex and disruptive spatial dimensions as well.

Simulating Histories

The question of digital media's ultimate role in what we remember and how we view ourselves in relation to the past remains the subject of ongoing debate as tools for the visualization of history proliferate across platforms, networks, consoles, and screens. It is striking how readily such debates, which often purport to be specific to digital culture, precisely recapitulate the concerns voiced by previous generations of media critics and historians with regard to film, video, and television.[44] Like mainstream cinema, the commercial video-game industry is replete with examples of games that are set in the past.[45] Also like Hollywood film, this "past" readily includes both fictional and factual events, people, and places, sometimes maintaining rigid boundaries between fact and fiction, other times reveling in the conflation of the two. Often these games' past*ness* functions essentially on the level of production design for stories that are only incidentally related to a specific time period (e.g., popular games set in antiquity, such as the *Prince of Persia* or *God of War* series), while others such as the *Civilization* franchise or World War II games such as *Call of Duty* make more explicit reference to concrete historical events, staging reenactments of well-known battles and interspersing quotations by historical figures throughout the game.

A significant difference from mainstream film, however, is the possibility that game titles may be modified by communities to address historical inaccuracies. A prime example is Sega's *Total War* game engine used to create titles such as *Rome: Total War, Napoleon: Total War, Shogun: Total War,* and *Empire: Total War,* each of which has been heavily criticized for taking liberties with historical facts, ranging from the particularities of soldiers' costuming, armaments, and battle strategies to the presence of deeply anachronistic historical elements (e.g., critics of the Egyptian campaign in *Rome: Total War* pointed out that the depicted use of chariots in the game is off by nearly seven centuries. A well-known community response to *Rome: Total War* was a "mod"[46] called *Rome: Total Realism,* which sought to correct these and many other historical inaccuracies at the level of graphics, narrative, and the algorithms that drive the game's battle mechanics. According to their Web site, "The *Total Realism* community is a volunteer, not for profit team of development groups, administrators, moderators, and historical scholars working together to provide a quality range of modifications, presenting history as it should be viewed, with accuracy and an eye for realism."[47]

Like many commercial games, Ensemble Studios' historical strategy

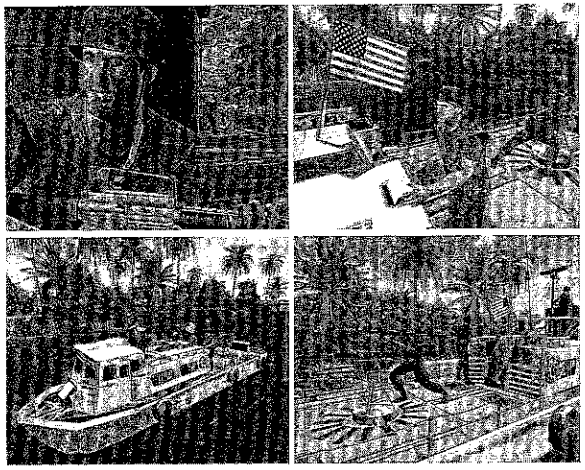
series *Age of Empires* offers an internal "scenario editor" that allows players to customize their own battles and narratives, potentially remixing elements from widely disparate cultures and geographies. A platoon of American Revolutionary soldiers led by George Washington can be made to do battle with Japanese Ronin swordsmen, for example, or Montezuma's Aztec warriors can take on the armies of Alexander the Great. Although internal editors make such idiosyncratic modifications readily available to individuals (as opposed to the long-term, technically complex community effort that went into the *Rome: Total Realism* mod), the vast majority of gamers choose to spend most of their time within the prescribed parameters of a game's core narratives and historical conventions. Unlike the chaotic impulses evidenced in player's misappropriation of the *JFK Reloaded* scenario, gamers' responses to the potential of even greater extremes of historical anachrony through "modding" and custom scenario editing instead tend toward faithful reproduction and didactic recapitulations of accepted historical fact.

Other examples of reality-obsessed game worlds include the stunning, photorealistic historical models of Renaissance Florence created for Ubisoft's *Assassin's Creed II* and Sid Meier's real-time strategy series *Civilization*, known for its complex simulations of thousands of years of human history. Like a majority of adventure games set in the past, the *Assassin's Creed* series treats its historical setting as little more than a meticulously designed backdrop, providing a thin narrative premise for the game's primary action.[48] Strategy-based simulation games such as *Civilization* have proven more agreeable to pedagogical contexts and, like historical films, are sometimes used in hopes of sparking student interest in temporally or geographically remote subjects. Although positively regarded for the complexity of the algorithms (balancing social, economic, agricultural, political, and geographical factors) used for modeling ancient, medieval, and modern civilizations, these simulation games are also widely criticized for lack of historical detail and emphasis on the drama of warfare. In each segment of *Civilization*, for example, players are invited to identify with specific civilizations and well-known leaders at crucial moments in history, for example, Abraham Lincoln during the Civil War, the Soviet Union's Joseph Stalin during World War II, Genghis Khan during the Mongol invasions, and so on. The historiographical premise of *Civilization* is thus more akin to historical fiction in its pedagogical applications, insofar as its perceived value lies in its ability to bring the past "to life." *The History Channel*, in fact, has begun coproducing history-related video games, including such titles as *Civil War: A Nation Divided* and *WWII Experience*.

With similarly explicit pedagogical intentions, the independent game company Muzzy Lane Software has developed *Making History*, a World War II strategy game that boasts Harvard historian Niall Ferguson among its advisors. Ferguson, who has long been a proponent of counterfactual history, was instrumental in the design of *Making History II* to include multiple counterfactual scenarios as a tool for thinking about twentieth-century global conflicts. As history-related games, mods, and customizable content continue to expand the range of digital historiography, it is incumbent upon critics not just to consider questions of accuracy but also to interrogate the teleological implications of algorithm-driven simulations based on known outcomes and reductive or deterministic relations of cause and effect. In spite of its vast potential, the relatively narrow range within which simulation is currently deployed places it among the least interesting and most conservative models for digital historiography. For our purposes, a more productive critical vector lies in investigating the role of interactivity in constructing a sense of engagement, possibility, and self-conscious historical agency.

Art and Politics in History Games: From *Kuma\War* to *The Cat and the Coup*

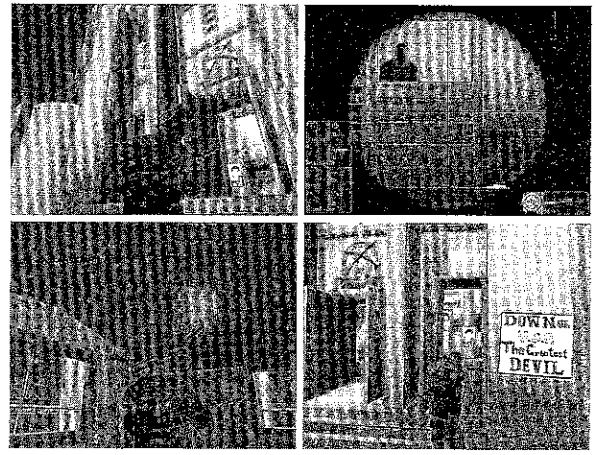
As with commercial cinema, the majority of games set in the past conform to one of two historiographical paradigms: fictional dramas or adventures set in a generic or panhistorical past and scenarios situated in proximity to specific historical events, where characters and actions are more or less constrained to replay a known historical outcome. Also following the pattern of cinema, however, a subset of games explores questions of alternative or counterfactual history while respecting the conventions of historical linearity and causality.[49] In February 2004, an independent company called Kuma Reality Games began offering downloadable games based on contemporary U.S. military operations in Iraq and Afghanistan under the series title *Kuma\War*.[50] The goal of *Kuma\War* was to capitalize on the ongoing war in the Middle East, with titles that are produced quickly and cheaply, incorporating scant historical specificity beyond a basic narrative premise. Although it is an independent company, Kuma has close ties to the U.S. military and presents generally sympathetic and prowar scenarios.[51] The games are known for including extensive documentation of the mission scenarios, which are often drawn from Pentagon documents, and Kuma promotes them as "Real War News. Real War Games," using the tagline, "Stop watching the news and get in the game!"



Kuma\War, John Kerry's Silver Star. (Kuma Reality Games, 2004)

On October 21, 2004, shortly before the 2004 presidential election, Kuma also invited players to get in the race between Democratic nominee John Kerry and incumbent president George W. Bush with the game *John Kerry's Silver Star*. The game responded to a campaign controversy in which decorated Vietnam veteran Kerry's war record was called into question by a veterans' group called Swift Boat Veterans for Truth. One of Kuma's few explicitly "historical" titles, *John Kerry's Silver Star* invited players to reenact the mission in 1969 when Kerry won a medal for "gallant actions in combat." It is difficult to know how the game was received by subscribers to the then new *Kuma\War* franchise, but the timing of the game's release exemplifies the company's strategy of garnering media attention through controversy. Although *John Kerry's Silver Star* allows players to fail in any number of ways, the game stops short of overtly authorizing the alternative account of Kerry's actions put forward by the Swift Boat Veterans.

In her analysis of Kuma\War as part of an emerging movement of "documentary games," Fullerton notes that, although Kuma games such as *John Kerry's Silver Star* allow players the ability to decide how closely they want to adhere to the historical record, "the technological cycles that have driven the game industry to date all seem to move toward a point of convergence at which photorealistic visuals and painstakingly accurate simulations will meet."[52] For Fullerton, the value of documentary games is as an extension of the documentary genre in cinema and television that adds potentially very powerful, experiential, and participatory components. Despite numerous limitations on the contemporary cultural



Kuma\War, Iran Hostage Rescue. (Kuma Reality Games, 2004)

status of games, Fullerton argues that documentary games "add to our understanding of historical events and the situations surrounding them, rather than simply allowing us to be 'in the moment.'"[53] Venturing further into the realm of speculative history, the Kuma title *Iran Hostage Rescue Mission Parts I & II* offers players the opportunity to replay another election-sensitive event, the Carter administration's ill-fated attempt to rescue fifty-three American hostages from Tehran in 1980. Kuma describes the *Iran Hostage Rescue Mission* as follows: "You are a highly trained Delta Force operator carrying out the Pentagon's actual plan to rescue 53 Americans held hostage in Tehran. Storm the besieged American embassy, free the hostages from the radical 'students,' and make it out of Tehran—a city swarming with anti-American militants—any way you can."[54] As a historical event, the failed Iranian hostage rescue mission has rarely been the focus of historical re-creation. Instead, it is widely viewed as having cost Jimmy Carter the election and setting the stage for the victorious Ronald Reagan's success in negotiating the release of the hostages shortly after taking office. Rather than historical revision, conspiracy-oriented readings of this event have focused on the Reagan campaign's suspected backroom dealings that delayed the hostages' release until after the election was decided.

On September 30, 2005, Kuma again raised controversy by releasing a mission set in Iran amid public concerns about the Bush administration's intentions toward the country, which had been named as part of a new "axis of evil" in Bush's 2002 State of the Union speech. The game *Assault on Iran* is described by Kuma:

As a Special Forces soldier in this playable mission, you will infiltrate Iran's nuclear facility at Natanz, located 150 miles south of Iran's capital of Teheran. . . . Your team's mission: Infiltrate the base, secure evidence of illegal uranium enrichment, rescue your man on the inside, and destroy the centrifuges that promise to take Iran into the nuclear age. Never before has so much hung in the balance . . . millions of lives, and the very future of democracy could be at stake.[55]

Assault on Iran thus recuperates the Pentagon and Bush administration's specious assertions about Saddam Hussein's possession of "weapons of mass destruction" (WMD) and the threat such weapons posed as the justification for invasion in March 2003. The undisputed fact that no evidence of WMD or their manufacture was discovered in Iraq makes this one of Kuma's most irresponsible premises but one that is equally historiographically inconsequential. Of greater interest for the present discussion are titles such as *Osama Tora Bora*, which allows players to succeed where real U.S. forces failed in 2001 to capture Osama bin Laden in the mountains of Afghanistan. Departing from the pro-Bush administration agenda behind most *Kuma\War* titles, *Osama Tora Bora* implicitly suggests that the pursuit of bin Laden may have been an appropriate high-priority goal for U.S. forces in the Middle East, while military resources were instead being channeled toward Iraq. Although it is beyond the scope of the game to pose a critique of the allocation of Pentagon resources, the alternative history allowed by *Osama Tora Bora* reveals a key structural limitation of the succeed-or-fail format of the missions in nearly all Kuma games. If it is of any consequence at all, the historiography of *Kuma\War* is best understood as a symptom of historical consensus as it is constructed and consumed via commercial media. While effective for marketing purposes, the "ripped from the headlines" approach to framing its narratives is only minimally conducive to the kind of disputation of interest here.[56] Whereas foregoing the temporal distance usually reserved for historical reflection might have resulted in more fluid drafts of historical construction, *Kuma\War*, in the final analysis, offers little more than a faster-than-usual timeline for releasing games based on real-world events.

Vietnam Romance *and* Waco Resurrection

Artist and designer Eddo Stern also uses video games to interrogate the function of "history" and its eccentric potentials. For more than a decade, Stern has been a central figure among alternative and art game design-

ers and the Los Angeles–based digital art collective C-level,[57] creating a provocative countercurrent of games and game-inspired art that draws attention to the presumptions, styles, and experience of gameplay. In two of his most remarkable works, *Vietnam Romance* (2003) and *Waco Resurrection* (2004), Stern reconsiders the potential for games to engage questions of history and memory. More than two decades after the heyday of Vietnam films in the late 1970s and '80s, Stern's *Vietnam Romance* mines a different archive of images and sounds not usually included in representations of the Vietnam War. *Vietnam Romance* borrows video sequences, graphics, and music from Vietnam-based video games to create a mashup that highlights the embeddedness of video-game technologies in their cultural-technical moment, with imagery that move seamlessly from the 8-bit graphics of *Platoon* (1988), often listed among the worst games of all time, to the visually rich game *Deer Hunter* (2003).[58] By eschewing concerns with stylistic coherence, Stern allows viewers to focus on what is evoked by these images and challenges them to compare the iconicity of video-game representations of the war with both cinematic and official historical renderings.[59] *Vietnam Romance* thus rewrites the cinematic iconography of the Vietnam War to include the game memories of a generation who first experienced the war as not a televisual or cinematic spectacle but rather a playable environment. Describing the project as "a tour of nostalgia for romantics and *Deathmatch* veterans," Stern updates the cultural discourses and long-troubling representations of Vietnam for the digital generation. *Vietnam Romance*'s jarring strategies of remix create unexpected resonances across films, TV, documentary, and games, with a result that it is at once serious and playful, ironic and perversely respectful.

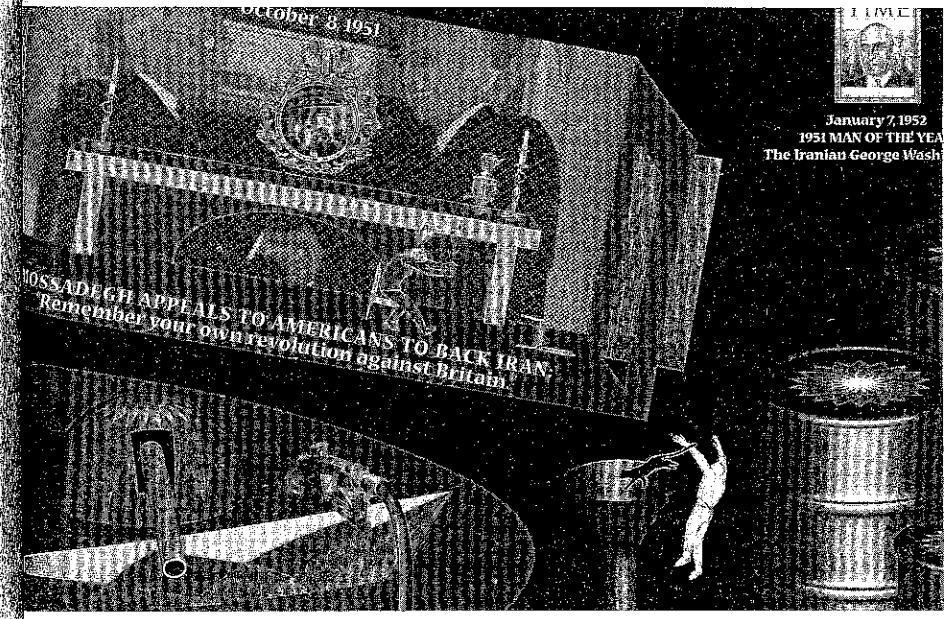
Where *Vietnam Romance* merely evokes nostalgia for gameplay, *Waco Resurrection*, created by the C-level design collective in 2003, focuses on reenacting the 1993 massacre of Branch Davidians by federal agents at David Koresh's cult compound in Waco, Texas. In an inspired twist on the conventions of multiplayer gaming, every player occupies the role of Koresh himself, making life-and-death decisions on behalf of himself and his followers, while coming into potential conflict with the other Koresh players in the game. Stern's multiplication of Koresh figures in the game environment responds brilliantly to the historiographical dilemma of addressing uncertainties or conflicting versions of past events. At the same time, players are invited to empathize with the situation of both Koresh and his followers during the final hours of the fifty-one-day siege, during which fire destroyed the compound, killing seventy-six Branch Davidians.

Each Koresh figure has the opportunity to focus his energies on the agents, including, bizarrely, the ability to convert agents to become cult members or to engage his rivals inside the compound. Players are therefore literally engaged in both internal and external conflicts, and playing against insurmountable odds, due to the all too well-known outcome of the siege. No matter what path a player takes, the compound will inevitably be destroyed and Koresh will die. By focusing on not outcome but instead process and experience, *Waco Resurrection* suggests a genuinely radical, alternative approach to playable historiography.

The Cat and the Coup

The Cat and the Coup is a video game created by Peter Brinson and Kurosh ValaNejad, taking as its subject the overthrow of Iran's democratically elected prime minister Mohammad Mossadegh, and the United States' role in returning the country to monarchist rule under the shah in 1953. On one level, *The Cat and the Coup* could be understood as a microhistory, focusing on a specific, historical incident, using factually grounded sources such as *New York Times* headlines to recapitulate a once-contested but now largely consensual history. Indeed, the game focuses on revisionist accounts of Mossadegh's overthrow that admit to the central role played by the United States. This aspect of the narrative is introduced as neither controversy nor correction but rather a taken-for-granted and by now all too familiar pattern of foreign interventionism by the postwar United States. What makes *The Cat and the Coup* remarkable is its entirely novel positioning of the player. He or she does not play Mossadegh or any of the key historical figures, and indeed, Truman, Churchill, and the shah are all presented as background figures with animal heads (a bunny, a bulldog, and a peacock, respectively). Instead, the player adopts the role of Mossadegh's cat.

The game's interface is deceptively simple, using only arrow keys to control the movement of the cat through a meticulously designed 2-D space, art directed by ValaNejad in the style of intricately crafted Persian miniatures. The game mechanics are likewise deliberately stripped down, allowing for severely limited intervention as the story unfolds, at first backward through time beginning with Mossadegh's death in 1967 to his rise to power in 1951; then the game switches direction to move forward, allowing us to reexperience the coup and revelations of U.S. involvement, proceeding through to his death. Thus, player agency is also limited to only the first half of the game, via a series of puzzles that must be solved



Iranian prime minister Mohammad Mossadegh and his cat plummet through history in *The Cat and the Coup*. (Brinson and ValaNejad, 2010)

through indirect actions by the cat, each of which results in Mossadegh falling downward into the next level of the game. The player must then choose to follow Mossadegh on his downward plunge by leaping into the unknown, a metaphor for the uncertainty of historical outcomes, but as a cat, the player is assured of landing on his or her feet, unlike Mossadegh. This serial descent is ultimately followed by a protracted scene in which Mossadegh floats on a rising tide of oil back through the game space, now clarified with historical photographs and newspaper headlines, ultimately returning to his deathbed, perhaps realizing for the first time the extent of his betrayal by his allies in the West.

The stylistic choices of *The Cat and the Coup* deliberately avoid the conventions (cuts, fades, and dissolves) of cinema, opting instead for a contiguous spatial aesthetic and visual iconography that is part photographic and part illustration, coupling ValaNejad's painstakingly crafted backgrounds and textures with simple line drawings for Mossadegh and the cat. Brinson, who is a former member of C-level and a cocreator of *Waco Resurrection*, conceptualized *The Cat and the Coup* as an opportunity to create a connection between players and what is for many a

remote and idiosyncratic historical moment. Players are limited to solving short-term puzzles that have uncertain outcomes, a metaphor that Brinson likens to historical agency itself, noting that "historical figures don't always know what they're doing and what the consequences of their actions will be. The inability to concoct long-term strategies or predictable outcomes is emblematic of American foreign policy that focuses on short-term solutions."[60]

What makes *The Cat and the Coup* exemplary from a historiographical perspective is its striking adherence to, and departures from, the historical record. We have no reason to believe, for example, that Mossadegh had a cat or indeed a domestic pet of any kind—nor is the cat intended as a surrogate for a historical figure or even the whim of historical chance. While it is tempting to read the cat as a metaphor for Western meddling in Iranian affairs of state, the cat's inability to bring about direct consequences suggests the need for a more nuanced reading. The cat is simply the vehicle for our engagement with this particular historical narrative, and like historical agents, our role wavers between seemingly arbitrary constraints and actions with uncertain outcomes.

Each of these examples—*JFK Reloaded*, *Kuma\War*, *Vietnam Romance*, *Waco Resurrection*, and *The Cat and the Coup*—represents a variant on the potential conjunction of games and history, ranging from procedural mayhem and designed uncertainty to a wholly conservative recapitulation of cause-effect gameplay with a historical veneer. Like other forms of popular culture-based historiography, the commercial gaming industry has both great potential and limited wherewithal to make significant contributions to the cultural discourses of history. For every art game that achieves the level of thoughtful experimentation seen in *Waco Resurrection* or *The Cat and the Coup*, the industry markets a dozen games with premises no more sophisticated than the plethora of alternative histories focusing on World War II or Cold War reversals of fortune. Indeed the default preoccupation of commercial history games precisely mirrors that of commercial cinema by presenting a recognizable set of historical *or* counterfactual circumstances within which a player may exercise varying degrees of agency in affecting a sequence of events. In theory, computational histories should rival and surpass linear histories for their potential impact on creative reinterpretations of the past, but it is a rare work of experimental history that takes full advantage of this capability.

Remixing Katrina: Internet as Public Memorial

If video games offer a foundation for one platform of unorthodox digital historiography, the amateur music video offers yet another. Some of the most vibrant examples occurred in response to Hurricane Katrina, which hit New Orleans in August 2005. For a brief moment, in response to the devastation, the Internet seemed to live up to its promise of offering an alternative public sphere, a participatory space where individuals could contribute to the cultural processing of a national tragedy. As the disaster in the Gulf region unfolded, a remarkable profusion of image, sound, and video files sampled from both mainstream and independent news sources began circulating over the Internet. While cable news channels broadcast twenty-four-hour coverage of the disaster and its relief efforts, the Internet began to function as a dynamic archive—a kind of communally programmed digital video recorder—for the selection and redistribution of key images, audio, and video clips. This process of digestion gravitated toward not a synthetic overview of events or analysis about the disaster but rather idiosyncratic samplings of moments of transgression, intensity, or excess that came to symbolize the news coverage of Katrina. Arguably, it is by these exceptions to the various rules of broadcast journalism that media coverage of Katrina will be remembered—racist comments, breaches of journalistic protocol, and displays of extreme emotion—all of which remain easily accessible on the Web via simple keyword searches, while the vast majority of news as usual is consigned to the restricted access broadcast archives of history. The Internet also provided a forum for unprecedented numbers of amateur-produced Katrina video memorials, which began appearing within days of the disaster via the then novel phenomenon of free, online video distribution channels such as YouTube and Vimeo. The majority of these were remixes of still and moving images drawn from broadcast and Internet-based news sources, accompanied by popular songs, and nearly all included an exhortation to contribute relief funds to the Red Cross.

The online video memorial emerged as a well-established genre shortly after the 2001 attacks on the World Trade Center and Pentagon by members of bin Laden's al Qaeda network. These, in turn, continue a much longer history of personal memorialization undertaken in less public contexts such as scrapbooks and photo albums, as well as the ritualized leaving of objects at public memorial sites such as the Vietnam Veterans Memorial in Washington, D.C., or the Federal Building in Oklahoma City. In contrast to these site-specific practices, the online memorial may be constructed and

accessed regardless of geographic location. Indeed, many Katrina memorials were created by individuals whose primary emotional connection to the Gulf region developed while viewing apocalyptic imagery on television and computer screens. Additional continuities between the World Trade Center attacks and Katrina are evident in the number of sites that host both Katrina and "9/11" memorials, sometimes posted side by side or with identical design layouts.[61] The close interconnection of Katrina and "9/11" memorials has also resulted in a regrettable tendency to frame these two very different national tragedies in similar terms, the effect of which is a simultaneous politicization and depoliticization of the memorial narratives accompanying these two events. Conflating America's innocent victim status in these two events suggests a lack of culpability not entirely applicable to either. Certainly, America's dependence on Middle Eastern oil reserves and its resulting interventionist foreign policy contributed to al Qaeda targeting it; while the lack of infrastructural investment in the levees around New Orleans clearly transformed the flooding of the Gulf region into as much a "man-made" as a "natural" disaster.

Unlike past memorials that have taken years or decades to conceive and build, the possibility of "virtual memorials" has radically accelerated the process of memorialization in the United States. The U.S. Holocaust Memorial Museum in Washington, D.C., took nearly a half-century to build, while the Vietnam Veterans Memorial and Oklahoma City memorials took seven and five years, respectively. As Marita Sturken has noted, efforts to memorialize the 2001 World Trade Center attacks were almost instantaneous, emerging organically from the practice of posting images on walls and electronic bulletin boards in an effort to find missing family members.

> In the face of absence, especially an absence so violently and tragically wrought at the cost of so many lives, people feel a need to create a presence of some kind, and it may be for this reason that questions of memorialization have so quickly followed this event. It seemed as if people were already talking of memorials the day after, when the numbers and names of the missing were unknown and the search for survivors still the focus of national attention. What, we might ask, is behind this rush to memorialize and to speak of memorials? Could we imagine people talking of memorialization after the destruction of the Warsaw Ghetto, or the bombing of Hiroshima?[62]

Following Katrina, the floodwaters had barely retreated when debates about whether and how to rebuild New Orleans began. Some worried

that a Disneyfied version of the city would be hastily constructed like a film set for tourists, freed at last from the racial and economic realities of the city's previous inhabitants. The "real" New Orleans would at least be memorialized through the photographs and video collages created by amateur auteurs, some of whom did not hesitate to admit they have never actually visited the region. Part of what makes this remarkable is the shift from regarding the practice of memorialization as a matter entrusted to government officials and organizations to something that may be meaningfully and publicly practiced by individuals.

In part, I believe this reflects public outrage at the inadequate federal response to the hurricane, a sentiment that was almost certainly catalyzed by frustrations with the war in Iraq that were already heating up in 2005. Occasionally, television commentators made these connections explicit, wondering aloud whether the National Guard would have been so slow and ineffectual if it were not already burdened by deployment in that "other" Gulf region. More common, though, was the sentiment—posed as part speculation, part obvious statement of fact—that the determining factor with regard to government response was the race and economic status of the communities—poor, African American neighborhoods—most devastated by the hurricane and floodwaters. Given the lack of initiative taken by the federal government to help victims of the disaster, why would a traumatized public even consider relying on those same government officials to address their need for mourning?[63]

It would be all too easy to find ourselves sliding toward a characterization of the Internet as offering an alternative public sphere that is somehow inherently progressive. Tara McPherson's chapter "I'll Take My Stand in Dixie-Net: White Guys, the South, and Cyberspace"—originally published in 2000—represents a rare attempt to challenge some of the euphoric rhetoric about the possibilities for dispersed subjectivity on the Web and the idea that we all have multiple, deracialized, degendered identities when we go online.[64] In this article, McPherson argued that the Internet is at best agnostic with regard to the kinds of ideologies and subcultural movements it supports, citing as a primary example the Dixienet Web site, created and maintained by Michael Hill, a white professor at Stillman College in Alabama. McPherson positions Dixienet as part of a pro-Southern heritage movement that may be understood as promoting "traditional" (read "white supremacist") Southern values. Following the hurricane, the Dixienet Web site prominently featured a Katrina relief effort on its splash page, along with a statement denying reports that the organization was supporting a whites-only relief effort in the Gulf region.

As Michael Warner has argued, events of mass injury are frequently renarrativized in terms of violence done to an "abstracted body" that is symbolically represented as a singular entity.[65] In the case of Katrina, the bodies of the victims were largely poor and black—the type of body that is rarely seen on television outside the context of reports on urban crime. Media coverage of Katrina brought these bodies to national attention, asserting the undeniable linkage of poverty and race in the Gulf states and the seeming lack of government responsiveness to a tragedy whose primary victims were both poor and black. If we are to think clearly about the role of networks and emerging technologies on social groups and historical construction, it is imperative that we avoid specious assumptions about how these technologies function—and in whose interests. The still emerging practice of subindependent, do-it-yourself video production and distribution offers a fascinating case study for thinking in concrete terms about the sphere of amateur, peer-to-peer, and viral media distribution via the Internet and its implications for the nascent historiography of the digital era.

Twitter and History

Another symptom of the ongoing cultural desire to repurpose digital media for well-worn cultural practices related to history and memory may be found in the recent proliferation of historical reenactments using platforms such as Twitter, the online microblogging platform that allows users to post messages of up to 140 characters to the Internet. One such project, Twhistory, offers the witty tagline, "Those who forget history are doomed to retweet it." The project was created by two graduate students at Utah State University, Marion Jensen and Tom Caswell, who undertook a Twitter-based reenactment of the Battle of Gettysburg, concluding with Abraham Lincoln's famously terse (though not exactly Twitter-like) memorial address. The resulting multiple streams of tweets is interesting in its appropriation of a Ken Burns–style heteroglossic history from below. The emphasis on contents of the textual narratives is placed on quotations drawn from authenticated historical sources but rendered in a contemporary vernacular, while retaining historical justification, based on its adherence to verifiable details. Twhistory now serves as a clearinghouse and catalyst for others seeking to stage reenactments using Twitter, such as a high school class in St. Louis, Missouri, that organized a reenactment of the Cuban missile crisis of 1962. Another ongoing project, PatriotCast, created by Jason Phelan, offers an eight-year reenactment of the American

Revolution spanning the years 1775 to 1783. Billing itself as "A Revolutionary Way to Experience the American Revolution," PatriotCast sends multiple updates each day, detailing the minutiae of the war and linking to contemporary images of historic sites. Given the scope and duration of the project, PatriotCast opts for an omniscient, historical perspective rather than attempting to locate the source of the updates in specific historical figures. In contrast, in October 2009, former House speaker Newt Gingrich orchestrated a historical reenactment of the Battle of Trenton on his Twitter account, generating feeds to more than one million subscribers. This historical "Twitternactment," as Gingrich called it, was intended to promote the launch of his book *To Try Men's Souls*, a work of historical fiction about George Washington. Gingrich, a former professor of history and best-selling novelist of historical fiction and alternate histories of the Civil War and World War II, presents General Washington (username @GenWashington76) in the midst of the famed battle urging his men forward with under-140-word exhortations such as "Forward men, forward! Victory or death. Now forward!" and "Column has stopped! What is going on? Why the holdup?"

We may expect that historical experiments using platforms such as Twitter will continue to manifest in each successive generation of technology in an ongoing process of historiographical remediation. The Library of Congress's decision to archive Twitter feeds for the historical record marks a revealing acknowledgment of the importance of these platforms for the generation of future historical evidence, even as the discursive limitations of the form enforce its marginalization relative to "official history." The extent to which such archival efforts are predicated on curating as a manifestation of explicit historiographical intent as opposed to scale-driven acquisition is a question worth considering seriously.

The proliferation of large-scale digitizing and archiving efforts presumes that the resulting mass of raw data yielded by such efforts will be more intelligible to future generations, perhaps with access to more efficient data-parsing solutions than are currently available. It seems clear that the impulse to simply "digitize everything" dwells more in the realm of the archival than the historiographical. As this book has been at some pains to argue, the ability of future generations to make sense of such masses of data depends upon developing historiographical sensibilities and models that allow for idiosyncrasy, experimentation, and eccentricity. As we have seen, much digital historiography retains an emphasis on traditional narrative and historical tropes that regrettably fail to develop a specifically digital historiographic ethos. Historians who are more

attuned to the full range of potential for digital history might function more like systems designers for the development of new tropes and tools for rendering the past. The goal of such systems could plausibly surpass the mere capturing, preserving, and accessing of digital information in favor of articulating a combined ethics and poetics of historical expression. Simply put, a database is not a "history." However, by the logic of this chapter, *the information architecture that defines a database and its underlying structures is fundamentally and fascinatingly historical.* We would do well to ask, what histories are rendered possible by such platforms? Do such experiments with digital historiography result in previously unspoken or unthought histories, or merely an updating and remixing of accepted renderings of the past? I will say it bluntly: the past deserves to be rendered, complete with its complexities, contradictions, and potentials for disruption, and such histories can and should pose threats to the political, cultural, and epistemological status quo.

Vectors of History

A number of promising experiments with the conjunction of historical research and database-driven interactive interfaces may be found in the online electronic journal *Vectors Journal of Culture and Technology in a Dynamic Vernacular,* which I coedit with Tara McPherson at the University of Southern California. Although not all projects published in *Vectors* are historical in nature, a significant number have sought to exploit the potentials of database histories, along with a richly mediated interface design. For example, Melanie Swalwell's "Cast-Offs from the Golden Age" presents a historiography of the video-game industry in New Zealand using a gamelike mechanic that invites users to unlock levels of historical information about this largely unrecognized and unwritten history. Designed by *Vectors*' creative director Erik Loyer, the project includes multiple voices across a broad spectrum of historical authority ranging from academic historians to fans, gamers, and collectors of the physical and software artifacts generated by this industry. In Cast-Offs, a player/user moves through a simulated 3-D environment populated only with paths and silhouetted avatars and objects, each of which is a portal for accessing historical information. The nature of this information ranges form Swalwell's own historical analysis to raw data including e-mail exchanges with collectors and archives. The player/user becomes a gamer/researcher who is situated as a surrogate for Swalwell herself, embroiled in a process of investigation, attempting to discover and piece

together a fragmented history that insistently resists closure and comfortable teleological trajectories. This history, which is interwoven with the more well-known histories of U.S. and Asian game industries, lends itself to more discontinuous and sometimes contradictory historical narratives. It is up to the gamer/researcher to piece together historical elements to create his or her own collection of objects, stories, and people. Swalwell's project is also an open architecture database allowing for expansion to include the voices of users and the virtually limitless expansion of the fragments, narratives, and artifacts contained in the system. The explicit game mechanic contained in this project both references the fundamental historiographical paradigm of unlocking clues and levels and resonates with the project's historiographical and ethical commitments.

Swalwell's project is particularly disruptive of the preferred histories of the entertainment and technology industries, which are relentlessly framed as a series of creative and technological triumphs, moving inexorably toward faster processing, increasingly realistic graphics, and more engaging forms of interactivity. Like the film industry, game companies would probably prefer we didn't think about them historically at all, choosing instead to situate themselves on the brink of a perpetual future, looking forward to their next commercial success rather than contemplating the past and its legacies. Rather than seeking to map a comprehensive history of progress toward the present, historians such as Swalwell speak about the past as inextricably entangled with their own personality quirks and idiosyncratic obsessions. If we are honest about it, the narratives we pursue when "doing history" probably consist of as many dead ends, digressions, and anachronies as neatly packaged elements of a grand historical narrative. It is a rare work of historiography that not only acknowledges this but also seeks to weave it into the fabric of the historical work itself, becoming a strength rather than a liability.

In order to experience the largely unexamined history of video games in New Zealand, Swalwell asks us to retrace some of her steps—and occasional missteps—in seeking to discover this arcane and fragmented past. Swalwell's project refuses to deliver a comprehensive history, choosing instead to allegorize the research process by embedding bits of information within an information space. The implication is that, following Foucault, all historiography is rightly conceived of in terms of fragmentation and partiality. The seductive narrative of the definitive, totalizing history is both mendacious and misleading, and Swalwell argues implicitly that these are particularly counterproductive to the topic at hand. Swalwell's investigation is thus part exploration and part role-playing game,

as different facts reveal themselves with each traversal of the research space. Without fetishizing the novelty of this spatialized and embodied interface, Cast-Offs from the Golden Age models an extremely compelling mode of historiographical investigation.

My own project for *Vectors*, also designed by Loyer and titled "Technologies of History Interactive," attempts to make explicit the challenges of writing a historical moment through the conjunction of media artifacts and textual or verbal discourse, taking as its object of study the broad and eclectic range of textualizations of the JFK assassination. This project exposes the process by which historical imagery comes to stand in for our thinking about a historical event. The project is a case study, an opportunity to put into practice some of the arguments made in this book pertaining to the entangled relations among media, history, and memory. These arguments, in fact, may only be fully articulated through media. By this I do not mean simply taking advantage of the digital format for providing media supplements or illustrations but literally aiming to think *through* the media under analysis, developing relationships among media elements themselves, rather than privileging the discursive affordances of text over images. In some ways, then, this project is not primarily *about* the JFK assassination, but the dense layers of mediation to which this historical event has been subjected provide a particularly rich set of opportunities to think about the construction of "history" itself.

Although certain aspects of the design may initially appear to resist easy navigation, the goal is neither to frustrate the user nor to indulge in aestheticized design experiments. The project presents several clearly defined modes of exploration, beginning with the "Analyzer," in which media elements are subjected to a process of tracking and fragmenting designed to simultaneously reveal and obscure the contents of a film or video clip. The user may then follow connections that are suggested by either the video segment or its accompanying text to explore further text arguments or a connection between two media clips. Each connection made is logged in the user's history and may be revisited at any time. The experience of moving through the project is therefore intended to be partly experiential and partly curatorial; users may select from categories of content that are based on genre, format, or threads of historiographical concern. The multiplicity of opportunities for revelation or chaos function as both a metaphor for history's own lack of resolution and a rhetorical strategy for resisting narrative closure.

Finally, what can we say about the collision of digital media/technology and history? In our present moment, it is still possible to speak of

digital media and technology as agents of change and challenge, forces to be resisted or taken advantage of—or at the very least accommodated and responded to. In the course of this transition, we must become more sophisticated about our own practices and presumptions as historians and practitioners of culture. Some of the most productive and contentious debates over the ultimate impact of digital technology for historiography continue to arise in response to interactive digital histories, including games, networked databases, and computational systems that may or may not exploit the potentials of these platforms to pursue goals that are in any way transgressive or experimental. Part of the motivation for this chapter is to describe the continuities and coextensiveness of digital media with past forms, as well as the critical paradigms we bring to bear on them. While it's true that the affordances of digital media offer an occasion for rethinking our fundamental relations to "history," politics, and culture, we would be ill advised to frame this as a fundamentally new or exceptional circumstance.