Traversals
Traversals

The Use of Preservation for Early Electronic Writing

Stuart Moulthrop and Dene Grigar
For N. Katherine Hayles and Michael Joyce
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They could have just reconfigured the works for presentation in a database somewhere. In an era of “distant reading,” “uncreative writing,” and (more recently) “unreading,” they might have run emulations on first-generation works of electronic literature, captured some sample screen shots, and filed it all with today’s massive (and growing) corpora. The IBM 286s and Apple IIs have been put in storage, kept on life support, and housed in libraries and universities along with everything else—the ancient scrolls in dead languages under glass, novels in the stacks, and poetry collections most of which are never read past their year of publication. The closet dramas that were performed once or twice. And all the books scanned by Google from public libraries in the United States—upward of 20 million at the last count. The blogs, the tweets, and emails that have been saved, every keystroke countable and every key term available in continuously refreshing databases whose owners carefully restrict access and whose market potential is known.

What Stuart Moulthrop and Dene Grigar did instead was turn reading itself into a performance. They stage “particular encounters with the text,” what are here called “Traversals.” Revisiting works that, like all literature but quicker than most, have been subjected to technological obsolescence, these two dedicated (and “deep”) readers are doing the most traditional sort of scholarship one can imagine: reclaiming literary works that would otherwise be lost to new generations—and not just the works but also the platforms, programs, codes, and computers; the HyperCard stacks, Unix Shell Scripts, USB disks, floppy disc–compatible Macintoshes, and other artifacts from a short lived period of “creative and technical ebullience” running roughly from the late 1980s to the early 2000s. Apart from Eastgate Systems Inc.’s Storyspace software or John McDaid’s HyperEarth, which anticipates GoogleEarth by fifteen years, few literary authors have attempted to scale the upgrade path—the technical posterity of replacement, neglect, and
oblivion—that has rendered their own work unreadable. Who besides scholars would explore past creativity in works that emerged in a now-defunct technology? Who else would hold in mind the creativity that also went into the design and construction of the abandoned machines? Without the close readings and technological reenactments of Moulthrop and Grigar, who would be there to reflect on the cultural trace of our many, many obsolescent technologies—the same ones that occupy so much time and attention throughout our lives, until the next (the real) thing comes along?

Their project’s not just about Malloy, McDaid, Jackson, and Bly. It’s not about preserving and recovering a few early encounters with technological obsolescence—not only that. Nor is it about adding electronic literature—e-lit—to existing literary canons. The four fictions, Traversals, and the Pathfinders interviews of 2013 cannot supply a history of even the relatively brief heyday of first-generation hypertext. But the present volume does aim to give each work a “more durable cultural foothold.” Its readings are “deep” and “layered” in that they extend to the code as much as to the surface text, offering tangible and never wholly instrumental linkage from the literary work to a cultural context that is, increasingly, coded likewise. There will be more books on more authors, more readings of works in print and digital media. We have, even here along the way, substantial accounts of several new works of native digital writing from the generations after Malloy, McDaid, Jackson, and Bly. Grigar and Moulthrop have prepared the way for further Traversals, future acts of preservation and critical engagement. There won’t be many. Yet because their project is selective, as time-bound engagements with literary writing always have been, the authors recognize the need to go beyond preservation to a revaluation and relocation of literary practices in new media. Their project promises a recovery of literature generally—and, not least, a reassertion of reading as both solitary exploration and collective cultural practice.

In recent years, Moulthrop and Grigar note, scholars have begun using search engines to identify patterns of diction, syntax, and grammar in ways not feasible with a print concordance. That’s one direction literary scholarship can take, and it is one way to measure empirically recurrences and deviations between past literary periods and present practice. Traversals does more than count and measure, however. Beyond registering linguistic differences or even the shifting shapes of texts (Maduro 2013), we have here an intermedial conversation that was set out early among the first wave of hypertext production and its print predecessors: McDaid’s revisiting of Philip K. Dick and Thomas Pynchon along with Heidegger and C. I.
Lewis; Jackson’s rewriting of her namesake Shelley’s *Frankenstein*; Malloy’s dream dialogue with near contemporaries Carolee Schneemann, Chris Burden, and Kathy Acker; the ancient Greek and later Roman texts collected in *Project Perseus*, which inform the work of Bill Bly. Each of these revisionings, rewritings, and relocations of past practices in digital media constitutes much that’s distinctively literary about e-lit. And the conversations just as often cross national and linguistic borders even as they enter digital pathways that can alter the course of literary criticism.

“Electronic Literature” is the name Grigar and Moulthrop settle on for the works here under discussion, though along the way we hear also about a “bitic literature,” defined by Stanislaw Lem as “an art comprising work of a nonhuman origin.” Lem’s term is contrasted with Pierre Lévy’s “molar” alternatives, “forms of writing informed by material rather than immaterial operations.” Around the same time (1997), we have Espen Aarseth’s emphasis on “ergodic” forms, in which the person who experiences the work (reader, player, operator) must invest “non-trivial effort” in the process. Difficulty has been, after all, an element of avant-garde writing from literary modernism of the early twentieth century to the present. Along the way, with Moulthrop and Grigar we revisit Language Poetry, Concrete Poetry, Fluxus, Oulipo, and the latter’s “engagement with literature not as particularized work, but as indicator of potential signification.” We encounter Borges’s fantastic “The Book of Sand” along with “artisanal chapbooks penned on vellum.” We reconsider Neal Stephenson’s “amistics,” deriving from Moiran anthropology, and much, much more that situates electronic literature in a long, contested history of the avant-garde in literature and the arts.

What, then, can be said to distinguish avant-garde literary works that happen to have been generated in and distributed through digital media? My own sense is that the many critical conversations, so dramatically repurposed by Grigar and Moulthrop in the present volume, can themselves be understood as a defining feature for the new field. For one thing, what’s said about the works in reviews and scholarly essays is no longer kept physically separate from the works: a scholar’s essay and a reader’s discussion now appear mostly in the same medium as the work itself, and the commentaries can be accessed along with the work’s versionings. All are gathered on a common writing space for further commentary and the development of conceptual connections, the way Ted Nelson envisioned it (Nelson 2003). The interviews among Grigar, Moulthrop, Jackson, McDaid, Malloy, and Bly that inform *Traversals* are as much an object of study as the work itself. *This*—the perpetual shifting of boundaries between a work
and its reception in multiple platforms—is what gives e-lit a chance to distinguish itself from past avant-gardes. The work’s shape shifts with the changing media environment, and this transformation affords a unique perspective on medial change and our present material culture that might otherwise be lost to history.

E-lit is not an “emerging field”: it has arrived. The US Library of Congress held a showcase of e-lit in 2013, curated by Grigar and her colleague Kathi Inman Berens. Similar initiatives are underway in other countries. But that in itself is not enough to mark e-lit as a fully globalized, worldly literary practice. What has yet to emerge, and what is demonstrated for the first time by Moulthrop and Grigar’s particular mode of reception-cum-preservation, is the capacity for works to circulate in the same medium as the moment-to-moment conversations that surround a work. More than the usability of a given media platform, it is arguably these conversations that determine a work’s lifespan. The collocation of works and curated, critical conversations in one and the same medium offers an opportunity to extend traditional literary scholarship even as it marks a stage in scholarship’s transformation.

There have been other, earlier opportunities. Especially notable is the world literature Goethe envisioned in the late eighteenth century, which could not emerge during the rise of a nationalistic practice. What we got instead, as Franco Moretti notoriously observed, was “a modest intellectual enterprise ... limited to Western Europe”; limited also to specialists, critics, cosmopolitans, and connoisseurs; “and mostly revolving around the river Rhine (German philologists working on French literature). Not much more” (Moretti 2000, 54). Can it be different now that the conversations are taking place in electronic media that are themselves instantaneous and global in reach?

It is not always remembered that Goethe, too, when he outlined his concept of a world literature, tied the notion not to specific works or transnational themes but to the conversations around works. As Christopher Prendergast reminds us in Debating World Literature, Goethe initially put the notion of world literature “in the form of a thought experiment” (Prendergast 2004, viii), and he cast the idea in the subjunctive mood: “for my part,” Goethe had written, “I seek only to point out to my friends my conviction that a universal world literature is in process of formation” (3). Goethe’s sense of “a common world literature transcending national limits” was not, and by its defining terms could not be, offered as a personal vision so much as a recognition of new modes of cultural “traffic” (Stefan Hoesel-Uhlig, cited in Prendergast 2004, 2). Those new conversational registers arguably
are what today offer a unique chance of newly globalizing our literary prac-
tice. This has little to do with the chance simply to read “more,” as Moretti
cautioned more than a decade ago, before he himself began assembling
large corpora of digitized literary works in his laboratory at Stanford. Even
if we can now access so much more than the piddling percentage of canon-
ized works—and from more countries in more languages than we could
ever hope to speak, or hear spoken—that won’t bring us any closer to what
Goethe had in mind or what Moretti himself set forward with his *Atlas of
which emerged precisely *in conversation* with representatives of the current
generation of digital literary scholars.

That one book carrying forward the work of Moretti, from a small press
in South Carolina, marks a necessary collegial context for the conveyance
of literary texts into databases. The corpora may be massive, but the curation
and critical conversation, however broad in range and geographical
reach, remain closely considered within a niche community. The present
collection of Traversals similarly takes advantage of both the stability and
constraint of print to identify a small community of scholars *and* literary
artists in communication with one another, even as they *recreate* works that
they themselves, some of them, made in earlier times. The worldliness in
this case is as much a crossing of scholarly, critical, technical, and creative
disciplines as national borders, ethnic or racial or sexual identities. For the
field of e-lit to have a history at all, scholars, curators, and artists need to
work together in order to co-create the corpus in an altered and, one hopes,
still-altering medial environment. This coming together of creator, curator,
and literary scholar (even, at times, in the same individual) marks a transi-
tion in literary practice from the print era.

When considering the Traversals Grigar and Moulthrop host, the con-
versational context, no less than Moretti’s databases and our unprecedented
capacity for data visualization, needs to be remembered. Subsequent to his
reflections on world literature, and so influential in so many archival proj-
ects, Moretti’s notion of “distant reading” was never intended to suggest
that the gathering of texts, their visualization, and the mining of the result-
ing corpus could instantiate a world literary practice. The *conversations
within and around texts* are what needed to be perceived apart from the text,
out there in the distance. And the point of assembling so many texts is not
to read every last one but rather to get us to think differently about the
field, to reformulate the categories and conceptual interconnections a truly
global literature presents us with at the present moment (Moretti, in Prendergast 2004, 149).
The conversations that matter, if we take Moulthrop and Grigar’s approach, are not those that connect one nation or language or even one aesthetic to another, but rather one work, one author, and one reader to another. Each conversation and each reading is registered in the one remaining “universal” we can still imagine, and believe in—namely, the digital medium itself. To the extent that networks are accessible to us, our devices do link us to niche forums for cultural as well as commercial trafficking. But accessibility, however crucial, isn’t enough: we need also the construction of literary communities of interest, capable of reaching at least a provisional consensus about which works and cultural formations will be referenced and how long they’ll be discussed and inhabited by readers and writers in contact with one another.

Here is a place where scholarship can engage with the creative arts in ways that are not just retrospective. “Academic niches are where intellectually ambitious art forms tend to survive,” Moulthrop and Grigar point out. And the forms thrive, as we now know, through acts of selection, categorization, critical evaluation, and recirculation in networked media. Such readings, and the resituating of texts in the shifting contexts of their material formation, remain the central purpose of literary scholarship—not for the sake of inserting new work into established canons but precisely to question earlier valuations and hence continually to reshape the canons, to reconsider works that remain of value while at the same time rediscovering neglected works. Whether or not the evaluative, reflective process carries over into new media, with its newly realized and computationally connected contexts, may determine whether or not literary writing itself has a more-than-residual cultural presence today.
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Introduction

Stuart Moulthrop and Dene Grigar

All the arts today are struggling to perform a rescue operation, for the universal expansion of creativity has become its curse, a race, and an escape; like the Universe, Art is exploding into the void, encountering no resistance and consequently no support. If anything is now possible, then everything has some value, and the rush forward turns into a retreat, since the Arts want to return to their source, but do not know how.

—Stanislaw Lem, *Imaginary Magnitude*

Figure 0.1
Stuart Moulthrop, Judy Malloy, and Dene Grigar at Malloy’s Princeton University office for her Traversal in September 2013.
You do not read writing; you cannot take in the mass of texts in the world. You cannot take it. The writings exceed you, they overwhelm you, and they bury you. You might write this text, or write that text, but you know nothing of writing, nothing of writing itself. No, our entire species is devoted to producing greater and greater explosive spasms of overwhelming printed matter. Is this not the network? Is this not the web? Not texts, not writing to be read, but writing as massed marked detritus.

—Sandy Baldwin, *The Internet Unconscious*

**Deluge and Rescue**

As artists, critics, and people who generally care about electronic writing, we have our own ideas about rescue operations. In part we are concerned with a philosophical or aesthetic project close to the one Lem imagines: understanding the situation of literary art in the context of computation, networks, and code—a predicament roughly equivalent to Lem's no-longer-fantastic notion of “bitic literature,” where the creator of the work “may have been the author indirectly ... by performing the functions which generated the real author’s acts of creation” (1984, 41). When we recognize that what Lem here calls the “real author” may prove to be one of Espen Aarseth’s “traversal functions”—a demiurge made of software code—we come upon serious questions for the theory of art, not to mention at least some versions of humanism. One result of this traversal function may well be the kind of agonized response Baldwin explores in his attempt to get over a problematic “love of literature” and interrogate the impossible subject of writing in the age of “the networked computer,” where “literature’s ‘everything is permitted’ means acceleration, not regulation” (2015, 7).

Our subject here is an earlier moment in the history of electronic literature, when Baldwin's networked computer was still to some extent unformed. For that reason—and no doubt because we are less inclined to forswear or interrogate our own love of literature—we remain invested in what we call preservation or recognition, with the understanding that our actions may be compromises, strategies of resistance, indeed, forms of regulation. This book responds to the same sense of explosion and crisis noted in both our epigraphs, though our concerns turn less toward “writing itself” than to particular texts and moments of creation. Perhaps in error or folly, we still believe in texts that can be read, and in particular readers and readings.
This book has dual purposes. We make certain excursions into theory, but we are just as strongly engaged in coming to know, in practical terms, the things others have made. This is in our nature. Both of us are engaged in crafting texts, systems, and technical interventions, alone and with others. Maybe because of our working-class origins, or because we first encountered personal computing at a stage of its (and our) youth, we tend to view “the universal expansion of creativity,” with all its “explosive spasms,” as much in terms of possibility as apocalypse. As Alan Liu argues, the climax of creative destruction, to use the darker name for this phenomenon, may require a reinvention of cultural history (2004, 7–8). We do not avoid that task. For us, though, part of this work involves a very literal kind of rescue: the attempt to preserve fragile artistic achievements against the eroding force of obsolescence.

There was, we imagine, a moment before the explosion. In the 1970s and 1980s, expanded access to personal computing enabled a significant wave of artistic experimentation, with concrete poets such as bpNichol advancing the practice of procedural poetry; net artists such as Judy Malloy creating the first forms of networked social writing; fiction writers including Michael Joyce, Deena Larsen, and Shelley Jackson exploring possibilities of hypertextual narrative; and multimedia storytellers such as M. D. Coverley and John McDaid breaking new ground in multimodal and artificial storytelling. Coming before the World Wide Web, these works were available on various types of removable disk or through early forms of virtual community, such as the Whole Earth 'Lectronic Link (The WELL). Some of these works appeared on CD-ROM just as Web browsers gained wide use and set off the online migration of digital literature. All were dependent on application and system software long ago left behind by the explosive pace of technical development. As a result, the works of these pioneering artists are keenly exposed to changes in software, hardware, and platform, threatening a loss of intellectual and artistic heritage and at the same time registering a problem that will eventually affect most works of culture in the digital age. Technical progress rapidly displaces contexts of access and support. Our imagination—indeed, our entire textual record—is “exploding into the void.”

To be sure, obsolescence is both culturally dispositive and inevitable. In the physical world as we now understand it, all human invention will eventually reach a limit—through proton decay, the death of the sun, or, to draw the clock hand closer, the extinction of our species. In the shorter term, over decades or centuries, only the most salient or important efforts can be preserved. Highlighting this point, Michael Mandiberg’s Print
Wikipedia, a project Dene Grigar included in the New Text exhibit at the twenty-first International Symposium on Electronic Art, identified 7,500 items in Wikipedia that were already out of date as its volumes were being printed. This is after all how a culture arranges itself and acquires its particular identity. Who is to say the work we care about deserves the grace of memory? Why not let the nearly forgotten texts of early electronic literature go the way of all bits, the way of most words, especially if the author never intended them to survive?

Following our fellow preservationist Lori Emerson, we believe early born-digital work is worth saving when it “self-consciously uses its own text, distributed across different media, to comment on these media and on the nature of our interactions with the text as it is mediated by these particular reading/writing technologies” (2014, 76). Such projects represent crucial points of inflection, forks in the path of software development—whose general history, Emerson notes, has increasingly bent away from complex manipulability toward the seamless transparency of “ubiquitous computing” (2014, 164). We are invested in texts that reject both the mantra don’t make me think and the tendency of powerful media to constitute a second nature. We argue for the specific quartet of texts treated in this book because they illuminate with particular vividness a moment of possibility.

Every act of imagination is fragile, especially those that challenge the convenient closure of techno-social systems. This truth is about to come home again. As of this writing, only a few months remain before the introduction of a new generation of Web browser in which support for page elements in the Shockwave Flash format (SWF) will no longer come standard. This change may not seem artistically urgent—SWF has largely been used for banner advertising, casual games, and the like—but the technology has in fact been the basis for revealing works of aesthetic exploration, such as Sharon Daniel and Erik Loyer’s Public Secrets (2008), a multiply-mediated essay on women under mass incarceration; Isaías Herrero’s La casa sota el temps (2007), an exploration of time, exigency, and virtuality; and numerous exploits by Jason Nelson interrogating common assumptions about information systems and interfaces. While these works will not be instantly and irrevocably lost—they should remain accessible by specially modified browsers or reader software—they will begin a slow slide toward oblivion.

For the two of us, who have been engaged with creative technologies from early days, the Flash crisis is nothing new. Years before the current troubles, we noticed certain works from an earlier generation of electronic
literature becoming inaccessible on modern platforms. Perhaps the most acute case was Jackson’s *Patchwork Girl* (1995), whose hypertextual haunting of *Frankenstein* and the English canon provides a crucial link between literatures past and present. Other important works—from pioneering fictions such as Joyce’s *afternoon* (1990) to groundbreaking nonfiction hypertexts including Diane Greco’s *Cyborg* (1995) and David Kolb’s *Socrates in the Labyrinth* (1994)—were similarly threatened. Some examples—such as Malloy’s *Uncle Roger* (1986), arguably the original ancestor of social-media fiction—were redeveloped for later platforms, but this complicated process of conversion changed the work in ways largely unseen and unconsidered.

Understanding both the conceptual and practical dimensions of this problem, we launched a rescue effort in two parts. The first was called Pathfinders, an effort to preserve vanishing works not through the laborious and sometimes-impossible methods of conversion or software emulation, but by simply recording experiences of authors and readers working through the possibilities of these multifarious texts. The second part of our project, built upon the first, is *Traversals*, the book now before you. As a work of reflective exploration, it attempts to connect our initial, pragmatic intervention to something like the philosophical investigation Lem envisions. Having saved a tiny sample of bitic possibility, we want to bring attention to what we have tried to preserve—a process that will inevitably require both self-assessment of our methods and a contribution to the nascent project of reinventing critical reading in the domain of electronic writing. These efforts rise from the foundation of Pathfinders.

**Pathfinders**

We conducted the project in 2013–14 with a grant from the US National Endowment for the Humanities’ Office of Digital Humanities. The effort explored a strategy called Traversal, audio and video recording of demonstrations performed on historically appropriate platforms. Fortunately we had a stock of such equipment on hand. Malloy’s *Uncle Roger*, conceived for the first computer networks and stand-alone computing environments, required an Apple IIe manufactured in the early 1980s. McDaid’s *Funhouse* (1993) was documented on a Macintosh LC-580, a mid-nineties model reasonably close to the system the author used to complete the work. For the *Traversals* of *Patchwork Girl* and Bill Bly’s *We Descend* (1997), we used systems of similarly representative vintage.
These machines were available because of an important development on the technical side of literary studies: the emergence of computational research collections. Pathfinders used an array of early personal computers and related software painstakingly assembled and maintained by Grigar and housed in her Electronic Literature Laboratory (ELL) at Washington State University Vancouver (WSUV). Similar facilities exist at the University of Maryland (the special-equipment collection at McKeldin Library, used for our work with *We Descend* in chapter 5), the University of Colorado Boulder (Emerson’s Media Archaeology Laboratory or MAL), and the Massachusetts Institute of Technology (Nick Montfort’s Trope Tank).

Pathfinders was also informed by our community’s commitment to the posterity of electronic literature. In addition to her artistic work, Malloy has for some years maintained the Authoring Software project, now called *Content | Code | Process* (http://www.narrabase.net), a gathering of reflections by artists and designers on social and technical conditions of early work. The Electronic Literature Organization (ELO), which was the institutional sponsor of our project, has released three volumes of the *Electronic Literature Collection*, anthologies of digital work. ELO also published ground-breaking white papers concerning preservation, archiving, and dissemination—“Acid-Free Bits” (Montfort and Wardrip-Fruin 2004) and “Born-Again Bits” (Liu et al. 2005).

Another important inspiration for Pathfinders lay in Jason Scott’s documentary films *BBS: The Documentary* (2005) and *Get Lamp* (2010), which focus on early bulletin board systems and the ongoing tradition of interactive fiction. Scott’s features capture performances of early software on vintage equipment, often in demonstrations performed by the authors and programmers. They also include extensive, free-ranging interviews with creators and fans, adding a rich vein of oral history to the work. The demonstrations and interviews provided models for Pathfinders.

A visit to Grigar’s lab in 2011 by Anne Balsamo, then at the University of Southern California, gave the undertaking its crucial spark. Because she is herself a collector of vintage hardware and software, Balsamo recognized the potential of the ELL and proposed to Grigar a demonstration series for early literary software projects. Ongoing commitments by both women forced them to put the idea on hold, until Balsamo encountered her erstwhile colleague Moulthrop at a 2012 workshop promoting research on media technologies. With Scott’s films in mind, Moulthrop had similar ideas about performative preservation, albeit without benefit of Grigar’s collection or her experience in the field. As she so often does, Balsamo made the connection and encouraged conversations, which shortly led to a
grant proposal. The result was Pathfinders, a series of five recorded encounters with significant examples of early electronic literature.\(^4\)

We call these encounters *Traversals*. Montfort adopts this term for a complete encounter with a text-adventure game (2007, 203). Our usage is similar but also can be applied more broadly. In the 1990s Joyce used the term to refer to any particular reading of a hypertext (Joyce 1997, 581), adopting it from directed-graph theory with perhaps a glance at Aarseth’s “traversal function,” the mechanism by which certain elements of a systematic text are presented in a specific encounter or reading (Aarseth 1997, 62). Our sense falls closer to Joyce’s and Montfort’s than Aarseth’s, in that our sort of Traversal always involves human agency even though it may be strongly inflected by program logic or machine operations.\(^5\)

We define a Traversal as *a reflective encounter with a digital text in which the possibilities of that text are explored in a way that indicates its key features, capabilities, and themes*. Especially when undertaken by the author of the work, a Traversal resembles a software demonstration or a walk-through of a computer game. Creators evoke and explain salient features in a guided tour of their systems. Because we ask participants to vocalize about their interactions with the text, Traversals can also be compared to the talk-aloud protocols utilized in usability testing and writing research. Following the example of Scott’s films, we recognize the importance of oral history in the Traversal and thus encourage authors to reflect on the circumstances and design thinking that lay behind key aspects of their work. This reflection continues in an interview following each Traversal.

As we define it, a Traversal must take place on equipment configured as closely as possible to the system used to create the work or on which the work might have been expected to reach its initial audience. This specification has two important consequences. First, it ensures fidelity to the original product. Some of the works we considered—and, as we discovered, more than we first thought—have been reengineered and even rewritten for later platforms. Using historically appropriate equipment allowed us to recognize these changes, in some cases bringing them to light for the first time. The use of early equipment also manifests subtle but important aspects of the original user experience. Malloy’s narrabase works begin with the whirring and clicking of the floppy drive, a kind of mechanical theme song. *Patchwork Girl* and *We Descend* both open with initialization screens that enumerate the works’ complement of spaces and links—a display that flashes by all too quickly on newer, faster equipment. The physical context of the work is most salient in *Uncle Buddy’s Phantom Funhouse*, which consists of a box of artifacts, including the backup disks from a vanished
writer’s hard drive. Using these objects literally requires an antique Macintosh and a vintage cassette player.

We selected four works for *Pathfinders*: Malloy’s *Uncle Roger*, McDaid’s *Uncle Buddy’s Phantom Funhouse*, Jackson’s *Patchwork Girl*, and Bly’s *We Descend*. The span these works occupy—the better part of a decade from the mid-1980s to mid-’90s—represents a crucial moment in the cultural history of computing. The first generation of personal computers, dating from the mid-1970s, had developed into a second wave much more broadly adopted by the general public and featuring significant advances such as bitmapped screens, graphical interfaces, and pointing devices. By the middle of the 1990s, these developments provided take-off conditions for the popularization of the Internet and the World Wide Web, bringing an emphasis on color graphics, complex visual design, and a notably constrained version of hypertext. In the pre-Web days, the range of possibilities was still relatively open. Radical inventors such as Malloy and McDaid could propose their own systems for storytelling: a narrativized database or an artifactual monster-in-a-box. Fiction writers such as Jackson and Bly could work in long-form contexts allowing them to explore complex forms of intertextuality or the imaginative architecture of the text-as-archive. All four titles meet Emerson’s criterion of works that require us to engage with conditions of their underlying media, both as they were at the moment of first conception and as they have subsequently developed.

Three of our four selected works were published by Eastgate Systems, Inc., the most prominent commercial source for electronic literature. Though the history of that enterprise is beyond the scope of our project, we do touch on it anecdotally. As Jackson says about a particular feature of her work, “You can thank Mark Bernstein for that” (Jackson 2015a). Bernstein, founder and chief scientist of Eastgate Systems, Inc., is owed many thanks, but he is not the only deserving party. We do not attempt to give a general account of creative tools for electronic writing, but this subject inevitably comes into our frame. Two of our chosen works were created with Storyspace, the hypertext authoring system designed in the mid-1980s by Joyce and Jay David Bolter. Malloy initially built her work on a system she programmed for PicoSpan and later redeveloped with UNIX Shell Scripts, AppleSoft BASIC, GW-BASIC, and HTML (see chapter 2). McDaid worked in HyperCard, Apple Computer’s remarkably advanced tool for hypermediated writing, which was ultimately and regrettably abandoned (see chapter 3).

Choosing just these four examples allowed us to concentrate attention but it also forced difficult decisions. The absence of Joyce’s *afternoon*, the
most widely studied and recognized early work of electronic literature, will be apparent. We have held it for a future series of Traversals, in part because of its record of robust reception. Though *afternoon* was at the time as heavily compromised by obsolescence as *Patchwork Girl* (a situation that has happily improved; see chapter 4), we felt its extensive critical history gave it a more durable cultural foothold than some of its contemporaries. Similar considerations held for other major works we considered for inclusion, such as William Gibson’s *Agrippa* (1992), the Miller brothers’ *Myst* (1993), and examples from the Voyager Company’s series of Expanded Books. These are all worthy choices for later treatment, but the intensive nature of our project demanded exclusions that may seem arbitrary, and for which we are answerable.

Greater detail about the Pathfinders project is available in the e-book that constitutes its final product, available at http://scalar.usc.edu/works/pathfinders. This publication includes more than twenty-five video clips from four Traversals, video records of author and reader interviews, archival information about the material history of the works, and brief interpretive essays. The e-book was produced in Scalar, the multimedia authoring environment developed by the Alliance for Networking Visual Culture at the University of Southern California. The *Pathfinders* e-book is a publication of NouSpace Press, the online publishing venture associated with the Creative Media and Digital Culture Program at WSUV. The work features 173 Web pages including approximately 54,000 words of commentary, history, and analysis; more than 100 video clips; 200 photos; and several audio files. Intended largely as a resource for students of electronic literature, the e-book also documents the conception, evolution, and proposed future extension of the Pathfinders project.

With some incidental variations, all four Traversals followed a general protocol. We did not require authors to prepare a demonstration strategy in advance, though some apparently did. Authors were provided with a brief set of suggestions. We asked them to read aloud any text associated with a present state of the system—what George Landow describes as the contents of a given textual division, or *lexia*—and to comment on the experience as they went. In particular we asked participants to announce linking cues or other transitional mechanisms whenever they triggered a significant change in the system. We imposed no absolute requirements in terms of time spent or screens visited. Nonetheless, authors seemed to aim for a full characterization of their work, sometimes making repeated attempts with different strategies. Traversals lasted from forty-five minutes to a bit more than an hour.
Traversals were recorded with multiple cameras: minimally, one camera on the subject and a second on the computer screen. For some Traversals, a hand-held camera was also used to capture moments of emergent interest. Registering readable screen images proved challenging. Because the vintage computers we used did not support screen-capture technology, we planned to aim a camera at the monitor to record the artists’ and readers’ activities. This approach initially resulted in rolls, flickers, and other artifacts because the refresh rate of vintage monitors did not match the frame rate of the contemporary camera. For our final Traversal, Jackson’s, we found a way to record a wall-projected screen image, allowing us to capture both expressive mouse movements and screen images without distortion. For earlier efforts, we added to the video recording static screenshots representing key states of the system. Transferring data from twentieth-century computers to our editing platforms was a nontrivial task, but we were able to work out a solution using vintage systems.7

Following each Traversal, researchers conducted an interview with the Traversal subject, based on a standard set of questions.8 Interview strategy tended to depart from this model, as the authors frequently brought up interesting, unforeseen insights. The interviews were also recorded using multiple cameras. The resulting video and audio files were analyzed and indexed by the researchers and their assistants.9 Traversal recordings were shaped into segments of about ten minutes for convenient Internet streaming. We edited conservatively, making cuts only for continuity and cutting between camera angles only when required for understanding. Considerable post-production effort was spent improving the sound.

Deep Reading

Pathfinders was a first stage. Now that it is complete, we turn to the second part of our larger project, in which we set out to explore and learn from what we have discovered, both about the texts we have tried to preserve and the work of preservation itself. It seems inevitable at such a nodal point to explain why the work needs to continue. As Lem wonders on another pseudepigraphical occasion, “Was this book necessary?” (Lem 1986, 16). The question is complicated, since we have produced this book after first producing an e-book. We might after all simply have been content to disseminate our findings. After wrapping up the initial rescue mission, why circle back to the crisis?

Our best justification lies in the assertion that preservation of digital culture is as yet incompletely understood. The “forensic imagination,” as
Matthew Kirschenbaum names it (Kirschenbaum 2007, 250), has only recently been recognized as a significant part of culture work. More needs to be thought and said about its implications and affordances, or what we call the use of preservation. The subject of our rescue effort is a bygone moment of sudden and intense development, less a Big Bang than a Cambrian explosion of possibilities and forms—and, like that biological event, exposed to extinction. This scenario describes a moment in the past, but it might characterize the present as well. Concern for the posterity of digital culture is only beginning. We are once again at the start of something, or perhaps in the next stage after the start, within the rising curve of a historicizing wave that builds from that first creative explosion.

We believe there is still a vast amount to do. Scholars have at last begun to arrive at critical methods to explore and understand electronic writing, but the work of exploration has to be taken on. As N. Katherine Hayles says in her manifesto for “media-specific analysis,” “The crucial move is to reconceptualize materiality as the interplay between a text’s physical characteristics and its signifying strategies” (Hayles, 2004, 71; emphasis in the original). The word interplay seems remarkably well chosen. The term reflects both the inherently dynamic, contingent, or interstitial nature of electronic writing, and also its characteristic emergence through play. In fact interplay applies not simply to works of electronic literature, but also to the critical practices we bring to bear on them. Here, too, there must be an inquisitive and dynamic exchange between the text’s material circumstances and the patterns of meaning it engages and creates. It is this second level of interplay we have in mind.

Having uncovered, in the course of the Pathfinders project, the operations of these four texts as physical artifacts, we now wish to look more intensively into what and how they mean. The core of this project is deep reading. Deep is another word we borrow from Hayles. As she says in her manifesto:

Code always has some layers that remain invisible and inaccessible to most users. From this we arrive at an obvious but nevertheless central maxim: print is flat, code is deep. (Hayles 2004, 74)

As Lawrence Lessig notes, the word “code” has at least two interlocking frames of reference (Lessig 1999, 6). It can refer both to social structures of regulation and also these days to executable statements in a programming language and ultimately the machinic control systems they engage. Cultural commentators may use the term loosely, referring to constructions in HTML, Javascript, or other idioms that operate at a conventionally high
level of the cybernetic scheme, close to human intention. These structures have, as Hayles says, deep and unseen dependencies on compensating structures that descend through levels of abstraction to the processing core: compiled binaries, bytecodes, machine language, and the physical architecture of computing systems.

Code is indeed deep and so is Hayles’s indispensable metaphor. Depth implies complexity and multiplicity, at the very least a stacking of layers. If we think of these depths not as geological strata but as layers of oceanic flow, we may come to a more detailed relational scheme. In metaphorically watery depths (see, for instance, the signature 2010 work “Sea and Spar Between,” discussed in the next chapter), we have to account not just for a single dimension of the vertical but also for horizontal drift as well and implicitly for movement in an additional axis of time.

Descending into the deep is difficult, and we are well advised not to go alone. As we were diving the various wrecks and submarine kingdoms of Pathfinders, three of our colleagues, Jessica Pressman, Mark Marino, and Jeremy Douglass, were conducting their own explorations of another early work of electronic literature, William Poundstone’s Project for Tachistoscope (2005). Their study, Reading Project, offers an elegant “braiding” of three critical methods: textual interpretation, critical code study, and data visualization (Pressman et al. 2015, xiv). In this same moment Baldwin brought forth his exacting inquiry into “the subject of electronic literature,” where he takes a view radically opposed to ours:

I confess not to care about this or that work of electronic literature. It is both a blindness and a cultivated response. I cannot become interested and I refuse to. I work hard at this indifference, seeking a general recognition of the literary as it takes place in digital writing, indifference to individual works and openness to the work of writing. (2015, 6)

We respect the difficult purity of Baldwin’s abstraction. There is indeed much to be gained in that exercise of diffidence. It enables him to think in ways we cannot about “the proper name of writing,” and even perhaps the tendency of electronic literature to become “a symptom of an impossible situation” (Baldwin 2015, 5). We have our own things to say about that situation and its impossibility, though we are unable to maintain our colleague’s strenuous resistance. Along perhaps with Pressman and company, we care too much about certain works, their histories, and circumstances. There might be at best a complementarity between our apparently opposite approaches.
There are also important and arguably useful differences between our project and *Reading Project*. Our first motivation is preservation, and our two-part scheme of Traversal and reflection is notably different from the multiperspectival criticism applied in that study. Nonetheless, we have certain things in common with Pressman, Marino, and Douglass. As will be apparent, there is particularly close affinity between at least part of *Reading Project*—Pressman’s explicitly exegetical contribution—and our effort here. We also share with *Reading Project* a commitment to media-specific analysis, close attention to the complex particularity of our subjects, and an awareness of the difficulty posed by software. Above all, *Reading Project* and our study may be said to take Hayles at her word, plunging headlong into her metaphor, going deep.

Code is deep: it exists in layers or strata, and as we consider it in operation, perhaps in something like benthic flows. Most precisely, *code* refers to computationally executable statements. As Alexander Galloway says, code is “hyperlinguistic,” a form of language that simultaneously signifies and operates (2004, 165). There is good sense in shifting focus to this largely overlooked dimension of electronic writing. Nonetheless, that most literal meaning of code is not our primary focus in this book. While both of us are conversant with numerous programming languages and practices, we deal with such matters only occasionally here. Instead we concern ourselves with different kinds of cybertextual depth. In one of these dimensions—call it the structural or architectural level—we find data structures and hypertextual linking schemes. On another, call it the layer of secrecy or withholding, we find password restrictions and secret texts folded into cybernetic recesses. On another, perhaps higher, stratum, we find unexamined histories of translation and reinvention, extensions of the text, intentional and otherwise, that stretch across the upgrade stream.

Always just below the reading surface is what we might call, following Aarseth, the ergodic layer: a membrane of invisibility that may be what is most characteristic of digital texts. This is the aspect of the text that accounts for its iterative variation, its ability to produce an often-inexhaustible range of readable outcomes. This layer serves as interface between all the expressions the system may produce through operations of its code and what comes to the screen at any given moment. When that event of presentation occurs—as execution of the traversal function or a completed step in a performative, human Traversal—a vertical movement reaches completion, and a readable text emerges at the surface.

As we see it, while deep reading must be responsible to the buried sediments of code, it should also have something to say about all the layers and
currents of textual oceanography. The entire longitudinal ensemble matters. We agree with Hayles that the work of media-specific analysis involves deep diving—we descend, indeed—but the two of us are probably more like free-swimming snorkelers than submariners. That is, we have an interest in traveling through all the laminations of the oceanic text. However, while we are here for the diving, we expect to spend significant time on the surface.

For those feeling a bit swamped by all these aquatic metaphors, by surface we mean that familiar aspect of the text from which Hayles struggles to shift our attention. We recognize her wisdom in this move, though we will inevitably muddy the waters she takes such pains to clarify. We mean to pay attention, in at least part of our project, to more-or-less ordinary, readable words. These are no longer words on a printed page. The words may melt or morph but they do not wash away. So while we study variation and flow, which is after all the whole point of recording Traversals, we also attend to the way in which the interplay of structures, operating at their various depths, produces a text for reading—and what that text happens to say. At the heart of our project is an impetus to preserve, and this goal cannot be achieved fully without attending to the words these works offer up. We would like to think that in some future, when so many new-media works from the late twentieth and early twenty-first centuries have inevitably perished as primary artifacts, the commentary we provide on these projects will help document the artistic vision they express. Sometimes only the legend of a work survives—as discussed in the afterword.

Toward the end of her post-Traversal interview, Jackson makes a notable claim about Patchwork Girl: “It seemed more interesting to me to stage the tension between [hypertextuality and] a more conventional kind of reading—for character and plot and metaphor, giving the words substantial weight” (Jackson 2015d, emphasis added). As every diver knows, weight is intrinsically tied to depth, providing the mass that allows a descending body to overcome buoyancy. And yet Jackson’s use of the term seems diametrically at odds with our bathetic metaphor. She has in mind not a sinking into the cybertextual complexities of the system but just the opposite: a countervailing assertion of literary language, in particular and stable screen moments (lexias), with a weight that resists at least temporarily the technological immersion that media-specific analysis investigates. Jackson’s “weight” implies perhaps a more solid surface, in some ways like the printed page: something resistant, constantly assertive, and “substantial”—that thing that stands under us on which we base understanding. She invokes unabashedly an older form of literary ontology, the domain of “character,
plot, and metaphor,” where transition and variation do not explode into the void without resistance but are bound to a singular assertion of purpose. As Hayles points out, this notion is in many ways at odds with digital textuality. It is as if we have two mutually exclusive physical systems in play: a gravity of deep code versus an opposite force that asserts the weight of writing.

This may be the moment when any scientists in our readership look askance; we hope they do not close the book. Humanists seem able to inhabit completely inconsistent universes at the same time, and the last thing you should trust us with is a metaphor. Yet maybe there is a way to unify our opposite forces of textual gravity if we assume the forces of attraction are not parallel but perpendicular. Jackson’s “substantial weight” propagates through a field that extends across what we have called the oceanic surface: the two-dimensional expanse of page or screen that in electronic writing floats above the software stack. In Patchwork Girl, the weight of her words pulls us along and through the quilted matrix of her fiction into “threads” of local conflict and discovery, not to mention intertextual connections that may be, as we suggest in chapter 4, even more extensive than they seem. Against this verbal integument, the critical gravity of media-specific analysis operates vertically, potentially pulling us down into the depths of code, or the complex materiality of an archive such as McDaid’s Funhouse, or the textual history of Malloy’s Uncle Roger. Floating is a matter of balance, a dynamic opposition.

The integrity of Jackson’s verbal domain could be described in terms of surface tension, a fragile continuity that enables heavier structures to resist being swallowed by the depths on which they rest. As Hayles says, the key to understanding electronic writing is interplay, a relation of forces. At the same time, we could speak of another negotiation, that between the horizontal and the vertical, flat and deep. This unstable compromise yields the tension that, returning to our snorkeling scenario, the diver feels as air hunger: an imperative to come back to the surface or at least close enough to clear the breathing tube. Deep reading as we understand it is governed by this ambiguous, amphibious rhythm. We are drawn into the depths, but at some point we need to come up for air.

Metaphors aside, interplay has practical dimensions. There has been a paradigm shift in literary culture, to which the two of us have a complicated relationship. As Kenneth Goldsmith sees it, thanks to technical and cultural affordances of the Internet, “A certain type of book is being written that’s not meant to be read as much as it’s meant to be thought about” (2011, 158). As we discuss more extensively in our next chapter, there is a
seductive, perhaps inevitable affinity between electronic literature and the conceptual projects of Goldsmith’s “new illegibility.” Following Christian Bök, Goldsmith defines his new paradigm in terms of an only slightly fantastic future in which machines write for other machines. This seems a logical next step from Baldwin’s unreadable text of the Internet—“that impossible total text” in which we also believe (Baldwin 2015, 5). In line with this shift to the impossible and conceptual, certain kinds of computational texts—perhaps all of them to some extent—defy complete or definitive reading. They radically question the doctrine of literary integrity or what has been called a textual whole. Bafflingly complex or enormous, they defy summary or representation.

Our relationship to this aesthetic impulse is riven with contradiction. As digital artists we want to embrace the change. Both of us continue to produce artworks that incorporate variation, unpredictability, and emergent behavior. Set in front of a creative keyboard, we are not much attached to textual wholeness. We like productions that exceed our initial conception, works with the potential for surprise. We have no hostility to conceptualism, being inclined to respect its potential to advance and expand boundaries of the literary. Some of our best friends are conceptualists, and so, sometimes, are we.

As preservationists, though, we find ourselves at odds with the inaccessible, the unreadable, and the notional. We care about words, images, sounds, and their various measures of substantial weight. We are invested in textual specifics even if the texts we specify are engines of interplay, self-overcoming systems that keep changing their stories. Call us eccentric, but each of us actually remembers passages from old hypertexts and lines from favorite digital poems. We put all this work into Traversal because that method, however provisional, offers to capture the particularity of experience in electronic texts—if not as a final textual whole, then at least in contingent collections of fragments.

Our opposed impulses come together, one might say amphibiously, in our role as readers—the role we foreground in this book. What we call deep reading is an attempt to unite the complex, multilayered exegesis of code with an older sense of the text as intentional product. The natures of both those words have changed, of course. Intention has become complicated, approximate, paradoxical, and perhaps ironic. Likewise the product is no longer a simple object; or, rather, understanding that the old literary ideal was always subject to polysemy, never simply univocal, we might say that the subject of our deep reading carries us further into the sophistication of
language, confronting us with a text even less reliable in its behavior, more intensely and extensively subject to trickiness, variation, and drift.

Many years ago, toward the start of this complicated story, one of us coauthored an essay that sprang from a student’s cogent question about electronic text: *Are we reading yet?* (Moulthrop and Kaplan 1991). This is a question electronic literature seems constantly to frame. How do we know when we have extracted from the work something worth remembering, something that merits the effort and commitment of preservation? How deeply should we probe the gulf and abysses of the technical system? Conversely, how much time should we spend at the surface? How do we connect vertical ambitions with others more horizontal? Ultimately, how do all of these questions fit within the deep discourse of memory and time?

We can sketch briefly a method for approaching these questions, a skeletal outline for the experiments in deep reading pursued in this book:

1. We begin by examining the text as artifact, a specific production by a particular author, appearing in a certain form, context, and moment. Our efforts at this stage bear a strong resemblance to traditional textual criticism, especially when the work in question turns out to have a complex history of revision (*Uncle Roger*) or a pattern of internal concealment (*Uncle Buddy*).

2. From recognition of the work as artifact we turn to its operation or execution, as represented in the Traversal and ensuing authorial reflections. This is where we are able to take up weight, substance, and the value of the text as a work of particular expression—however contingent or fortuitous that particularity may be.

3. But since these works are without traditional forms of integrity—being a more dynamic sort of artifact—we have to acknowledge that the Traversal is only an approximation of the text’s signifying potential. We therefore must look beyond the parts of the text the author chooses to visit or reveal, looking for places omitted from the tour, either in a process of revision (chapter 2), through a pattern of mystery or concealment (chapters 3 and 5), or from a recognition that electronic literature brings us to a limit of expression (chapter 4).

4. Finally in the interplay of surface attention and operations at depth, we may form a sense of how these works—all of them powerfully exploratory and each in its way original—contribute to the emergence of word-based art in computational and networked contexts: how these works define and inflect the idea of electronic literature.
Of course, the four chapters in which we treat our texts and their Traversals follow this schematic only loosely. To a large extent, every work of electronic literature bespeaks its own deep reading, which is a reason we offer four instances instead of concentrating on a single subject. Deep reading is a self-assembling process, no more reducible to certainty than are the texts it addresses, even if it lives on the printed page. There is a point beyond which we can only explain what we are doing by showing what we have done, in hope that it may instigate others to do better.

Outline of the Book

The core of the book consists of four chapters, each based on one of the Traversals from the Pathfinders project: *Uncle Roger*, *Uncle Buddy’s Phantom Funhouse*, *Patchwork Girl*, and *We Descend*. The Traversal chapters are preceded by a preliminary, theoretical essay (chapter 1), and followed by an afterword.

Chapter 1, “Entity and Event: Electronic Literature in Context,” situates the work of this book, the Pathfinders project and its second stage of reflection, both within the local tradition of electronic literature and in a larger cultural context to which that literary form itself belongs. Some consideration is given to the concept of electronic literature and its proper or at least plausible boundaries. The concept of resistance to textual wholeness is introduced, with remarks about its relationship to conceptualism and the literary *arrière-garde*. Pathfinders and the Traversal method are presented as responses to this cultural situation.

Chapter 2, “The Many Faces of Judy Malloy’s *Uncle Roger,*” traces the different ways Malloy relates/relays her story. First published on The WELL as a digital serial novel, it was simultaneously envisioned and later published as a work of online interactive fiction and as a database novel for use as stand-alone software. A decade later, when the browser was introduced, *Uncle Roger* was revised as Web-based hypertext fiction, and more recently, reproduced for DOSBox. Our essay teases out the distinctive features of each iteration and organizes them into versions based on Malloy’s approach to storytelling, the platform for which *Uncle Roger* was created, the code used to create it, and variations on the story itself. While Malloy has identified four versions of *Uncle Roger*, we have discovered and detail no fewer than six.

Chapter 3, “Coelacanth History: *Uncle Buddy’s Phantom Funhouse* and the Cybertext of Things,” explores the meaning of McDaid’s “modally appropriate,” artifactual hypertext both in terms of its literary expression and as
McDaid’s claim to have created “a novel no 20th-century writer could write” is juxtaposed with the text’s unfortunate obsolescence—making it a hypertext no twenty-first-century reader can readily read. Through a study of *Funhouse* in conjunction with another domestic mystery text, Fullbright Company’s *Gone Home* (2013), we suggest a context for understanding McDaid’s work as a meaningfully broken time machine.

Chapter 4, “Monsters and Freaks: *Patchwork Girl* and the New Unreadable,” comments on Shelley Jackson’s hypertext in response to her own ambivalence about its preservation—Jackson’s stipulation that any treatment of the work not betray its “purpose.” In trying to work out what this obligation might mean both for *Patchwork Girl* and electronic literature generally, we have recourse both to the structure and design of Jackson’s text, and to one of its neglected intertexts, L. Frank Baum’s *The Patchwork Girl of Oz* (1913). Taking from that story the notion of a “supreme freak”—potentially, an alternative category to the monster—we pay particular attention to an anomalous thread in the hypertext and its association with the notion of the unspoken, the unspeakable, and the (technically) illegible.

Chapter 5, “The Archives Pertaining to Bill Bly, Curator and Translator,” argues that Bly’s *We Descend* experiments with the potential of a Storyspace hypertext to structure an archive of multiple, nested narratives that unfold linearly, revealing truths in measured moments of myth, maxim, and testimonial and questioning the notion of authenticity. To read *We Descend* as a hypertext novel in the vein of *afternoon* or Moulthrop’s *Victory Garden* (1992), two Storyspace-based fictions, is to read it with assumptions on which the work is not intended to deliver, for *We Descend* is not nonsequential fiction but rather interconnected archives that relay bits of information as incompletely as one would expect of ancient texts.

The afterword, “The Sappho Syndrome, and Other Concerns in the Preservation of Born-Digital Media,” introduces the idea of Sappho Syndrome: the disappearance of complete works of literature to the extent that all that remains are fragments and references to the works and authors. The chapter also calls for a coordinated effort among Digital Humanities scholars to preserve video games, virtual worlds, digital writing, digital publications, and other types of digital literary and artistic objects, collaborating to answer such questions as: For what kinds of digital objects is one approach more desirable than another? How can different approaches be combined or coordinated to best serve the interests of future scholars? What can researchers working on one sort of digital production—electronic literature, say—learn from those concerned with different but related areas
such as video games, digital writing more broadly conceived, and social-network discourse? How, in other words, can researchers approaching the posterity of digital texts from diverse directions benefit from exchange of perspectives and results?

This book is our response to a key challenge that stands before Digital Humanities generally: how to transmit the heritage of a culture whose objects are multiplying not simply in extent but also in types of system or interface—keeping in mind that the nature of those varying interfaces greatly complicates the task of identifying, collecting, and otherwise treating the object. No single approach can be the best in this situation. Multiplicity is a mandate.

Multiplicity begins with two. This book started as a duet with interwoven solos, for which reason we have kept individual bylines for each chapter. We have our differences in perspective and emphasis, though as far as the book goes, not in opinion or method. As Hayles teaches, the key to this method is interplay. Even as parts of the project may be heard in particular voices, the reader will hopefully also notice harmonies, both between the two of us and also with the works of our four writers. Every word of the book belongs to both of us, and nothing we say would be possible without the visionary work of those pathfinders.
At this historical juncture where time has been declared the most important resource for the economy, technology, and art, we should not pay so much attention to how much or how little time we have. Rather, we should take heed of who or what has power of disposal over our time and the time of others, and in what way. The only efficacious remedy for a melancholy and resigned attitude toward the world is to appropriate, or reappropriate, the power of disposal over the time that life and art need. Only then is the future conceivable at all—as a permanent thing of impossibility.

—Siegfried Zielinski, *Deep Time of the Media*
Dial-Up

Dial for a taxi on your mobile phone and pay the driver in cash. This curious sentence might belong to science fiction, marking the speaker as a time-traveling invader failing to pass as contemporary. Or it could read as a plainer kind of realism with the speaker simply part of an older generation shipwrecked on the reefs of history. Either way, the sentence displays creeping lexical rot. The first word has already collapsed and the rest have been seriously undermined. Telephone dials are as quaint and perhaps as poorly understood as sundials. With the advent of Internet-mediated ride services, taxi has joined the extinction queue. A case can be made that mobile phone poorly describes today’s handheld information devices, which are so much more than telephones and may not be handheld too much longer. The self-driving cars of the next few decades seem ready to turn driver into an archaism, and of course cash has been on the purge list for a while now. Whether pay will join it seems open to debate.

Bruce Sterling once opined that his generation, to which the writers of this book belong, was the first to live in a truly science-fictional universe, surrounded by technologies, experiences, and problems unimaginable to their elders (1986, xi). The elders might plausibly deny this claim, noting nearly two centuries of rapid change across various registers—society, economics, politics, and technics—though, in Sterling’s defense, the pace arguably has increased in our lifetimes. Time is indeed at the heart of the matter as Zielinski says, but it is notoriously hard to talk about its effects. Whether or not we have ever been truly modern, much of the world has experienced an effect called modernity, a visitation whose symptoms include a certain difficulty in naming. Here is a name particularly steeped in temporal anxiety: electronic literature. In asking what that phrase could mean, we are really wondering to what moments it might belong, future and/or past.

Those who use the name familiarly do not seem to find it problematic—or, if we do, we are flummoxed by our inability to find something better. The phrase has been used to designate at least two academic enterprises, a professional association called the Electronic Literature Organization (ELO), and, in Europe, a research project called Electronic Literature as a Model of Creativity and Innovation in Practice (ELMCIP). ELO has published three volumes of its Electronic Literature Collection, and ELMCIP and other international initiatives (e.g., Hermeneia in Spain, NT2 in Canada) have sponsored editions and compilations of research on electronic literature in numerous languages. The concept of electronic literature is generally accepted, with varying degrees of skepticism, among a number of parallel and allied efforts
such as the E-Poetry Center at the University at Buffalo, various international branches of the interactive-fiction community, and at least some practitioners of Twine gaming.¹

The phrase “electronic literature” achieved formal status with the foundation of ELO by Scott Rettberg, Robert Coover, and Jeff Ballowe in 1999 (Walker Rettberg 2012). A longer lineage of literary works produced by electro-mechanical means might be traced to Christopher Strachey’s love-letter generator, designed in 1952 for the Manchester Mark I (Wardrip-Fruin 2015). Other historical landmarks include Joseph Weizenbaum’s ELIZA script of 1965, famously imitating the discourse of Rogerian therapy, and Will Crowther’s Colossal Cave Adventure of 1975, the digital ancestor of interactive fictions. Especially in its later permutations, Crowther’s program probably represents the first use of computers to produce writing of more than academic interest. His work led to the heyday of text-adventure publishing in the 1980s and, through various permutations, to narrative adventure games in current commercial markets (see Montfort 2005 and Salter 2014). Further inflections of electronic literature include Malloy’s groundbreaking “narrabases” (among these Uncle Roger, the subject of chapter 2) and Joyce’s afternoon, a story, the first instance of self-identified hypertext fiction. Electronic poetry has similarly been around on an experimental basis since the beginning of digital computing (see Funkhouser 2007) and has flourished with the advent of the World Wide Web. As Kenneth Goldsmith and Marjorie Perloff have noted, access to the Internet has given new power and purpose to various poetic practices, notably procedural, concrete, and conceptual poetry (Goldsmith 2011, 157; Perloff 2010, 50).

Within academia, the idea of digital literature has been addressed by a diverse group of theorists, beginning with Theodor Holm Nelson (1993), the first to propose the idea of an electronic literature per se. Others include Johanna Drucker, Lévy, Bolter, Landow, Hayles, Liu, Aarseth, and lately Perloff. These figures have framed approaches to language and culture that draw significantly on ideas and examples from digital writing. Like aesthetically ambitious literature generally, electronic writing has been better known among scholars than the broader public, though there are exceptions to this rule. With initial sales in the range of 350,000, Douglas Adams and Steve Meretzky’s 1984 release Hitchhiker’s Guide to the Galaxy, an interactive fiction based on Adams’ novels, set commercial records and ranks among the most successful computer games in history (BBC). If we add continuing online encounters numbering in the millions, the game probably qualifies as the best-known example of electronic literature, though a
case could be made for the landmark video game Myst, or, for that matter, almost any successful, aesthetically ambitious game produced since. Much depends, as we will see, on how we choose to define literature, along with its means, modes, and practices of composition, circulation, and reception—or if we dispense with that word and try something else. Having come to this point, we have probably gone beyond the context in which “electronic literature” can be accepted without inquiry or controversy. It is time to address the term more critically.

Nothing and Everything

Long before electronic literature became as we say these days, a thing, another science fiction writer, Stanislaw Lem, glimpsed something like it on the far horizon. In an introduction to an imaginary book of the next century, he outlined the “History of Bitic Literature,” an art comprising works of “nonhuman origin”—though apparently humans would still study this literature composed by machines (Lem 1984, 41). Strictly speaking Lem’s prediction has not yet come true: electronic literature retains human origins, though the terms of that engagement are controversial. However fantastic, Lem’s futurism frames some important historical questions. Where does electronic literature fit into the time stream? Which is to ask, why fixate on electrons? In most cases the name invokes a cultural regime (or “episteme,” in Lévy’s term) rather than a physical substrate. So perhaps we can follow Lévy in speaking of “molar” alternatives (1997, 51), forms of writing informed by material rather than immaterial operations. If there is an electronic literature now, was there once a literature of bronze, steel, or steam? This question might point toward the machine in Leo Marx’s garden (1964) and, from another angle, to the Difference Engine of Gibson and Sterling (1990), not to mention Babbage and Lovelace. But these examples are not really to the point because, as history and counter-history, they are retrospective. It is one thing to characterize a moment after the fact but something else to name it on the fly.

For some, electronic writing represents a conjunction of opposites. “Print stays the same,” Joyce notes, but “electronic text replaces itself” (1995, 232). In most forms of digital mediation, words are not inscribed or imprinted but rendered as pixel mosaics on a light-emitting surface through a process repeated thousands of times per second. The page-like structures of e-mail, word processing, and the Web (those veritable antiques) trick older, book-adapted brains into an assumption of earlier contexts. Contrast any of these with the newer idioms of instant and evanescent messaging
(e.g., Twitter and Snapchat), and the impact of technological difference becomes apparent. Electrons are fast as light, or near enough. Literature, by contrast, has generally been associated with stability and long duration, qualities to which Borges’s fantastic “Book of Sand” (2007) testifies as affirmative exception. Now books of sand—which is to say, silicon—are commonplace. “I wanted to write a story that would change each time you read it,” Joyce offers, explaining the genesis of *afternoon* (Joyce 1990; see also Barnet 2013, 117). Joyce’s invention may fall short of his desire in absolute terms—the work is more given to loops and iterations than to absolute novelties—but its operational instability certainly finds the flick in flickering signifiers (Hayles 1993).

Once upon a time, this departure from the stasis of the page was intensely controversial. Electronic writers were denounced as tome wreckers (Birkerts 1995) and textual cannibals (Turner 1994). While some still worry about the frenetic narcissism of digital media (e.g., Cayley 2009), much of the discomfort that initially attached to digital writing seems gone. More typical of the present moment is Hayles’s notion of a potentially dialectical encounter between “hyper” and “deep” cognitive modes (2007, 57–63). The popular embrace of the Internet did not spell the “end of books,” as Robert Coover suggested in 1992, in terms perhaps more playful than helpful. Nor was the World Wide Web a passing fad, as some may have hoped. The function and influence of digital media have been established. Those restless electron flows are now as naturalized and transparent, in their way, as books and print were in centuries past.

The advent of this digital second nature compromises electronic literature from the opposite direction: if the initial response saw the question in terms of negation—the intersection of electronic and literature as an empty set—the newer formation threatens to make the sets identical. In some sense all literature is now electronic. What writing today does not pass through a form of digital or computational mediation? Odds are that any codex book has been written, edited, and typeset with the help of software, and it may have been printed to order in an automated production center. There are no doubt resistance texts produced by writers living deliberately off the grid—artisanal chapbooks penned on vellum, manually printed, individually bound, promoted through word of mouth and passed along in exchange for cash or goods in kind. Such things are meaningful, but their meaning is inescapably elegiac. Radical exceptions confirm prevailing rules. Books purely of ink and paper have become in their own way books of sand—though of course there is never an end of books.
Was ist?

For some time now, we have been living in an age of hybridity, which may be another way to address the difficulty of what electronic literature might mean—nothing, everything, or more likely, many somethings in between. Always the trendsetter, Joyce has given us a sign for these ambiguous times as well. In 2007 he published a compact prose work called Was: annales nomadiques, further subtitled a novel of internet. This last phrase is no less baffling than “electronic literature,” but since it is attached to a set of printed pages, we have documentary evidence with which to work. Here is a brief excerpt:

Gladys (Welsh: lame) gamely makes her way along the concrete incline of the riverbank below the floodwall (Portsmouth, Ohio), jogging (glad is), 15 barge tow wheeling round the buoy just below the bridge

mud smell of catfish and diesel penetrated (suffused) by lilacs, delirious honey-suckle steeping in the damp of dusk, pheromones (“the secret of eros” adv.), no one’s daughter, she’s an imaginary creature, fell in love with a tugboat captain, perhaps this is him (waves to the pilot house but the John M. Rivers does not answer)

Gladys R. Rivers, a good name (nee Gladys Glanyrafon) (Joyce 2007, 54)

Things called novels generally provide sustained narrative passages with a consistent set of characters who serve as actors, subjects, or witnesses to events. Reading with these expectations, we might assume from this extract that Joyce’s “novel of internet” focuses on an American mid-westerner of Welsh extraction, haunting the banks of the Ohio and yearning after tugboat captains. Indeed it does, for something like ten brief, elliptical paragraphs, after which Ms. Glanyrafon is never heard from again. At an earlier moment, someone—a narrator?—asks, “Has a story begun then?” (Joyce 2007, 18), to which the implicit answer is usually yes. There is this interjection, however: “But can’t we please just stop awhile and hear something all the way through” (127). The answer is almost uniformly no. Was is not that sort of novel.

Instead, the text offers an experiment in uprooted, unfettered language, an exercise of autonomous imagination. Gladys Glanyrafon is “an imaginary creature,” a mass of words, as E. M. Forster might have said (Forster 1927), or a language-effect haunting a consistently inconsistent text. We leave Gladys with a sort of valediction: “And the waves lap and lapse as her foot falls” (Joyce, 2007, 55); or, rather, we shift from one aspect of Gladys to another as the discourse settles on a different point of view:
Portuguese deckhand, a lumper, no taller than a swab, dives off abaft and swims ashore to woo her, hair hanging down

*Bishoujo Senshi Sailormoon* she croons, putting him off as he runs beside her, *lá vai ela, lá vai ela a borboleta no ar*, soft fingers trailing off his brown cheek (how will he ever get back)

She’ll fly him in her beak, mayhaps? *(talvez, remember she’s imaginary)* (Joyce 2007, 55)

Even as the Portuguese tar makes landfall, we find ourselves textually and linguistically very much at sea. The object of his affections, if not the original Gladys then someone equally nonexistent, “croons” the Japanese title of a famous manga, *Pretty Guardian Sailormoon*. In response, the sailor quotes lyrics in his native tongue. The concern with his return to the ship seems to come from some other narrative angle—perhaps from a hypothetical reader. The question is resolved mythologically. The airy spirit that was Gladys (bird now, not butterfly) will carry him in her beak—maybe.

Actually, though, not. We have seen the last of Gladys and the pretty sailor. In *Was*, fresh characters appear and disappear from paragraph to paragraph and page to page, in the manner of *Alice in Wonderland* or Don DeLillo’s *Ratner’s Star* (1976). Unlike those examples, though, this book contains no Alice or Billy Twillig to center the experience, and likewise no unity of place. Scenes shift rapidly and discontinuously, making one-time stops on every continent including Antarctica. Languages employed include most of the Romance variants, a few Germanic, Asian, and Slavic tongues, along with C++ and the intriguingly named Human Markup Language.

For the most part the text proceeds in English, but even there its workings are slippery and allusive. A key nod to “Wenders, W., End of World” (Joyce 2007, 30) gives away the general design: Wim Wenders’s 1991 film *Until the End of the World*, itself something of a grand picaresque, includes a writer at work on a novel called *A Dance around the Planet*. As *Was*, we might say; though we should note the caution Joyce’s narrator gives just before the allusion to Wenders: “(you had to be there).”

The title *Was* evokes a Faulkner story (perhaps through sheer coincidence), yet the tone of the piece is Joycean in both senses of that famous name. Certainly the unpredictable bricolage owes something to the “Wandering Rocks” episode in *Ulysses*, if only by way of modernist heritage. At the same time, a second, equally powerful gene-line traces back to the earlier *afternoon*. Unlike that work, there is nothing explicitly hypertextual about *Was*, but the latter does seem to exhibit a second-order effect of
exposure to the ultimate expression of hypertext (the World Wide Web) and to its first cousin: information retrieval systems, also known as search engines.

It is enlightening for someone of Sterling’s science-fiction generation to work through Joyce’s novel in the company of younger readers. Impressions of *Was* tend to differ across the lines of age. The old emigrant from the empire of print sees in the work a writer’s notebook artfully repurposed as novel, the literary equivalent of a deconstructed entrée. Younger eyes catch something else. Having been exposed to flarf, a form of Internet-appropriative poetry, the digital natives I teach tend to construe “novel of internet” more literally. How much of *Was*, some of them wonder, was culled from Google queries? Joyce answers in the preface to another novel: “Google, of course, ought to be listed as a co-author here” (Joyce 2015, 12). With respect to *Was*, he elaborates:

*In some way* all of the text came from search-engine queries in the sense that Google ... has slipped into the center of the group picture, to wit: Clio, Thalia, Erato, Euterpe, Googlemena, Polyhymnia, Calliope, Terpsichore, Urania, Melpomene (and you can tell the grads that I did Google that.) (Joyce 2011; initial emphasis added)

The qualifier *in some way* needs to be taken seriously: Joyce stipulates that his reference material was intensively processed or “milled,” never simply dropped in. Still, there is a sense in which the “novel of internet” proceeds from digital resources not just as a matter of sensibility but also as a condition of composition, and perhaps interpretation as well. In an earlier era we might have “had to be there”—in a particular time and place—to unpack Joyce’s telegraphic reference to *Until the End of the World*, and thus to grasp what it says about the form of the work. We might have had to go to the movie house or rental shop or recall a particular conversation with friends. Now *being there* is largely a matter of being connected, and where we go is nowhere at all in a physical sense but into the vast and immaterial cloudscape of information. We can stream trailers and excerpts, download the film in its entirety, or turn to that great augmenter of intelligence, Wikipedia. Confronted with a passage in Japanese, Portuguese, or Welsh, we can resort to our favorite online translator. Once poets enjoined the muse to sing; nowadays the operative verb, for writer and reader alike, seems more like *bring*.

Among other things, *Was* brings a crucial test case for the idea of electronic literature. Joyce’s novel seems in many ways to prove the merged-set hypothesis: prose narrative has become coextensive with the digital noosphere. The original muses have taken on a much younger backup singer,
and their sound will never be the same. Was includes an episode in the interestingly named South African town of Humansdorp. A couple have lost their daughter, tragically young, in a bus crash. Mother turns to father and asks, “Can you enter her age there, perhaps make it blink? shall we make a web page?” (Joyce 2007, 118). Her remarks are laced with bitter irony—no memorial can suffice, let alone one that cyclically replaces itself—but this moment is also a sign of the times. We have to be here, in a sense, in that place where humans dwell, in this time of blinking, flickering signifiers.

Our moment is ambiguous, on and off and on again, ruled less by distinction than iteration or, in that indispensable term of art, remediation. The new neither elides nor eludes the old. Joyce’s “novel of internet” is a highly unconventional work, but in terms of the expressive possibilities laid out by cybertext theory, it falls within the small but fertile niche that is home to all print fiction (Eskelinen 2012, 36). Was remains a thing of paper, a bound volume with words that do not change from reading to reading, at least in the domain of the signifier. Yet its fragmented structure and sensibility evoke, both formally and thematically, a context of distributed communication, global diaspora, and world-girdling dance that seems characteristic of the century so far. Plugged into that general nimbus, the language of the novel drifts across the domain of the signified like a tumbling satellite (to borrow another image from both Wenders and Was).

The stylistic restlessness of the novel marks its flickering characters, many of whom are wanderers, tourists, or displaced persons, like the erstwhile flatmates Eve and Devi, who “left one day and didn’t come home, both of them” (Joyce 2007, 21). In a way the book is itself a product of “refugee consciousness” (14), uprooted from a primary or original context. As yet another voice notes in a fragment elsewhere, “have lost the epic sensibility but not its scope” (37). These nine words make up the entirety of the line, quite intentionally. The elision of grammatical subject makes the statement an emblem of Lévy’s “universal without totality” (2001, 91), a predicate that characterizes but will not specify. Insert nominative plural, any plausible they or we. The teeming and indefinite mass of humanity finds itself epically connected, though who can say to or by what?

This query leads us back to Joyce’s text itself, or perhaps to its numinous main title. In a work that dances so extensively around planet and peoples, it seems logical enough to fold a German pronoun homonymically over an English verb, leading us to wonder not what was, but rather was ist—or in more complete form, was ist der Roman von Internet? The novel embodies its
own answer: a work of atomization and scattering that flirts relentlessly with narrative but never settles long enough to tell anything all the way through. If we readers, or this novelist, or fiction generally, have lost the prose-epic sensibility, perhaps we can find something to set in its place, if only through a process of iterative searching and rigorous digression. Bring, O muse: bring it all; bring it on.

Horse and Kangaroo

If Joyce’s “novel of internet” thus represents, however unstably or bafflingly, a possible crossing of digital-computational procedures and traditional literary methods, then perhaps it should be brought within the fold of electronic literature. However, that proposition would likely be controversial among the community of writers and scholars who identify most closely with that term. Generally these people rely on the notion of born-digital work to define their area of inquiry. Being a metaphor, and a figure drawn on the female body, this expression invites scrutiny. Literary works are made, not born, so in what sense can anyone—largely men in the initial instance—naturalize that process as a kind of childbirth?³

Metaphor is not identity. It leaves room for shift and drift, but sooner or later we have to come to cases. If Joyce’s new muse, Googlemena, serves as midwife to Was, how can we exclude that work? The distinction is perhaps easier to understand if we add a letter, speaking not of how a work is born but rather how it is borne or conveyed, taking the medium as message. This change invites trouble because the shift from born to borne marks a heresy. It adds the differentiating “e” at the wrong end of the word, according to turn-of-the-century branding practices. New things are e-things: e-commerce, e-politics, e-books, e-poetry, and so on. The misplaced vowel flouts a precept intended to separate works that take digital form for reasons of economy or convenience—electronic books, primarily—from those in which meaning and function draw significantly on computational resources.

This distinction has a history. In the 1990s literary theorists including Landow, Aarseth, Janet Murray, and Lev Manovich began to examine the intersection of textual expression and information-processing systems. ELO and related groups follow Aarseth’s emphasis on ergodic forms, in which the reader, player, or operator who experiences the work must invest “non-trivial effort” in the process (Aarseth 1997, 1), thereby eliciting from latent storage (the “textonic” dimension of the work) a particular or momentary expression (its “scriptonic” aspect). However, where Aarseth and others
such as Hayles, Markku Eskelinen, and Marie-Laure Ryan range broadly over literary and art history, most exponents of electronic literature—including the authors of this book—have tended to focus on work that involves digital processing. Born-digital writing, according to Hayles’s landmark survey of the field (2008), includes parser-driven games, hypertexts, algorithmically generated compositions, various forms of digital poetry, and other forms enabled or augmented by computation.

This definition makes room for cases such as Steve Tomasula’s *TOC: A New-Media Novel* (2009), which pursues a philosophical fantasy through multiple media objects and diverse, navigable threads of exposition. But in its strict form, that same definition cannot accommodate Joyce’s “novel of internet” since—however that work was metaphorically born—it is actually borne on printed pages. *Was* falls on the wrong side of the line. There may be no end of books, but there is a cultural space where books are deliberately excluded. Electronic literature as now conceived is born, not borne.

The wrong-ended “e” brings into critical focus a fundamental problem of boundaries. As a certain wily poem teaches, good fences do not make good neighbors; they testify instead to the limits of community. Boundaries set preconditions for dispute. Why put a limit at this point and not another? Who owns the territory or the moment—in Zielinski’s marvelous question, “Who owns time?” (2008, 29). Distinctions call themselves necessarily into question. This is certainly the case with the problem of borne identity. As the example of *Was* indicates, there may be reasons not to love the wall between electronic works and books, and perhaps to work for its removal, but this is to question the origins of the distinction. We need to ask why electronic literature has been set apart and what is at stake in its differentiation.

Addressing this problem brings us back once more to hybridity. Writers associated with electronic literature sometimes produce books. For instance, J. R. Carpenter, known for works of hypermedia narrative and algorithmic poetry, has produced a printed collection of poems called *Generation(s)* (2010). In form this book is like most such works, except that all its pieces have been produced by customizing the data sets fed into a series of verse generators written in the Python scripting language by another procedural poet, Nick Montfort. The pages alternate poems with the code used to produce them. Montfort has produced his own collection of programs alternating with exemplary output—#! or “Shebang” (2014)—as well as *World Clock* (2014), an extended prose work comprising 236 pages of timely observations, such as:
It is now as it happens 10:45 in the Vatican. In some decrepit yet nestlike edifice a person named Yonas, who is of completely average stature, reads a stained envelope. He frowns a slight frown.

It is now precisely 11:46 in Kaliningrad. In some cookie-cutter yet decent accommodation an individual known as Kirubel, who is no larger or smaller than one would expect, reads a wrinkled contract. He chews a fingernail.

It is now only a moment before 10:47 in Madrid. In some tidy residence a person named Mahlet, who is quite sizable and imposing, reads the warning message from a recipe clipping. She scratches one ear. (Montfort 2014a, 97)

Genealogically speaking, *Was* and *World Clock* belong to a common line: the latter text shares the former’s cosmopolitan agenda and its disdain for unity of character, though with notable differences. As the name indicates, *World Clock* is less dance around the planet than time piece. Each paragraph offers a uniform report, giving hour and minute in local time, sketching a location, naming a character, offering a brief description of same, then describing an act of reading in which that character takes part. There are 1,440 iterations of this formula. This regularity marks the difference between Joyce’s text and Montfort’s. The former is ruled by writerly impulse and the self-organizing play of language. The latter is governed by more coherent structures of program and algorithm. Each paragraph is produced by a text-assembly routine that gathers items more or less randomly from a set of databases, one for each constituent variable. The work as a whole comprises the output of a main loop that iterates the assembler once for each minute in a day. No doubt the composition of some of the databases (e.g., the character actions) involved a more traditional process of invention, but, to borrow Joyce’s word, the *milling* of these elements in *World Clock* is strictly computational. This difference suggests significant distance on the evolutionary tree between the earlier text and the later—if not the span between horse and seahorse, then perhaps horse and kangaroo.

Even though it takes the form of a book, *World Clock* frustrates the desire for traditional narrative even more strongly than does Joyce’s “novel of internet.” That is because it is only contingently or perhaps ironically a book. The work was produced on the occasion of National Novel Generation Month, which explains its extended, quasi-narrative form (Titlow 2014). Its appearance as codex may stem from its relationship to another of Lem’s imaginary books, “One Human Minute,” which is said to record the complete experience of the human race during a 60-second span (1986). Lem imagines an intensively tabular, data-driven anti-novel. Montfort, stretching the time span from a minute to a day, binds number crunching
to the service of algorithm. Unlike Lem he does not stop at conjecture but actually produces an object. In Lem’s fantasy:

A landscape composed not of mountains, rivers, and fields but of billions of human bodies will flash before you, as on a dark, stormy night a normal landscape is revealed when a flash of lightning rends the murk and you glimpse, for a fraction of a second, a vastness stretching toward all horizons. (1986, 8)

This language comes wrapped in the idiom of the sublime, an aesthetic response to the excessive and incomprehensible. Given the multitudes they contain, both *Was* and *World Clock* seem to taunt us with their artifactual collectedness, their objective integrity that flies or flashes in the face of their subjects. Like Lem’s dream-book, they imply unseeable vastness. However, some infinities are larger than others. Reading either of these material texts in its entirety poses a challenge, but the unpredictable variety of Joyce’s novel offers an encouragement *World Clock* refuses. Both works are to some degree conceptual, meant in some degree to exemplify an idea, but Montfort’s shifts further in that direction. It is probably not meant for completists. Its minute-by-minute, global celebration of the act of reading is not especially readable, at least in the usual way of novels.

In fact it is possible to declare *World Clock* at least circumstantially unreadable because its ultimate expression (if we can speak of such) cannot exist within a single, printed artifact. In an important sense, there is far too much of it. This may seem an odd assertion for those who think of the work in its material singularity as a bound and bounded volume. Further explanation requires an example. In our excerpt from *World Clock* above, the first of those three paragraphs might have read as follows:

It is now precisely 10:45 in Madrid. In some cookie-cutter yet decent accommodation a person known as Mahlet, who is no larger or smaller than one would expect, reads the warning message from a recipe clipping. He chews a fingernail.

Remember that the text is generated by the operation of a computer program in which formulaic iteration always implies reiteration. The present example remixes elements from all three of the quoted paragraphs, a plausible procedure given the general outlines of the project. This exercise demonstrates that the particular language of *World Clock* bears an implicit relationship to a very large universe of alternative expression. The text on the page (*scripton*) implies a much larger body of discourse that does not appear—not the similarly invisible *texton* but, we might call it, *para-scripton*. In other words, this is a book that is more than itself, or perhaps more than a book. It brings us back once again to that core criterion of electronic
literature, the insistence on digital instantiation, but it also points a step further along that line.

**Toolspin**

In *World Clock* the extent of the work’s signifying potential is implied by the formulaic nature of its contents, yet the materialized text remains conveniently contained within its pages. Its para-scriptons exert a ghostly influence for those who are sensitive to such effects. In another representative work of electronic literature, the generative poem “Sea and Spar Between” by Montfort and Stephanie Strickland, this dimension of potential language is more fully evoked (2011). That work consists of a Web page with an appended script that generates a series of four-line stanzas displayed in a regular grid. The language of the stanzas is algorithmically constructed down to the syllable, using a pair of word lists compiled by the authors. One is drawn from the poems of Emily Dickinson, the other from Herman Melville’s *Moby-Dick*. Here is a representative stanza:

wheel on
then dateless is the earth
one friend one mind one house one dust
another! easy!

(6085158:6418304)
(Montfort and Strickland 2013)

In the original, the lines appear in dark blue on a light blue background, surrounded by a dozen or so neighboring stanzas. Moving mouse or finger on touchpad, even slightly, causes the text to replace itself with dizzying rapidity, shifting into a new configuration of stanzas. The blue color scheme is meant to evoke water, and an encounter with this text can feel like drifting—or drowning. It is very hard to specify or maintain a particular position on its oceanic surface; and yet a strong element of specificity works against this instability. As the numerical reference in the example above indicates, each stanza has a unique position in a two-dimensional grid and can be located by typing its vertical and horizontal coordinates into a box on the screen. Stanzas and their positions are definitive. Every stanza the system can produce has a unique place on the grid. Typing a specific address will always bring the same stanza into the center of the display, with a constant set of neighboring elements. When the screen flickers and shifts, it is in fact moving by increments in response to manual input, however slight or unintentional. The motion may appear discontinuous since the system
demands an impossibly steady hand, but it is in fact regular and stepwise. The grid comprises at least potentially every possible expression of its generative program.

Given relatively brief word lists such as those in “Sea and Spar Between,” a straightforward combinatoric procedure might yield a few hundred thousand or even a few million possibilities. Montfort and Strickland’s generative formula is far from simple, however, and its complications evoke approximately 225 trillion unique stanzas—as many stanzas, the authors suggest, as there are fish in the sea. This ordering of magnitude means that at any given moment our reference point is surrounded by vastly more variations than we could ever hope to read. There is no plausible way to hold all possible permutations in computer memory. Storage capacity of present systems is too limited. Even if this were not the case, the required processing would take thousands of years. Trillions are just unbelievably big.

Therefore the contents of a given view or screen state are always computed on the fly, radiating from a given reference point. Stanzas that fall outside the visible range are not constructed. As Strickland points out, the essence of the work is “compression,” drawing on computation to reduce impossibly large numbers to a humanly accessible scale (Strickland, discussion with Moulthrop, Aug. 6, 2015). In effect, “Sea and Spar Between” can only be read in localized excerpts or samples. To emphasize the radical excess of their design, the authors use the `canvas` element of HTML to enable flexible changes of scale. Readers may zoom in or out with respect to the grid, flying down to regard a single stanza or climbing out to survey a broader seascape. Even at maximum extension, though, we never see more than a minuscule fraction of possible permutations.

“Sea and Spar Between” is a tour de force by any measure, a notable achievement: though, it stands on great shoulders. At least one previous very-large-scale composition of this sort was done without ready access to digital computing. Raymond Queneau’s *Cent mille milliards de poèmes* (1961) operates at the same order of magnitude as “Sea and Spar Between,” $10^{14}$ permutations. Both this work and the later example confront us with a body of discourse that is effectively unreadable. Allowing a nominal span for comprehension, it would take hundreds of millions of years to encounter all possible expressions producible by either system. Both present the paradox of something that approaches or approximates “infinite complexity defined by simple rules”—discrete productions of human-crafted language that become inhumanly big. This algorithmic hyperinflation brings home vividly the distinction between evident and latent language, scripton
and para-scripton, and thus the impossibility of complete reading in algorithmic or mechanized texts.

There are of course salient differences. Most obviously, Montfort and Strickland’s effort is both born and borne digitally, conceived and delivered with computational resources. Queneau wrote before the invention of the Internet, let alone the World Wide Web and its client software. His exploit takes the form of a disordered codex, a bound volume whose pages may be cut into paper strips bearing possible lines of a sonnet that can be folded in various ways to produce combinatoric readings. “Sea and Spar Between” defines ergodic effort quite differently. It is designed for browsers, in both the cybernetic and human meaning of the word. Its interface employs Javascript and HTML, both of which are strongly associated with ubiquitous Web browsers. In a parallel sense, where *Cent mille milliards* invites its reader to assemble a text through successive, deliberate permutation, “Sea and Spar Between” asks its reader to swim or skim an oceanic expanse of language. We do not build; we browse.

To a certain way of thinking, “Sea and Spar Between” might thus seem less interesting than its older cousin. Even though readers of both texts are constrained within a complete linguistic system, Queneau’s reader-folders are perhaps more significantly challenged, or at any rate their process of discovery is more laborious. By contrast readers of “Sea and Spar Between” simply range over a prefabricated array in an effort that comes suspiciously close to trivial—the twitching of hand or finger. This interpretation deserves some credence because it registers an important difference between the two projects. But it also fails to recognize at least one major aspect of that difference.

We could say both *Cent mille milliards* and “Sea and Spar Between” involve digital computation—although the *digits* in the first instance are exclusively those of human hands, while those in the second connect finger work to the dance of electro-numeric data. We could also say, more debatably, that *Cent mille milliards* does not involve code, at least not in the common, contemporary sense of that word. Instead of instructions to a microprocessor, Queneau’s project relies on physical arrangement. Its procedures are evident in its materiality. In a sense, what you see is how you get. By contrast, “Sea and Spar Between” exists not on paper but as a continuously computed display rendered by a software program. On a superficial level, as noted, this arrangement seems less ergodically genuine or interesting. However, this judgment limits “non-trivial effort” to the reader. Somewhat perversely, we might consider the effort of the system as well or the configuration and operation of its code.
In “Sea and Spar Between,” the visual surface does not fully define the way we experience the text. What we see does not reveal how the system arrives at expression. The project’s main conceit of a Cartesian ocean depends on code resources that are not immediately evident, most significantly a collection of Javascript statements contained in a document called sea_spar.js. Readers familiar with the structure of Web pages can reveal this mystery text easily enough by inspecting the source code of the main page and following an embedded link, or by typing an easily deducible address for the external Javascript page. To accommodate readers less familiar with these techniques, Montfort and Strickland have republished their code, with expanded annotation, in a reflective document called “cut to fit the tool-spun course” (2013).

Again a skeptic might regard this move simply as an inelegant work-around meant to achieve the same level of transparency present in Queneau’s effort from the start. However, this view fails to recognize something fundamentally important about computer code. Like the notations of music or dance, code implies performance. Thus, as Drucker says:

Digital writing is neither strictly notational nor inscriptive, but has aspects of both. This takes away the illusion of formal logic as the underpinnings of digital code. The trace of an electronic impulse is not merely differentiated from its binary opposite, but from any and every other trace because it is an occurrence, an event. (2013, 29)

Seeing code and digital writing as event—a concept to which we will return—changes, among other things, the temporality of critical understanding. We cannot consider the work in a single moment, even the moment of readerly encounter or reception. Rather we must implicitly think of subsequent adaptation and recasting of the work. Montfort and Strickland are well aware of this fact and of the potential of “Sea and Spar Between” to inaugurate a larger, later project. In “cut to fit the tool-spun course,” they write:

// Although our project mainly engages computation, two book-length works,
// and the small-scale collaboration of two authors, we recognize the
// potential of the network to foster different sorts of work and new,
// radical collaborations. By offering Sea and Spar Between explicitly as
// free software, we make it clear that authors and programmers can take from
// it anything they find useful, just as we reworked and remixed Moby-Dick
// with the poems of Emily Dickinson.
(2013, lines 92–98)
Computer code is inherently promiscuous. It invites, as the authors say here, *remixing*—a process that tends to continue once begun, iteratively and recursively. It is thus apparent that “cut to fit the tool-spun course” is not meant retrospectively as a way of compensating for limitations of the initial work but prospectively as an aid to emerging efforts. In bringing their technical infrastructure to light, Montfort and Strickland foresee and invite reuse of that structure. Indeed, there has already been at this writing at least one adaptation of “Sea and Spar Between”: Mark Sample’s fusion of Walt Whitman and Mark Danielewski, “House of Leaves of Grass” (Sample 2013).

The extension of the text into reinstatiation—the reuse of code structures in subsequent work—raises questions about the identity of particular texts. It also brings into acute focus the larger identity question for electronic literature. Code can do things and have things done to it that conventional writing cannot. No doubt these effects bear a family resemblance to traditional literary transactions—imitation, lampoon, intertextuality, influence, plagiarism—so perhaps manipulations at the code level innovate primarily in degree, not kind. Just as we may now suggest that all writing is in some sense electronic, we might also say with Lawrence Lessig that much if not all composition has always been a form of remix (2008, 51). Yet as Zielinski reminds us, time is at the heart of most matters these days, and these observations belong to a particular moment. Digital media lend themselves to duplication, encapsulation, and appropriation much more readily than did earlier media (Manovich, 2001, 74). As Montfort and Strickland point out, however, “the potential of the network to foster ... new, and radical collaborations” suggests that differences of scale may be, as their poem actively demonstrates, very large indeed. At some point, pronounced variations in degree may become effectively essential.

At the heart of this hyperinflation lies the artful use of databases, algorithms, and other formal structures of computing. “Sea and Spar Between,” as experienced in and by the browser, may be simply an homage to *Cent mille milliards de poèmes*, but “cut to fit the tool-spun course,” the extracted programmatic core of the project, adds an element not present in Queneau’s work. We might in fact take this innovation as indicative, proposing that the unique identity of electronic literature rests with its embrace of creative coding. From the beginning the dominant social view of electronic computing has been instrumental; popular illusions of electronic brains notwithstanding, computers were most plausibly imagined as calculators, bookkeepers, process monitors, cataloguing engines. A
“computer,” as Hayles and Anne Balsamo point out, was once a human being, an industrial worker and generally a woman, assigned to perform discrete mathematical tasks (Hayles 2005, 1). Yet as Noah Wardrip-Fruin argues, there has also long been a minority interest in “expressive processing,” the use of computation to explore possibilities of language and signification (2009, 5). A code-centric view of electronic literature might identify its communities as those in which expressive processing is most free to make art with words.

This arrangement would have the advantage of aligning electronic writing with a significant intellectual movement called Digital Humanities, which consolidates and builds upon several decades of engagement by humanities scholars with information technology. It is worth noting that “cut to fit the tool-spun course” was published in *Digital Humanities Quarterly*, a leading journal of that field. Montfort and Strickland position their work with respect to several digital-humanist undertakings:

// The counting and quantitative analysis of text that we did
// systematically was simple and straightforward, but it is worth noting
// that it was done in an exploratory mode—to open up new literary
// questions and to identify new poetic possibilities; not, for instance,
// to determine authorship or to support any kind of statistical analysis.
// In this regard, our project bears some relation to the “distant reading”
// of Franco Moretti and to Tanya Clement’s “not-reading” of Gertrude
// Stein’s *The Making of Americans*. Because we are looking for new
// understanding or insight into two texts, not massive numbers of books,
// *Sea and Spar Between* has more in common with Clement’s work, which in
// fact used computational analysis of the text to supplement, not to
// replace, other sorts of readings.
(2013, lines 311–322)

Montfort and Strickland differentiate their work from two prominent forms of digital humanist enterprise, computational attribution (authorship studies) and the “distant reading” of large corpora. They suggest a closer affinity with Tanya Clement’s formalist analysis of *The Making of Americans*, which traces morphological and sonic patterns in that work, independent of its primary textual arrangement. Clement uses the term “not-reading” to describe her efforts—a term of great significance to which we will return (2008, 380). For the moment, though, we should notice Montfort and Strickland’s claim to work in “an exploratory mode—to open up new literary questions and to identify new poetic possibilities” (2013). As poets writing here for an audience that includes literary historians, social semioticians, and computational linguists, they implicitly expand the purview of Digital Humanities to include experimental poetics, adding a prospective or
generative wing to what has been sometimes misperceived as a retrospec-
tive or analytical undertaking.

Unreading

Before rushing into easy identification, we need to remember that elec-
tronic literature also has important affiliations outside Digital Humanities. For some the practice has a foot in media art, and something like a tail in computer science. As we will see, a full account of electronic literature needs a broader context. For the moment, though, we might consider what it would mean to define electronic literature within a Digital Humanities framework in the terms Montfort and Strickland have implied. They rightly and usefully emphasize code, thereby engaging the extension of literacy into the idiom of programming, which is one of the most powerful aspects of digital work in the humanities. So we might stipulate that instances of electronic literature aligned with Digital Humanities expose, exploit, modify, or otherwise significantly address computing resources, especially code. This definition could offer strong justification for insisting on texts that are both born and borne digitally since these are essential conditions for code work.

This approach entails certain complications. For starters our require-
ment to significantly address contains a controversial adverb. What consti-
tutes significant exploration of code resources? How does such activity differ from more ordinary, instrumental usage? If the proposition to include “novels of internet” in electronic literature seems overly expansive, imposing significant code work as a criterion may be too restrictive. Building a wall in this way would discriminate “Sea and Spar Between” from Cent mille milliards de poèmes and World Clock from Was, but it might rule out many projects that use code primarily as means to an aesthetic end. The code-centric definition would admit many instances of interactive fiction, which usually involve detailed programming, but only a few examples of hyper-
text fiction might remain in status, since that form typically relies on a small and standardized set of instructions. This doctrine might also exclude those Twine games in which emphasis lies more on logic and expression than technical permutations of the system. Likewise most digitally ani-
mated poetry, such as the enormously influential work of Young-hae Chang Heavy Industries, would be disqualified. A definition that decimates its movement hardly seems plausible.

The defining quality of electronic literature—what makes it a thing apart from the general enterprise of writing—must be something other
than code exploits per se. Code is apt to be implicated in some way, but we ought to give some attention to ends or effects as well as means. Also we need to be prepared, as our discussion of Was suggests, to think about the intersection of code and more familiar or naturalized forms of language. “Digital code is a form of writing,” Drucker proclaims (2013, 17), an opening to miscegenation Goldsmith also endorses. He demonstrates the proposition by dropping lines of Shakespeare’s 93rd Sonnet into a graphics file that encodes the Droeshout engraving of the Bard (Goldsmith 2011, 23–24). The resulting image looks intriguingly neo-Cubist, though the effect may well be accidental. Something similar might have been produced by inserting bits of The Warhol Diaries or randomly selected tweets—or by waiting for a large solar flare. Ever the conceptualist, Goldsmith is more interested in the procedure than the result, even though this one looks quite nice on the page. His eminently imitable hack reminds us that high-level programming languages and traditional writing share a common alphanumeric substrate. This is a useful observation, particularly for those who have never dealt much with code, but it is the beginning of something, not an end in itself.

Above all, at least some forms of electronic literature seem to push literary art further into the domain of the conceptual. “Sea and Spar Between,” which operates on the same mathematical waveband as Cent mille milliards de poèmes, unmistakably partakes of that work’s Oulipian engagement with literature not as particularized work but as indicator of potential signification. Perhaps this tendency offers a better way to understand the unique identity of electronic literature. At least some forms of electronic writing call into question what Eskelinen calls “the textual whole”:

Conventionally the notion of the textual whole includes at least the following five presuppositions ... [1] readers can easily read the whole text ... [2] readers should read the whole text in order to be able to fully comprehend and interpret it; [3] the point at which the whole text is read marks also the termination point of reading; [4] it is always possible to reread exactly the same text as its signifiers don’t change between (or during) readings; and, finally, ... [5] the way the text is read doesn’t affect its material strings of signs. (2012, 70–71)

These remarks occur in Cybertext Poetics, Eskelinen’s attempt to square Aarseth’s theory of ergodics with longer-established practices including narratology, semiotics, and (especially Russian) formalism. Generally speaking, cybertext theory addresses a larger subject than electronic literature, though various digital works furnish convenient test cases for its attempt to specify the formal possibilities of linguistic art. In the conjunction of
cybertext and conceptualism, we may see another way to place electronic literature in a broader context, somewhat like the one afforded by Digital Humanities. Again, electronic literature might represent a practical or experimental enterprise, a kind of laboratory of applied cybertext. Joining this endeavor would mean using digital affordances (not necessarily limited to code) to interrogate, explode, or possibly redefine textual wholeness. It is not necessary to touch all five of Eskelinen’s bases. For example, “Sea and Spar Between” satisfies the first three points of the agenda but not the final two. However, in its assertion of a fully conceived text that is unreadable in totality, it does take up the problem of the textual whole.

The focus of a non- or post-holistic textuality seems to fall inevitably on the event of reception—though as Clement helpfully points out, this event now needs to be called something other than reading. “Not-reading” is certainly a possibility, though we can imagine others as well—forms of para-reading, and perhaps even unreading. Another way to come at the matter of not-reading is to describe the receiving subject as something other than a reader. Eskelinen tries a familiar substitution:

The user may, of course, develop a certain feel for the textual machine, and may even learn to master it to some degree (much like an instrument), but there still may be elements, principles, consequences of choices and unpredictable future alterations that will remain completely outside his grasp and perception. This boils down to the difference between machinic instructions and instructed humans. (2012, 72)

If the criterion of “machinic instructions” or code imposes unsustainable constraints on the idea of electronic literature, perhaps we can find firmer ground by shifting to human instruction—or to phrase the concept more precisely, the signifying use of a systematic but non-holistic text. Machines and instruments of semiotic excess suggest a more inclusive way to think about electronic (or, perhaps, machinic-instrumental) literature. World Clock is clearly a textual machine (verbal clock-work). Just as plainly so is Cent mille milliards de poèmes, a hand-operated device for the composition of sonnets. Even the browser-based “Sea and Spar Between” might be seen as an automatic stanza factory, or a brain-boggling harp with an impossible number of strings. “Cut to fit the tool-spun course,” the second-stage relaunch of the project as recyclable code, brings an interesting variation to the idea of human instruction, vesting that process in a mutual and progressive context.
Class Disruption

Again, though, we reach a limit as we come to works that are more traditionally presentational, such as the typographic cinema of Young-hae Chang’s “Dakota” or the tenuous fiction of long-form narrative in Joyce’s *Was*. No doubt these texts complicate to some extent the achievement of textual wholeness—“Dakota” with its tachistoscopic screen-teases that frenetically replace themselves; *Was* in its refusal, until the very last, to tell any story all the way through. Yet we could say something similar about any number of poems, novels, comics, and films whose qualities defy simple interpretation in the interest of fundamental ambiguity. As Clement demonstrates, *The Making of Americans* seems to invite if not require the use of a textual machine. Similar concessions might be made for that great “proto-hypertext,” Walter Benjamin’s *Arcades Project* (Goldsmith 2011, 115). Ludological theorists such as David Myers and Ian Bogost suggest approaches to film that resonate strongly with Clement’s idea: Myers on Christopher Nolan’s *Memento* (Myers 2010, 81–85), Bogost on Stephen Spielberg’s *Terminal* (Bogost 2011, 15). Bogost’s contrast between “system operations” and “unit operations” (2011, 2) has undeniable value in thinking about complex, procedural texts but can only take us so far in cases where the identity and stability of the highest-order assembly—the system itself—is in play.

Defining electronic literature in terms of post-holistic machines, or texts intended for what comes after reading, tells us more about the new than the old and thus cannot achieve unity. Intriguing as the possibility of reconciliation may be, there seems no satisfactory way to broaden the ambit of electronic literature to square it with Kathy Acker’s *Blood and Guts in High School* (1984), John Ashbery’s *The Tennis Court Oath* (1962), or even the “novel of internet”—not without betraying the essential character of the enterprise. There is an inevitable separation between texts that operate within tenets of wholeness, even transgressively, and those that depart more formally from that regime. This fact was made uncomfortably apparent in October 2008, with the appearance of a notorious work of hybrid electronic literature called *Issue 1* (McLaughlin and Carpenter 2008; see also Goldsmith 2008). This was an anthology of poems attributed to 3,164 poets living and dead. Delivered via the Internet in Portable Document Format (PDF), it was certainly borne digitally—though, as it happens, the *born-digital* descriptor also applies. About midway through its gigantic series, *Issue 1* includes this poem:
Food

Lost as food and won as a coast
Inefficient as a corner and efficient as a recess
Lost as balance, won as a time
Lost as a coast and found as a recess

It has been like becoming an
  idea, jewels, memories,
  devils, the fearing highnesses

Haze has gone in your impotent trading-house
You have been inefficient

Little and much
Low and high
Rotten and fresh

Ron Silliman
(McLaughlin and Carpenter 2008)

In a way, the indented words “Ron Silliman” constitute not a conventional author credit but the final line of the poem—because Issue 1 is a fabrication in which each poem ends with a sublimely impudent apostrophe. Silliman did not write “Food,” though the cover and table of contents of the work imply that he did. The implication is deliberately and provocatively false: Issue 1 is a grand literary prank. Upon discovering the phony attribution, Silliman called the project “an act of anarcho-flarf vandalism,” referring (inaccurately) to Internet-based appropriative poetry. He went on to hint darkly about legal action (Goldsmith 2011, 122; Emerson 2014, 175–176).

One’s inner undergraduate wants to read “Food” as personal lampoon. Is Silliman targeted in the line about haze in his “impotent trading-house?” Is he the “you” who has “been inefficient?” Is “Food” an unfriendly metaphor for language poetry? As will be apparent, these responses are foolish. They belong to the old kind of text, not the new sort Issue 1 represents. If there is any single subject of ridicule here, it is that woebegone close reader some of us still carry in our heads. These poems were not intended for such analysis but were instead meant to be understood as a series. The project as a whole is an act of strategic disrespect, but it is not directed at particular poets. Rather we might call it a weapon of class disruption. The anthology is in fact the output of a poetry machine, a generative system capable of producing several thousand admirably plausible, free-verse poems. Silliman did not write “Food” and neither, in a way, did Stephen McLaughlin and
Jim Carpenter, the outrageous anthologists. They wrote or otherwise con-
figured the program that fabricated the poem—a second order of author-
ship that has been in play since the time of Christopher Strachey if not
before.

Formally speaking Issue 1 is a legitimate example of electronic literature.
It belongs to the same genre as World Clock and “Sea and Spar Between.” It
meets both born and borne criteria and demonstrates significant use of
code and computation, though McLaughlin and Carpenter have not shared
their infrastructure. It also fits our most recent definition as a work that
complicates or compromises textual wholeness. The anthology is a bound
and finite object (even though its PDF encoding makes it a spineless book10),
yet as a work of algorithmic, potentiated expression it complicates whole-
ness in much the same way as World Clock. As hoax the text attacks Eske-
linen’s second precept, “the point at which the whole text is read marks
also the termination point of reading.” While the poems are readable
enough in their own right (if less than surprising after a few hundred
entries), their full significance is available only if we understand the prank,
which entails information not included in the text. We could thus say that
Issue 1 violates textual integrity in a way Eskelinen did not directly foresee.
Operating under false premises, the work is not what it seems—it is pseudo-
or crypto-literature.

Issue 1 is aimed most squarely at an established community of poets,
but it has the potential to disturb the generally more innocent world of
electronic literature as well. Like Joyce’s “novel of internet” this tricky book
raises questions of identity that may not be easily addressed. As Goldsmith
explains, Issue 1 questions the relationship between language, mechanism,
and authorship:

With one gesture [the creators of Issue 1] had swapped the focus from content to con-
text, showing us what it might mean to be a poet in the digital age. Being a poet
in any age—digital or analog—places one’s practice outside normative economies,
theoretically enabling the genre to take risks that more lucrative ventures wouldn’t.
Just as we’ve seen some of the most adventurous linguistic experimentation in the
past century in poetry, it’s now poised to do the same when it comes to notions of
authorship, publishing, and distribution. (2011, 123; emphasis in original)

The term content has dubious standing for at least some practitioners
of electronic literature. Arguably it belongs to an ideology of singular
expression and textual wholeness from which digital writing deliberately
departs. In the place occupied by content in the molar media, computa-
tional forms may be said to substitute data—not that which is withheld
(con\tenere) but in the unpacked meaning of the participle, that which is given—conditionally, provisionally, and subject to modification. This dichotomy can be useful, particularly in understanding how language is given over to system and procedure. Yet it has important limits. The split is essentially formalist, concentrating on features of the works or their technical mediation. It hearkens back, perhaps fatally, to our attempt to define electronic literature in terms of coding and specific technē.

Goldsmith’s reading of Issue 1 runs in another direction, and the difference is instructive. To content he opposes context—which is to say the social situation of the text. In its assault on authorship, Issue 1 transgresses the concept of literary property—the authorship of poems, the ownership of names. As Goldsmith points out, we are reminded that poetry is indeed, as Silliman himself teaches, set apart from “normative economies.” When we think about expression in economic terms, as in Michel Foucault’s remark that we are always “thrifty not only with … resources and riches but also with … discourses and their significations” (1979, 159), we are never wholly within the embrace of metaphor. The constraint of text within opus or work serves markets as much as disciplines and canons. Calling into question the textual whole, and thus some putatively stable relationship of language and the capitalist subject, asks for trouble. As Goldsmith points out, doing outlandish things with language requires us to “take risks” (2011, 123). Institutions are connected to reputations, livelihoods, and lives, and we destabilize them at our peril. Issue 1 is deliberately offensive. It is as much an act of Internet trolling as a demonstration of generative poetry. There must be good reason for invoking this project of massive identity theft in an attempt to refine the identity of electronic literature.

The keyword is context. If nothing else, Issue 1 reminds us that the emergence of electronic literature belongs to one of Sterling’s science-fictional moments, inflection points at which we may find that “the future has imploded onto the present,” in the words of yet another futurist (Branwyn 2008). Such implosions tend to be messy. The word “context” contains multitudes. It implies complexity, self-assembling phenomena, and lots of things unfolding at once. For all its academicism, electronic literature does not occupy a closed universe. It shares the cultural stage with (among other things) conceptual art, flarf, the novel of internet, every kind of remixing, and all manner of spineless books. It lives, these days, in a world of texting, sexting, streaming, and binge-watching, one that includes the militant genius of hip hop, the toxic irony of hipsters, and even the rediscovery on the US mainland of the ukulele. Outside the literary or aesthetic sphere, electronic literature belongs to the same literal economy that persistently
disrupts elite identities, steadily erodes the *demos*, and redefines careers as serialized gigs. Pulling back the camera one final, fatal power of ten, our context includes a human population of unprecedented size coming to terms with its grievous effect on the biosphere.

In the long run—though duration seems as questionable now as in the old days of nuclear brinksmanship—we all come to the Keynesian end state. Whether some larger human enterprise will outlive us (civilization, culture, language, Wikipedia), and what form this survival might take, seem very much in play. Futurity is a large problem. Perhaps for those of us who do culture work, it is the ultimate problem. We ask far too much of any art form, let alone so specialized a practice as electronic literature, if we insist that it push the science-fictional scenario from dystopia to utopia. Still, if we are to understand electronic literature in a broader context, we need to see how it is framed within a particular moment of history and how it speaks to those times.

**Amistics**

Hayles, dean of our invisible college, makes a crucial observation about the moment in which electronic literature arises. This is, as she sees it, a time of notable ferment and instability. Identities collapse and fuse. Prior models fail. As in our opening parable of the taxi, old terms of art no longer serve. At least in certain cases, Hayles proposes the name *literature* be given a short path to retirement:

> We need a broader category that encompasses the kind of creative work [produced by writers of electronic literature]. I propose “the literary” for this purpose, defining it as creative artworks that interrogate the histories, contexts, and productions of literature, including as well the verbal art of literature proper. The significance of designating “the literary” as central to literary studies is beyond the scope of my discussion here. Nevertheless, even a casual acquaintance with major movements in the literary studies in the last half-century will immediately confirm that the discipline, in embracing cultural studies, post-colonial studies, and many other fields, has been moving toward the broader category of “the literary” for some time. Now, at the dawn of the twenty-first century, we are poised to extend the interrogations of the literary into the digital domain. (2008, 4–5)

Hayles’s neologism has undeniable value for our attempt to situate electronic literature, particularly in its emphasis on “artworks that interrogate the histories, contexts, and productions of literature.” This notion nicely justifies critiques of textual wholeness and even perhaps the buccaneering exploits of *Issue 1*. The shift to *the literary* also frees electronic literature
from an identity trap that would minimize the significance of digital derivation, misreading hypertext fictions as conventional novels, generative poems as ordinary lyrics. There is much to celebrate and embrace in Hayles’s momentous turn of phrase. Yet there is also something unsettling about the new term. Adjectives do not always make the best nouns. Calling oneself a student or maker of the literary might seem unhelpfully mysterious. Literature not good enough for you? your actual dean might ask. Or worse: the literary what?

We live in complicated times, so maybe our superiors should just learn to deal. In the wake of canon wars, literary studies have justly adopted a new canon of diversity, responsible to a world of multinational interests and flexible constitutions of the subject. Likewise we now address ourselves to various modes of meaning and expression. Work in the field of the literary is as likely to involve film, video, games, and social media as books with spines or without. This may be confusing to older alumni, but times change.

Some people will always resist such changes, and maybe they deserve a hearing. Adopting a diabolical counter-advocacy, we might cast the transition to the literary as a kind of suburbanization, the flight from a dying urban core to distant zones of semi-autonomous, perhaps illusory promise. This gratuitous metaphor is far from friendly, considering that the emptying of cities has been driven largely by xenophobia and racism, especially in the United States. Migration to the literary might thus imply a metaphorical white flight—or not so metaphorical, if we consider the withdrawal or omission of white men from the mainstream of a diversifying academy. These are not happy thoughts, but there may be some value in entertaining them at least for a moment. How much is electronic literature like a self-enclosed, homogeneous suburb?

One answer might be, not much at all. The field shows legitimate diversity. Expansion beyond the Anglophone envelope is well underway, promoted by efforts such as Hermeneia, NT2, and the ELINOR project on Nordic electronic literature. Important voices in the field belong to people who are not white, male, or citizens of the USA (e.g., Loyer, Harrell, Jason Edward Lewis, María Mencía, Laura Borràs i Castanyer, Susana Pajares Tosca). Works by these and other writers have crucially connected the technological discourse with subjects of race and social justice—see for instance Harrell’s revealing reading of the Blue Velvet project on Hurricane Katrina (2014, 312–325). The confrontation with gender identity in electronic literature has recently been reasserted in various controversies over literary games, but long before Anna Anthropy’s Dys4ia (2016) were
Caitlin Fisher’s *These Waves of Girls* (2000) and Jane Yellowlees Douglas’s “I Have Said Nothing” (1994). As chapter 2 of this book demonstrates, one of electronic literature’s origin texts, Malloy’s *Uncle Roger*, addresses both in subject and execution the place of women in the new technical order. That place was, and no doubt remains, problematic. *My Mother Was a Computer* (2005) is more than the title of a useful book by Hayles, but also, as we have seen, a true description; the mostly women workers who operated and sometimes programmed tabulating machines in the early era of computing were often themselves known as computers. That title might also serve as capsule genealogy of electronic literature. This is a field with many women ancestors, not all of whom have been properly appreciated or understood. The enterprise has been built by people such as Malloy, Hayles, Strickland, Coverley, Larsen, Mez Breeze, Sue Thomas, and many names less frequently mentioned, including Douglas, Nancy Kaplan, Catherine Marshall, Carolyn Guyer, Sarah Smith, Catherine Kramer, Mary-Kim Arnold, Diana Slattery, Diane Greco, Megan Sapnar, Ingrid Ankerson, and a host of others.

If the suggestion that the literary might amount to cultural suburbanization ultimately proves unfair, it does remind us of the risk in utopian thinking. Questions should be asked and answered. Nonetheless, some will persist in seeing mainly sunny possibilities in the relocation of literary interests. Goldsmith accentuates the positive, exulting, “Projects like *Issue* I move the discourse into the digital age, greatly broadening appropriative possibilities in scale and scope, dealing a knockout blow to notions of traditional authorship” (2011, 123). These are literally fighting words, and they accurately acknowledge the state of implicit and sometimes explicit hostility that exists between newer and older regimes of writing. Conflict cannot be wished away. There is something to be said for literature as martial art, from Ishmael Reed’s *Writin’ Is Fightin’* (1988) to Harold Bloom’s image of poetic influence as wrestling match. Not everyone, however, will climb so readily into the ring; or rather, some may seek to rewrite the rules of Fight Club. This brings us to the other notable exponent of the literary, the cultural theorist Alan Liu. Since he speaks in his work to a broader cultural context than Hayles did in *Electronic Literature*, his treatment includes a bit more detail:

But some, in league with everyday hackers in the technical, managerial, professional, and clerical mainstream of knowledge work itself, may break through the ice to help launch the future literary. For it is the future literary—or whatever the peculiarly edgy blend of aesthetics and critique once known as the literary (and its sister arts) will be named—that can serve as witness to the other side of creative destruction:
not the boundless “creation” that has powered the market rallies of the New Economy, but the equally ceaseless destruction that produces historical difference. This is why it now makes sense to think of cultural criticism and the creative arts as having come into special conjunction. Where once the job of literature and the arts was creativity, now, in an age of total innovation, I think it must be history. That is to say, it must be a special, dark kind of history. The creative arts as cultural criticism (and vice versa) must be the history not of things created—the great, auratic artifacts treasured by a conservative or curatorial history—but of things destroyed in the name of creation. (Liu 2004, 8)

Though Liu uses “the literary” with some regularity, his usage, as here, usually points to a related concept called “the future literary,” the shared work of hackers, artists, and critical historians that must fill the cultural gap left by the overcoming of traditional literature. The future literary is not identical with electronic literature, at least in its present institutional sense. This concept may in fact provide the larger structure we have wished for here, the vessel or network that comprises both generation(s) of poems and the novel of internet. Most crucially, however, Liu’s future literary comes with a clear if difficult agenda. It must support “a special, dark kind of history” that accounts not, or not only, for things created but for “things destroyed in the name of creation.” This insight is essential not only to our understanding of electronic literature, but also to our engagement with its preservation and posterity, the series of Traversals that occasion this book. Like the future literary itself, this work involves both creation and something discernibly else—if not destruction per se then non- or un-making; un-saying or un-reading.

In making these observations we may be ascending (or sinking) into the same terminological clouds from which Hayles and Liu have distilled the literary. Creative destruction is of course a functional paradox and thus a matter of unresolvable doubleness. Given this ambiguity, it can be hard to find the way. In hopes of compensating for this slide toward uncertainty, let us turn from the abstraction of a future literary to that present literary futurism called science fiction. That genre has its own way with new words, usually with more clarity than can be found in literary theory. Consider for instance Neal Stephenson’s gloss on “Amistics”:

On the social front it was a question of Amistics, which was a term that had been coined ages ago by a Moiran anthropologist to talk about the choices that different cultures made as to which technologies they would, and would not, make part of their lives. The word went all the way back to the Amish people of pre-Zero America, who had chosen to use certain modern technologies, such as roller skates, but not others, such as internal combustion engines. All cultures did this, frequently
It takes 5,000 years of fictional history and more than 100,000 words of Stephenson’s novel *Seveneves* to arrive at this neologism. The wait is arguably worthwhile. Here in the all-too-distant future, there is both difference and a literal familiarity. That is to say, everyone known to be alive at this point belongs in some way to one of seven nations or tribes, each named for a particular ur-mother or “Eve.” Moirans spring from Moira Crewe, a biologist and genetic engineer, one of seven female astronauts who survive the Zero Event that renders the surface of Earth uninhabitable for several millennia. Along with techniques for parthenogenesis (where new babies come from, initially), Moira contributes a predisposition toward learning and inquiry, so it is not surprising to find one of her distant progeny working as an anthropologist.

As its palindromic name suggests, *Seveneves* is serious about symmetry and reciprocation. The book is divided into roughly equal parts, a backstory set not too far from now and a postapocalyptic aftermath that unfolds in the early seventy-first century. The first part is predominantly a work of so-called hard science fiction, with an emphasis on engineering physics. It stands in that grand old line that extends from Hal Clement to Andy Weir. The second half is decidedly anthropological in the equally fine lineage that includes Ursula K. Le Guin and Nicola Griffith. Instances of reciprocal relationship occur throughout. Much of the drama in the first part centers on orbital mechanics and the tick-tock of apogee and perigee. In the biological realm, males do not remain long extinct, for Moira manages to reengineer Y-chromosomes; though she prefers women herself, she sees virtue in variety. In the second half, the spacefarers segregate into two astropolitical blocs, called (of course) Red and Blue. No fictional future is ever innocent of its present.

Amistics refers to gradual but consequential selection. It encompasses both the self-exclusion of the Amish from modernity, as well as the particular binary choices that fine-tune that decision—tractors and cars are out, but roller skates are allowed. Having come up with such a powerful concept, Stephenson does not waste it in a single use. We see the word several times in the novel, as in this account of seventy-first-century technics:

It boiled down to Amistics. In the decades before Zero, the Old Earthers had focused their intelligence on the small and the soft, not the big and the hard, and built a civilization that was puny and crumbling where physical infrastructure was concerned, but astonishingly sophisticated when it came to networked
communications and software. The density with which they’d been able to pack transistors onto chips still had not been matched by any fabrication plant now in existence. Their devices could hold more data than anything you could buy today. Their ability to communicate through all sorts of wireless schemes was only now being matched—and that only in densely populated, affluent places. (Stephenson 2015, 640)

The most challenging writers of science fiction are often strong moral critics, and this passage can certainly be read as an indictment of the way we live now. The survival of Stephenson’s spacers depends far more heavily on molar infrastructure—rockets, space habitats, Adamson-cycle engines—than on information-processing devices. High-speed computation does feature in the form of the Parambulator program that attempts to choreograph a “swarm” of orbiting habitats. However, this scheme fails. Facebook (or “Spacebook”) does not save humanity but plunges it into a nearly fatal civil war. The message to our present “puny and crumbling” society seems clear enough. Cars do not yet drive themselves, so drop the phone, put both hands on the wheel, and notice the neglected state of that bridge you are about to cross.

*En arrière!

Amistics in fact are all about crossing bridges, or the way we pass boundaries either with eyes wide open or unheedingly at speed. Electronic literature would be on the wrong side of Stephenson’s future history, just as it belongs to what may well seem to him a dubious part of the present. There is sharp irony in taking culture lessons from a writer whose avowed role models are novelists of the nineteenth century, a man who has made a point of composing with a fountain pen (Stephenson 2015, “Talk”). We might be expected to find problems of nuance and implication in Amistics similar to those we found in the literary, and yet it seems easier in this case just to borrow the tool without asking a lot of questions.

Twisting the term somewhat from its original conception, we might propose a conscious or critical Amistics that is less a matter of mass consensus and more an overt exercise of choice by individuals and small groups. Applying this adapted sense, we might try to define the Amistics of electronic literature. How are this form and the future literary to which it may belong implicated in determinative choices about ideas, identity, and technology? There are at least two ways to come at answers to this question, and each bears on the meaning of electronic literature for its time.
We might start with an argument that is in its way Stephensonian, or at least consonant with a position that writer took long ago when he was still inclined to bother about software. In an Internet rant called *In the Beginning Was the Command Line* (1999), Stephenson reviews the virtues and limitations of what were then the three dominant operating systems: premillennial Macintosh, Windows, and Unix. Perhaps not surprisingly he has highest praise for the last, especially in its most radical form, where user interactions are managed via typographic input as in the early days of batch processing and teletypes.

In fact Stephenson’s affection for this primitive user interface is really not distinct from his preference for hardware. He compares Unix, for instance, to a heavy-duty construction tool called a Hole Hawg: “The Hole Hawg is dangerous because it does exactly what you tell it. ... The danger lies not in the machine itself but in the user’s failure to envision the full consequences of the instructions he gives it” (1999, 83). Later he shifts into a more literary vein:

Windows 95 and MacOS are products, contrived by engineers in the service of specific companies. Unix, by contrast, is not so much a product as it is a painstakingly compiled oral history of the hacker subculture. It is our *Gilgamesh* epic. (88)

Whether considered as widget of mass destruction or oral-formulaic poem, Stephenson’s ideal operating system and user interface have certain unmistakable features. They do not shy away from challenge or complexity; they are situated within a complex culture that demands and values memory and attention; they are not primarily commercial or consumerist in their tendencies; and, above all, they require the user to understand the machine, its affordances, and the conditions of use. Stephenson’s preference for the command line implements our alternative form of Amistics: determinative choices not made by silent consensus but through deliberation and creative choice.

Electronic literature is sometimes considered an art of the interface (Emerson, 2014, 3) and may have its own potential for deliberate cultural effect. Fifteen years after Stephenson’s rant about command lines, Emerson, a historian and theorist of electronic literature, renews this critique in a twenty-first-century context. Where Stephenson is troubled by so-called desktops that hide the true nature of the machine, Emerson faces an even more insidious problem with the emergence of smart phones and mobile devices using haptic or multitouch interfaces, yet further departures from the old way of explicit verbal interaction. As Emerson notes, these devices
and their interfaces trace back to a rejection of the desktop metaphor but in a way opposite to Stephenson’s:

All of these [multitouch or haptic] interfaces share a common goal underlying their designs: to efface the interface altogether and so also efface our ability to read, let alone write, the interface, definitively turning us into consumers rather than producers of content. By contrast, with a critical eye on interface, a growing body of digital literature courts difficulty, defamiliarization, and glitch as antidotes to this receding present. Mark Weiser, the reputed father of ubicomp, originally believed that this mode of computing was an antidote to windows and desktop computing—now, we need digital literature as an antidote to what ubicomp has become. (Emerson 2014, 2)

Emerson’s study, Reading Writing Interfaces, defines one approach to the Amistics of electronic literature. It serves as the adversary of “ubicomp” or ubiquitous, invisible, naturalized computing. A future literary that makes room for robust forms of electronic literature will differ markedly from one in which such critical practices have been marginalized to the point of extinction. Emerson cites the digital art advocate John Maeda in further defining this choice of paths:

In the last few decades, technology has encouraged our fascination with perfection—whether it’s six sigma manufacturing, the zero-contaminant clean room, or in its simplest form, “2.0.” Given the new uncertainty in the world, however, I can see that it is time to question this approach—of over-technologized, over-leveraged, over-advanced living. The next big thing? Dirty hands. (Maeda, quoted in Emerson 2014, 123–124)

Maeda’s remarks were originally made in 2009, so “the new uncertainty” probably refers to the global financial crisis rather than the events of September 11, 2001, or any nightmares of the Cold War. It seems we are always in new uncertainties and continually called to oppose them in the name of art and design. Maeda’s vision of “dirty hands” may be at least partly cognate with Stephenson’s jeremiads on infrastructure. It suggests localized eating, the maker movement, the turn to craft production, and other reinventions of material industry. Even so it has some bearing on the software realm as well. Fingers on a keyboard may in their own way bear the dirt of complex engagement.

The experience of the command line may have been driven irretrievably into the depths of geek and hacker subculture, but it can be brought strikingly to the surface in resistant works of interface art. Interactive fiction retains a powerful trace of the command line in its convention of turn-based input and parsed responses. Dan Shiovitz’s “Bad Machine” (1999)
explicitly reconnects this feature to its older cybernetic roots, creating a fiction in which the player must reprogram the machine that is him- or herself. Even the game Hack RUN, a commercial product accessible on such deeply ubicompromised platforms as the Apple Watch, attempts to simulate the experience of cybernetic transgression through command-line exploits (i273). These examples support Emerson’s argument even though she does not discuss them. Significantly, Emerson looks less to the contemporary or commercial and more to projects coextensive with the roots of electronic art. Thus she has much to say about bpNichol—whose First Screening (1984) is a long-neglected early ancestor of textual animation—and his relationship to movements such as “dirty” concrete poetry (Emerson 2014, 100–104). Electronic writers come from a long line of dirty hands, and one interpretation of Amistics for this community insists on this commitment to the complex, irregular, and particular.

As we will see, the thoughtful historicism of figures such as Emerson, Kirschenbaum, and Jon Ippolito has enormous significance both for electronic literature generally and our project in particular. The projects of retrospection and preservation are fundamentally integrative, recognizing that art belongs to a multigenerational, centuries-spanning undertaking. A historical perspective demands that we square ourselves with the passage of time, finding our place with respect to periods, affiliations, and movements. As Perloff suggests, poets such as Goldsmith—and perhaps by extension, practitioners of electronic literature—belong less to an avant-garde than an arrière garde, “neither a throwback to traditional forms … nor what we used to call postmodernism. Rather, it is a revival of the avant-garde model—but with a difference” (Perloff 2010, 58; emphasis in original).

Yet herein lies a problem, since the turn to history requires a different and perhaps reciprocal framing of Amistics in which the evolutionary record appears not in its prospective unfolding but as a track connecting our current moment with those that came before. In taking such a view, it is hard to sustain a radically distinct identity, to stay entirely on the side of the wall dividing electronic literature from older forms—and more problematically, from contemporary expressions of traditional forms. Perloff’s defining “difference” cannot simply be a matter or accident of mediation, or the collision of borne with born. If electronic writing connects meaningfully to concrete poetry or Fluxus or OULIPO, how does it articulate with experimental fiction and the novel of internet?

Here we come to a second, complementary form of the Amistics problem: not so much how do we work to maintain difference, but, in the words of the rear-guard mission statement, how do we defend difference in the context of
If the primary charge is to get our hands dirty in the stuff of experimental production, then this secondary agenda might have more to do with the dust of history.

**The Weight of the Words**

Emerson’s prospective Amistics demands a particular commitment. It resists foreclosure of possibilities at the interface, insisting on complication, uncertainty, and the unforeseen. This agenda may suggest an art more invested in innovation than in the facts of implementation: an art for which concept may mean more than expression, or where those two features of the work may be actively at odds. As we noted in the Introduction, Goldsmith embraces a “new illegibility” exemplified by books that are meant more to be thought about than read (2011, 158). Several of the examples we have considered here—the generative products such as *Issue 1*, *World Clock*, and “Sea and Spar Between”—could plausibly fall in this category. They are not unreadable in an old or primary sense, but rather they complicate the experience of reading by overturning canons of textual wholeness. We can treat them in the moment as conventionally readable texts. Their constituent poems and stanzas are ironically well formed, but it is difficult or impossible to read the entire series. These works seem designed for browsing, though that design decision is not absolute.

Emerson enters into the literary record an old hypertextual in-joke called the “Jane’s space” (or Janespace), a unit included in a hypertext fiction even though it has no inbound links and can therefore be read only by taking the system apart (2014, 33–34). Janespaces are perverse instances of the more common Easter egg, a nugget of information buried in some obscure aspect of a computer game designed for discovery only through extraordinary play or by disassembling the game’s software. Easter eggs illuminate the problem of reading in a context of neo-illegibility. How do we know that *Issue 1* does not contain among its 3,164 poems at least one actually written by its putative author? Perhaps *World Clock’s* 1,440 iterations include an anomalous stanza—one special minute of the day—when mechanical rules of composition are suspended. It is humanly possible to wade through these two examples, but not the $10^{14}$ permutations of “Sea and Spar Between,” although the digital mediation of that work, where text is dynamically generated, means that it is entirely governed by an underlying program open to inspection. If there is a hole in the bottom of Montfort and Strickland’s sea, anyone reasonably conversant with Javascript can find it.
An Easter egg can mean many things. Like the Ratman’s hidden messages in the first Portal game (2007), it may establish grounds for narrative expansion (Half-Life Wiki). It might send a message of love and ridicule from game developers to arch-completist fan-children. For our purposes, the possibility of an Easter egg in post-holistic texts spotlights the tension between concept and expression. World Clock is one sort of text if it contains no anomaly, but a notably different sort if it does. That is, the inclusion of a textual Easter egg (or perhaps a more functional kind of Janespace) moves the work from the domain of the purely conceptual or non-holistic into at least an ironic or hybridized middle ground where there is significant concession to older forms of expression. Montfort confirms that his book is meant to be entirely regular with no intentional irregularities. We might construe this either as a deliberate choice or a matter of Amistics in Stephenson’s original sense, an expression of the creative zeitgeist.

It is not necessary to know if any of our generative examples actually contain Easter eggs; it is enough to know they might. World Clock might have had its minute of grace. “Sea and Spar Between” could harbor a white whale or buzzing fly somewhere in its code. These hypotheticals remind us that the revolution against textual wholeness can itself never be complete—or that its achievement cannot abolish the alternative possibility: a text that carries, however contingently, a coherent and singular message. Generative and conceptual writing is not en avant but en arrière, surrounded by forces of difference.

We arrive then at a second possibility for deliberate Amistics in electronic literature: balancing the unreadable and readable impulses of the post-holistic text; finding the limits of pure conceptualism and the inextinguishable impulse to discrete signification; accounting both for what is gained and what is lost in the creative destruction of digital writing. We cannot tear down the wall between born-digital literature and older forms such as concrete poetry, the novel of internet, or satiric science fiction. The best we might propose is a problematically sprawling future literary. Yet we can at least attempt to map certain key features of this divided and uncertain landscape. Like Emerson and other historians of electronic literature, we answer both to priority and posterity. This is the animating idea behind the Pathfinders project and its series of Traversals: to preserve for the future a set of important literary experiments in their active complexity, both as readable, performable texts and as contingent, emergent phenomena.

Call us backward (the way rear guards tend to face), but we still have a stake in legibility. There is something anti- if not counterrevolutionary
about this project, a resistance to the collapse of literature into a *literary* defined purely as the play of concept. Raised in older forms of word culture, we have an unapologetic attachment to works of verbal art. We were motivated in the first instance by a sense that certain key texts were being overlooked (Malloy’s *Uncle Roger*, Bly’s *We Descend*) or literally lost (McDaid’s *Uncle Buddy’s Phantom Funhouse*, Jackson’s *Patchwork Girl*). We wanted to save them in a way that did not simply reduce them to formulae (*Malloy writes fiction in a database*) or abstractions (*McDaid does something called “modally appropriate” storytelling—you had to be there*). We set out instead to preserve these texts as specific artistic achievements. In our Introduction we noted Jackson’s reassertion of older forms of literary value in *Patchwork Girl*. Here are her remarks in more complete context:

> It seemed more interesting to me to stage the tension between a more conventional kind of reading—for character and plot and metaphor, giving the words substantial weight—tension between that and the disorientation, the obligation to take active part in choosing your own path, and so on. … all those features of hypertextuality are actually felt more keenly when they’re pulling against the expectations and the desires aroused by a more conventional narrative draw. So that I thought it was important to try to write … something that was richly imagistic, full of character, full of wordplay, and even a sense of story … in order to fully feel the effects of rupture, and disorientation, and wandering, and dispersal, and all those things. (Jackson 2015d)

By recording and compiling Traversals of the works, we tried to give words, images, and other constituents their “substantial weight,” being responsible to the tension of expression and conception. We were thus inevitably committed to what Liu calls “auratic artifacts,” both in our choice of particular works and in our dependence on the increasingly precious computing infrastructure that allowed us access to them. Liu warns about this impulse to collect in the name of veneration. His caution seems particularly apt for electronic literature. In a recent account of writing that begins with the electronic, Drucker explains:

> Writing is an event, not an entity. Our model of writing is embedded in the concept of nanographology, an inventive production of text in the situated and circumstantial chain of events in which it participates. This is an unapologetically humanistic endeavor that reinforces the belief that only in the capacity to register the trace of human presence do we preserve the place for the critical judgment and affective insight that makes us human. (2013, 31)

Drucker’s remarks are addressed to the general case of writing after the supervision of the digital—Liu’s future literary, perhaps—but her
first-person plural includes our more limited concerns as well. We too embrace “nanographology” or the production of a text in all its particularities through a chain of events that is as much programmatic as circumstantial. In addition to theoretical discussions, we offer here intensive readings informed both by the Traversals of our four chosen works and by discussions with the authors. While these efforts share aspects both of close reading and oral history, there are inevitable differences deriving from our rear-guard status. We may indeed address ourselves to the verbal surface of the works, but being close here is a bit like keeping focus on one horse in a race, or a fast machine in flight, or something even more outlandish. This is not close reading as we learned it long ago. As this writer once asked, “What if the word will not be still?” (Moulthrop 1997). The event of nanographology makes entity an inevitably unstable and active target.

In all aspects of the present project, we seek to account for what is expressed within the context of what is inevitably left unexpressed, the para-scriptonic possibilities of unrealized readings, the inevitable loss of absolute identity that comes with close approaches to the conceptual and strong assaults on the textual whole. We have attempted to preserve, sometimes with hands literally dirty in the dust of three decades, what is lost and abandoned in works of creative destruction. Our own Amistic commitment goes to saving what paradoxically chooses to overcome itself, to texts that defer or bind entity to the fragility of technical performance, an all-too-fleeting event that makes any final expression “a thing of permanent impossibility”—and all the same an object of desire.
2 The Many Faces of Judy Malloy’s *Uncle Roger*

Dene Grigar

Figure 2.1
Judy Malloy giving her Traversal in her office at Princeton University in September 2013 for the *Pathfinders* project.

Judy Malloy’s *Uncle Roger* is a pioneering work of early digital literature. Known for its connection to the San Francisco avant-garde community surrounding the Art Com Electronic Network (ACEN) on The WELL and for its innovative approaches to storytelling, *Uncle Roger* provides insight into the Silicon Valley computer-chip industry during the 1980s and so remains of interest to scholars involved in digital technologies today. Criticism of Malloy’s work has focused on her storytelling prowess (Flores), and scholars have additionally commented on *Uncle Roger’s* place in the literary canon (Berens 2014; Rettberg 2012), and the work’s computational features (Wilson 2001; Barnet, 2013, 121). Malloy herself has written about *Uncle Roger* on her electronic journal *Content | Code | Process* (2014, “Notes on
Uncle Roger”), and has documented its history in interviews (McKeever 2014a, 2014b).

While collecting and producing the material about Uncle Roger for our multimedia book Pathfinders, this author was struck by the different ways Malloy told the story. She first published it on The WELL as a digital serial novel, but even as she performed the lexias for her audience,¹ Malloy was already programming the story as a work of online interactive fiction and as a database novel for use as standalone software for Apple Ile and IBM-compatible computers. Close to a decade later, when browser software was introduced, Malloy recreated Uncle Roger as a Web-based hypertext fiction. Most recently, she produced the work for DOSBox, an emulation program. Recognizing distinctive features for each iteration of Uncle Roger, we organized these into versions based on her approach, the platform for which it was created, the programming or code used to create it, and variations to the story itself. While Malloy identified four versions of Uncle Roger in her interview with Alice McKeever (2014a), a detailed study of the work reveals that there are actually six digital versions. These include:


1.0 A Party in Woodside (file 1), December 1, 1986–January 29, 1987
1.1 The Blue Notebook (file 2), July 1987


2.1 A Party in Woodside, early 1987
2.2 The Blue Notebook and Terminals (file 3), 1988


3.1 A Party in Woodside, 1987
3.2 A Party in Woodside, updated 1988
3.3 All three files (A Party in Woodside, The Blue Notebook, Terminals) were packaged together and sold as a boxed work in 1988. There are two editions of this boxed set, one with separate inserts and another with inserts in accordion style fold.

Version 4: “Stand-Alone Artists Software in Narrabase in Microsoft’s GW-BASIC for IBM Compatible Computers,” 1988, for exhibitions

4.1 Uncle Roger: A Party in Woodside, The Blue Notebook, Terminals
Version 5: “Web Version”

5.1 Created with HTML 2.0 and published in 1995, on The WELL
5.2 Updated title page and introduction, 2012
5.3 Updated metadata, fall 2015

Version 6: “DOSBox Emulated Version”

6.1 Recreates the functionality of the database narrative of Version 4 but with the content found in Version 5.2, 2012 (Grigar and Moulthrop, *Pathfinders*)

Because the focus of Pathfinders was to document and provide commentary about the works rather than to offer in-depth criticism, we did not give a detailed rationale for our strategy while the project was underway. With so many variants of Malloy’s work produced, it is important to know the differences between them because insights gained from this knowledge not only shed light on her artistic practice but also reflect cultural changes that affected her literary expression. Herein lies the focus of this essay.

As a work of experimental digital literature, *Uncle Roger* has always been articulated in code, and it was always intended to be experienced on computers. An accomplished programmer, Malloy did all of her own coding for *Uncle Roger*. Having studied systems analysis at the University of Denver, she learned FORTRAN during her years with Ball Brothers Research Corporation in Boulder, Colorado (Malloy, email to Grigar, July 3, 2015). Later she taught herself to write UNIX Shell Scripts, program in Applesoft BASIC and GW-BASIC, and code in HTML. She realized her interests in software development by producing “an artist’s personal authoring system” for *Uncle Roger*—Narrabase, built in UNIX and BASIC (Malloy, email to Grigar, May 24, 2015). Because of *Uncle Roger’s* born-digital status and Malloy’s emphasis on it as software for authoring digital literature, variants of *Uncle Roger* can indeed be seen as versions, where unique names pertain to unique states of the work. In *Ex-Foliations: Reading Machines and the Upgrade Path*, Terry Harpold talks about the importance of “register[ing] … differences where that can be done, and [attending] to what they might reveal of the historical arc of our reading” (2009, 3). This is the strategy we take in versioning Malloy’s *Uncle Roger*, and we do so by attending to changes to its form (e.g., serial novel to database narrative); platform (e.g., Applesoft Basic to GW-BASIC); and content (e.g., toning down sexual references for public access on the Web).
Gaining access to works created for computers and computer systems now obsolete poses challenges for scholars. The serial novel, for example, was conceptualized as an online performance not meant to be printed on paper and read (Malloy, email to Grigar, June 20, 2015). Only two copies exist, one held by Malloy and the other by the Judy Malloy Papers at the David M. Rubenstein Rare Book & Manuscript Library at Duke University. Likewise Version 2, the interactive narrative of *Uncle Roger*, was not preserved. Only recently has Malloy discovered in her own archives the necessary software to recreate it. Also complicating scholarship of Malloy’s work is the fact that her standalone artists’ software is stored on floppy disks unreadable on contemporary computers. But a handful of copies of *Uncle Roger*’s floppy disks remain, anyway, and the few held in the Judy Malloy Papers are restricted for digital preservation and cannot be read.

For our own research we were able to borrow Malloy’s personal copy of *Uncle Roger* on floppy disk and read it using a vintage computer in this author’s lab. Comparing this copy with the Web and emulated versions, as well as examining Malloy’s comments about earlier work made in essays, interviews, and email exchanges, has helped to identify the six variants of *Uncle Roger*. In consultation, Malloy verified her agreement with this schema.

Our work demonstrates that Malloy approached each recreation of *Uncle Roger* as a unique work of art, conceptualizing it to take advantage of the affordances of the platform or medium on which it would reside and by which the audience would reach it. For close to thirty years, Malloy has kept *Uncle Roger* alive and accessible to her reading audience. At a time when Flash-based poetry and fiction created less than a decade ago are becoming unreadable on computing devices, this is no small feat.

**Version 1: Serial Novel for the Net**

As Malloy reports, the first version of *Uncle Roger* stemmed from an invitation she received in 1986 from her friend Carl Loeffler, founder of the La Mamelle Art Center and gallery. In operation from 1975 until 1995, the gallery specialized in avant-garde art arising out of the San Francisco scene and beyond and later evolved to include a cable TV series. Projects such as the 1976 Xerox art exhibit and 1977’s *Send/Receive*, a performance simultaneously broadcast in New York and San Francisco, established the gallery as cutting edge and Loeffler as visionary (“Elsewhere on the Net,” 2001). When Loeffler was introduced to the online community of The WELL upon its 1985 launch, he was inspired to expand his ideas about art
and technology to the new virtual space. With performance artist Fred Truck serving as programmer, Loeffler launched ACEN in September 1986 (Malloy 2013, “Memories of Art Com and La Mamelle”). ACEN offered a host of resources, including an online exhibition space, art publications, retail store, and a conferencing system (referred to as a Bulletin Board System or BBS) that allowed for online interaction among the community members.6

The BBS was especially useful for sustaining online conversations about art. For this purpose, The WELL used PicoSpan, created by Marcus Watts in 1983 for the Unix operating system. As Malloy writes:

Initially, The WELL’s server was a VAX, located beside Sausalito harbor, at the foot of a dock, where colorful houseboats were inhabited by artists and poets. The confer- ence software—the Unix-based PicoSpan computer conferencing system, written by Marcus D. Watts in 1983 and provided by Brilliant’s conferencing software company, Network Technologies International (NETI)—both enabled and organized virtual conversation. Although some users found PicoSpan’s learning curve difficult, once mastered, its flexibility and clarity fostered an environment of online community. (Malloy 2016, 27)

The BBS was structured so that participants stayed focused on a single thread. It also made comments impossible to censor. This last feature encouraged frank discussions about and approaches to art and resulted in open and lively conversations. In a 1997 Wired article, “The Epic Saga of the Well,” Katie Hafner reports:

PicoSpan didn’t simply foster openness but forced it on users. The program was de- signed so that everyone who signed up would be invited to write a personal bio of any length to reside permanently on the system. Another feature, known— somewhat illogically—as “scribbling,” allowed participants to delete their words after the fact. But the scribbled posting would appear as a new blank posting to everyone else in the conference. In other words, you couldn’t erase your words without others knowing about it. ... Also, postings didn’t expire—that is, they didn’t self-destruct automatically after a certain amount of time.

Though slow by today’s standards, discussions did take place in hours rather than days, as they might via the US Postal Service, for example. “Feedback,” Loeffler felt, was “instant.” He also learned that the “community” in the online environment was actually diverse in terms of the audience’s background and training, “a pleasant surprise for an art organization interested in expanding the audience for contemporary art” (“Elsewhere on the Net,” 2001).
Thus, when Loeffler asked Malloy to “go online and write” in a venue hosting discussions on topics such as “Software as Art,” publishing work, and featuring “actual works of art … by John Cage, Jim Rosenberg, and others,” she jumped at the chance. For the nine years leading up to Loeffler’s invitation, Malloy had already been experimenting with art as “molecular … units” (Malloy 1991, 200), a notion that also described her nondigital work, such as her “3 × 5 inch cards or file folders full of information” (Malloy 1988, 371). On December 1, 1986, Malloy presented the first lexia of the seventy-five she created for *A Party in Woodside*, the first of two files associated with the serial novel. Malloy also posted “links associated with” the lexias. As she recounts, “The idea was that readers could pull the text and keywords into their own database software.” Howard Rheingold lent a hand and created “a parallel topic to discuss *Uncle Roger* and how to implement it” on Topic 15 (Malloy 1991, 200). “Some actually did,” Malloy reports. Over the course of the next forty days, until January 29, 1987, she posted at least one lexia of the serialized novel daily, taking advantage of PicoSpan’s single thread feature—“co-opting (with permission),” she recalls. *The Blue Notebook*, “file 2,” followed seven months later in July 1987 (Malloy 2014).

To access the seventy-five lexias comprising Version 1 today is not easy. For most it means travel to Duke University’s library. However, Malloy recounts the story in various places, and we know from interviews with her that *Uncle Roger* involves numerous plots and subplots relayed through the perspective of Jenny, a twenty-one-year old who works in the Bay Area as the babysitter for the wealthy Broadthrow family and becomes entangled in the intrigue involving Tom Broadthrow and his company, BroadthrowMicro. Tom, we learn in *A Party in Woodside*, has stolen a custom chip from Jeff Gallagher, a young man in whom Jenny claims a romantic interest. This plot rises to a climax in *The Blue Notebook*. Jenny, we learn, is the niece of the titular Uncle Roger, who is heavily implicated in the shenanigans surrounding the stolen chip. Jenny’s other stories, both fanciful and real, focus on relationships with other characters and the tensions resulting from conflicts arising from her personal experiences: her former lover David; her family back on the East Coast; the growing romantic involvement with Jeff; extramarital affairs between people with whom she comes in contact or knows well; the imagined destruction of Somerville, Massachusetts, by bombs dropped from blimps; caring for the child she is hired to babysit; and many more. However, Jenny is not a completely reliable narrator. In *A Party in Woodside*, she reveals that she drank too much wine and slept “fitfully,” her thoughts “interspersed with dreams.” In *The Blue Notebook*, she
admits that what she is writing down—and so telling us about the story—is not “exactly” how the events happened. Malloy purposely takes this strategy. In the first file, Jenny, she says, is
telling the story as experienced in a night after where dreams mingle with reality, and the difference is blurred—and, in the second file, deliberately introducing elements of magic realism. It would be expected that elements in the work of artists like Carolee Schneemann, Chris Burden, and Kathy Acker would seep into my work or were parallel with my work. For years, by the way, I had a copy of [Richard Brautigan’s] *Trout Fishing in America* (“The waterfall was just a flight of wooden stairs”) on a shelf in my work area. It never occurred to me that it was an influence, but it was in the environment of my writing. In my work of that era, ... I generally used unexpected settings, a Silicon Valley bedroom community for instance, a Falstaffian Semiconductor Systems Analyst. We could go back to Plautus. ... The magic realism and explicit, dream-laced lexias of *Uncle Roger* worked well in the environment of ACEN. The immersive party in Silicon Valley environment also worked well for the wider WELL audience ... (at least those who followed ACEN). (Malloy, email to Grigar, July 4, 2015)
The main conflict underlying *Uncle Roger* involves Jenny’s struggle to gain footing in the world and agency as an adult in an atmosphere where theft of intellectual property and destruction of people’s livelihoods, and lives, are the norm.

The dominant action takes place over several months and includes a party held at the Broadthrow home in September (*A Party in Woodside*) and a birthday party in honor of Tom Broadthrow at a restaurant in South Bay two weeks later (*The Blue Notebook*). Indulgence in large quantities of food and drink makes for rowdy festivities, but in this story about the heady world of the chip industry, where so much money is at stake, parties are also prime locations for intrigue and conflict. That the Broadthrow home frames the story for *A Party in Woodside* (and, in later versions, *Terminals*) places the Broadthrow family front and center of the action. Common themes emerge: journey, struggle for agency and independence, promise and betrayal of the American Dream, love, lust, revenge, and loss. Along with recurring characters, the party settings, and themes, we find motifs and symbols—sailboats, dreams, chips (silicon and potato), bodies of water (lakes and ocean), food, and colors—that contribute to the cohesiveness of a story told in increments over a course of eight weeks and continued seven months later.

The story struck a chord with Malloy’s Bay Area audience on The WELL. Many of those reading *Uncle Roger* themselves worked in some aspect of computing—some even in the semiconductor industry—and so were aware
of the piracy taking place in the cutthroat business. More than likely, they were also familiar with Malloy’s allusion to a green background on a computer monitor reflected in Jenny’s comment: “What I type on the keyboard appears in green on the screen which is called a monitor” (Malloy, Terminals, Record No. 107). As Rheingold recalls in The Virtual Community, a “few hundred people” were members of The WELL when it began in 1985 (1993, 2), but it grew to into the thousands by 1994.9 Malloy’s audience, though exceedingly small in comparison to the number of people online today, included a considerable number of highly digitally literate people—or “digerati,” they were called (Hafner 1997). In 1983, the first year that Americans were polled about computer usage, for example, only 10 percent of households reported owning a computer; 1.4 percent reported using the Internet. By 1990, 42 percent of the population used computers. Studies suggest that the cost of computers lay outside of the budget of most Americans at the time (Fox and Rainie 2014). A brand new Apple Ile that members of Malloy’s audience may have used to access The WELL and read Uncle Roger sold for $1,395 in 1983, equivalent to $3,400 today. Malloy had begun using a personal computer in 1985 (Malloy, 1991, 196), and her own Apple II was purchased used from “the legendary Used Computer Store in Berkeley” (Malloy, email to Grigar, July 3, 2015). Feedback to the story, therefore, was possible because the audience was digitally literate and affluent and so quite capable of accessing it.

While the audience could not intervene in the story directly, audience members were able to respond to the topics Malloy and Rheingold prepared for them. Rheingold’s “parallel topic” (Malloy 2014), entitled “Feedback re: Uncle Roger,” was available alongside Malloy’s lexias and provoked responses to which she reacted like “any oral storyteller or performer.” In fact, Malloy claims to have “played to” her audience (McKeever 2014a). Printouts of responses in her personal files show an engaged and playful audience, much like those of Twitter or Facebook today. And like tweets and Facebook posts, WELL users’ responses ranged from advice to praise to flirtation. One user suggested, “If you don’t want to bother with computer databases, the way to use the story would be to print it on 4” × 6” cards.” Another writing a little later that day said, “Whatever it is, it sure promises to be sexy, and I’m all for sexiness.” To the futurist and fellow WELL user Tom Mandel, Loeffler wrote:

Post 12 on Topic 15: Feedback re: Uncle Roger
12: Artcom (artcomtv)
OK ... Tom
What (?) jacket are you wearing??????????????10
In fact, scholars consider this version of *Uncle Roger*, delivered as a serial novel, one of the first examples of online participatory literature (Berens, 2014, 343; Grigar and Moulthrop 2015).

The comment about the work’s “sexiness” highlights the fact that Malloy leveraged the openness of the system’s technology and the community’s adventurous nature to tell a story that contained a frank depiction of sexuality. If the serial novel resembles the story relayed in Version 3, as Malloy suggests, then the first lexia of *A Party in Woodside*, for example, may have read:

I dreamed that Jeff and I were in bed.
He was running his hands up and down my body.
He put his tongue in my mouth.
His hands were on my nipples.
He ran his fingers down the inside of my thighs. (*APIW*, Record No. 1)

Another lexia describes Jenny “put[ting her] hand on [Jeff’s] cock” in response to him “biting [her] nipples.” Still another has Jeff rubbing suntan oil down Jenny’s “ass.” Such graphic depiction of sex is rare today on public sites such as Facebook and Twitter. As recently as March 2015, Facebook censored benign information on sexual health (“Take a Stand against Censorship,” 2015), and Twitter blocked searches of the word “porn” (O’Hara 2015). Many of the lexias hinting at unacceptable conduct would not pass the censorship of either social media site. Incest and pedophilia, especially, figure largely in early versions of the story. In *A Party in Woodside*, Jenny recounts a story her cousin Anne shared with her involving Uncle Roger, who tied her “to a bed. ... It was one of those beds with pineapples on the bedknobs.” Jenny learns that Uncle Roger then told Anne to “take off all [her] clothes,” which seems to be impossible in light of Anne being tied up.

In another lexia Jenny reports that when she was a child, Uncle Roger asked her questions such as, “Have you ever seen a grown man’s penis?” In *The Blue Notebook*, Jenny overhears him pointing out “cute boys” to BroadthrowMicro’s lawyer, Bob Draper. Later, when *Uncle Roger* was distributed on the Web for a wider audience, references to this kind of behavior were dropped, and Uncle Roger emerges, instead, as a Falstaffian character full of mischief and mildly ribald humor (Malloy, email to Grigar, July 4, 2015). Such a change in tone reinforces the differences among the versions and demonstrates one of the ways the work changed as it moved on to larger audiences.
It is also important to note that even as a serial novel performed for an audience, *Uncle Roger* was created so that Malloy’s audience members could use “their own database software” and the “keyword field” that she produced for each lexia to read the work. This effort resulted in a story told nonsequentially and with a measure of interactivity (McKeever 2014a). Though this feature of *Uncle Roger* was not as visually appealing as Malloy had wanted (McKeever 2014b), she realized it in a more satisfactory way in Version 2, when she was able to control the look and feel of the online database readers used to access the work.

**Version 2: Interactive Narrative on the Net**

Version 2 of *Uncle Roger*, produced as an interactive work for Art Com Electronic Network’s Datanet and published 1987–1988, has been unavailable since the late 1980s. As mentioned previously, Malloy recently found the programs among her personal archives (Malloy, email to Grigar, August 25, 2015). Until she is able to recreate the work, all that is left of it are descriptions found in Malloy’s essays, interviews she has given, and email exchanges. For example, Malloy’s 1991 essay, “*Uncle Roger*, an Online Narrabase,” published in *Leonardo*, and her more recent “Notes on *Uncle Roger*,” published in *Authoring Software*, provide information about the story’s origins and Malloy’s production methods. The *Leonardo* article is also notable for providing images of each file’s main menu as well as sample records for file 3. Malloy’s 2014 interview with Alice McKeever for *The Literary Platform*, entitled “Judy Malloy on Narrabases,” sheds light on the programming behind the work. Personal email exchanges with Malloy have filled in gaps about how she handled editing (Malloy, emails to Grigar, July 2 and July 4, 2015). Along with this evidence, textual critics can tease out elements of the story based on other extant versions. The print-out of Version 1, which includes the first two files of *Uncle Roger* each consisting of seventy-five lexias, serves as the starting point for knowing what Version 2 would entail if we had access to it. Even more useful is Version 3. This boxed collection of standalone artists’ software, like Version 2, was built from the ground up as a searchable database and includes all three files, with files 1 and 2 consisting of the same number of lexias accessed through many of the same keywords as Version 2. While we expect works of fiction created thousands of years ago to be lost to us, it is worrisome to confront the disappearance of a literary work produced a mere thirty years ago and distributed over the net to hundreds of readers. That Version 2 was not preserved, its screens of lexias never captured for posterity, makes
discussing the work challenging. So, what do we know about this version of *Uncle Roger*?

First, we know that Fred Truck had access to The WELL’s server and was able to perform feats of magic by making works published on ACEN Datanet interactive. We know Malloy took advantage of this new feature by recreating *Uncle Roger* from ground up as an interactive narrative (McKeever 2014b). We further know that labor on Version 2 began as early as 1986 while Malloy was creating and performing Version 1 (Malloy, email to Grigar, July 3, 2015). And we know that Malloy’s interest in databases did not emerge suddenly in 1986 while working on *Uncle Roger* but rather stemmed from a 1969 Ball Brothers project, which resulted in a citation-based database of engineering literature. We know the database she created as *Uncle Roger* sixteen years later was a full-text database with searchable lexias, or “records” (Malloy 1991, 196–197). As Malloy tells it, she was also in the midst of developing an Applesoft BASIC version of *Uncle Roger* for standalone artists’ software, a project that eventually became Version 3 of *Uncle Roger*, when both Loeffler and Truck asked her to create an interactive version for ACEN Datanet. To accommodate their request, she had to produce *Uncle Roger* as UNIX Shell Scripts, the format Truck was using to produce the menus for ACEN Datanet (McKeever 2014b). Truck also designed the system so that text was constrained to one to eighteen lines of text per screen and to a column length of fifty characters, a protocol that Malloy thought she had to follow though in fact there was no such constraint (Malloy 1991, 197; Malloy, email to Grigar, July 3, 2015).

Malloy has talked openly about the challenges she faced when reconceptualizing Version 1, the serial novel, as a system of records that could stand alone as individual units and function collectively as a whole, likening this experience to “a composer … composing four different streams of music that will eventually be heard together by the listener.” We can understand the not-so-subtle difference she makes between the two: unlike a musical composition, the database narrative made it possible for “each reader … [to] combine [the records] differently”; “all possible combinations had to be anticipated” (Malloy 1991, 197). To address this challenge, Malloy developed a short list of keywords derived from characters, places, and things found in Version 1’s *A Party in Woodside* and *The Blue Notebook*. Readers could type in one of the keywords and receive all of the records associated with that keyword. This approach to storytelling allowed Malloy’s audience to read the story in different ways depending on the keywords searched. Plots, characterization, conflicts and other aspects of the story unfolded
nonsequentially, and audience interaction was derived from decisions readers made about which keyword to search. Though she sometimes referred to Version 2 as an interactive narrative (Malloy, email to Grigar, July 3, 2015), she was clear about the distinctions between *Uncle Roger* and adventure stories (interactive fiction), or hypertext works created with HyperCard and other digital technologies. Malloy thought her endeavors were better described as narrative databases, and to that end she coined the phrase “narrabase” (Malloy 1991, 198). She was out to make a work of art completely different than what was being produced at the time.

We know from the few screen captures available from the *Leonardo* essay that when Malloy’s audience entered the ACEN Datnet site for *Uncle Roger*, they were greeted with an interactive menu (figure 2.2) providing a brief description of the work and identifying it as a “three part interactive novel” meant to be read by “follow[ing] an individual path ... [and] searching key elements called ‘keywords.’” Readers would also have seen a list containing the three files—with *Terminals* joining *A Party in Woodside* and *The Blue*...
Notebook as the third part of the story—and simple directions for accessing them. For example, typing “1” would result in the opening screen for “file 1,” A Party in Woodside. Within each file, readers would choose from the keywords and be off on an adventure about a world and lifestyle Malloy knew would suit their tastes and interests. If we can imagine 1987, a time before browsers and the Web, before robust graphics and sound, before memory and bandwidth could handle animation and video, before CDs, long before Facebook was even a twinkle in Mark Zuckerberg’s eye (he was three years old at the time), then we may be able to get an inkling of the innovations behind this version of Uncle Roger.

Malloy provided twenty-one keywords for A Party in Woodside (figure 2.3), over two-thirds of them referring to people with whom Jenny interacts or whom she remembers in her thoughts and dreams. Four abstract and concrete objects—“dreams,” “the house,” “chips,” and “refreshments”—also result in records that reveal parts of the story. “Puffy,” the Broadthrow’s cat, is the list’s only animal. Based on Version 3, Puffy injects humor into the story, meting out sly punishment to those deserving it.

The Blue Notebook, listed as number 2 in the main menu, offered twenty-five keywords, listed by letters:

| a. Jenny | j. Dorrie | s. blue notebook |
| b. Jeff | k. Liz | t. bathroom |
| c. David | l. Dennis | u. restaurant |
| d. Uncle Roger | m. Jack | v. chips |
| e. Tom | n. Rose | w. beach |
| f. Louise | o. Mark | x. San Jose |
| g. cats | p. Caroline | y. Woodside |
| h. Linda | q. family | z. café |
| i. men in tan |

We see many names from the first file repeated, but several new characters are introduced—Linda, whom we know from Version 3 is David’s ex-girlfriend, with whom he may still be involved; Dennis, the consultant from Albuquerque that Tom brings in to solve a crisis at BroadthrowMicro; and Liz, a woman at Jeff’s office who may or may not be his lover. Places such as the “bathroom” figure as the site where Uncle Roger stages his clandestine meeting with Jenny and reveals his secret about the stolen chip; the “café,” the meeting place where Jenny casually runs into Jeff and sparks
their romance; and the “restaurant,” where Tom’s birthday party is held. The focal point of the conflict is the stolen chip, and records relating to it can be evoked directly through the keyword, “chips.”

In terms of the story underlying *Uncle Roger*, we know that Malloy retained the seventy-five lexias of Version 1 for Version 2 and included new material in the form of the third file, *Terminals* (Malloy 1991, 200). We can surmise from her descriptions of the work in various essays and interviews dating back to 1991 (Malloy 1991, 198–199; Malloy 2014) that the story changed little in the shift from the serial novel to the interactive narrative. Moreover, if Malloy did edit *Uncle Roger*, she did so because lexias were “subservient to the work as a whole and ... not a constraint that [she] felt it

![Figure 2.3](image)

necessary to adhere to” (Malloy, email to Grigar, June 25, 2015). The addition of *Terminals*, which consisted of a hundred records, functions in the overall story as the name implies: an ending, finale, and termination of Jenny’s narrative. It also plays with the notion of a computer terminal, a metaphor for the world that Jenny now finds herself in.

Unlike Version 2 of *A Party in Woodside* and *The Blue Notebook*, which were created as databases, *Terminals* was built with the computer’s “pseudo-random number generator” so that readers could evoke records randomly by simply pressing the return key (Malloy 2014). Landing at its opening screen, readers found a brief narrative that contextualized the story from, once again, Jenny’s perspective:

In the room where I work, there are about twenty desks called “stations”. A computer takes up most of the space at each station. Each computer has a black screen which rests on a gray case, and a keyboard which is attached to the computer by a cord, like those cords which hold the two pieces of telephones together. They call the computers “terminals”. (Malloy 1991, 201)

They would also learned that *Terminals* offered a hundred “records” and that the information is stored in computer memory and retrieved at random just as it might surface in the mind of the narrator. Sometimes one record will be repeated several times. Or, one part of the story will be submerged for long time—reoccurring unexpectedly. (Malloy 1991, 201)

To read the story, Malloy’s audience would simply have pressed the return key on the keyboard, over and over, accessing lexias comprising the story in a random manner. Malloy based her generator on the Unix date generator suggested by writer Gil MinaMora, which provided a “series of changing numbers” that “print[ed] out various records with some repetition.” She also programmed “some structure” into *Terminals* by building in a fixed opening and closing record. Once readers accessed the fixed opening, they would have been confronted with a work that proceeded randomly until they reached the closing screen (Malloy 1991, 201), an ending that may have been similar to that of Versions 5 or 6 where Uncle Roger shouts, “Merry Christmas,” and the lexia finishes with “The End.”

Malloy employed this mode of storytelling in order to produce a “less tightly controlled structure” and admits in essays about the work that “in
the telling of *Uncle Roger*, technology—a computer database—is used to simulate the way technology both complicates and enhances our lives” (1991, 198–199). She also reports that she found the way the date generator expressed randomness “pleasing and desirable because it mimicked the way memories come and go, sometimes repeating, in one’s mind” (1991, 201). Therefore, in *A Party in Woodside* we may have chalked up Jenny’s unreliability to drinking too much wine and getting many nights of poor sleep, and in *The Blue Notebook*, to Jenny purposely fudging the facts. In *Terminals* we learn that she is plagued by dreams and memories to the point that we cannot always discern if what she is telling us is real. For readers who may have just experienced the previous two parts of the story, where control over the narrative was possible, the random display of records caused by *Terminals*’ keyword search would have simulated Jenny’s own confusion. Thus, Malloy’s approach to storytelling is aligned with the story itself, smoothly incorporating technique with content (Malloy 1991, 201).

Malloy recalls that when she launched the interactive version of *Uncle Roger*, it enjoyed much “buzz” and “interest” (McKeever 2014b). Because readers could have accessed the work directly online and interacted with it there rather than putting *Uncle Roger* into their own database software and querying it from their location, Version 2 “facilitate[d] immediate publication, was compatible with any computer with a modem, and integrate[d] the artist with the audience” (Malloy 1991, 195). This differs from Version 1, which, as previously discussed, would have been downloaded by readers and accessed locally. The way the work was displayed would have been affected by the kind of software the reader used. Version 2, in contrast, controlled the user experience in that the database functionality was built into the work itself as part of the aesthetic. Thus, it took less time to access and enjoy and maintained the look and feel Malloy envisioned (McKeever 2014b).

**Version 3: *Uncle Roger* as Standalone Artists’ Software for Apple Computers**

Malloy had begun programming Version 3 even before she was called away to build Version 2 for ACEN Datanet (McKeever 2014a). Version 3 marks a major shift from the first two in that it involved creating *Uncle Roger* as standalone artists’ software programmed in Applesoft BASIC for Apple II computers. Called Narrabase, the platform was intended for the creation of database narratives. As in the previous versions, the story
The Many Faces of Judy Malloy’s *Uncle Roger* unfolds in seventy-five lexias. The copy of Version 3 we used for our research is missing Record No. 14 of *A Party in Woodside*. We can make a reasonable guess about this lexia’s content based on Versions 5 and 6, where it does exist. Malloy herself does not know why it is omitted from this file (Malloy, email to Grigar, June 25, 2015). That it is missing speaks to the labor it took to copy files in days before copy-and-paste, drag-and-drop, and right-clicking made it so easy to manipulate a large amount of data simultaneously.

Beginning with Version 3, the works were published on 5.25-inch floppy disks and packaged in standard plastic boxes—except these boxes were designed with highly stylized labels and inserts created by Malloy. In fact, Version 3 reflects Malloy’s fine art practice, particularly her earlier work creating artists’ books. A copy of Version 3.1, the hand-made package of *A Party in Woodside*, is held by the Museum of Modern Art/Franklin Furnace/Artist Book Collection. Before information sharing was easily undertaken via the Web and cloud computing, a boxed collection of *Uncle Roger* that could be shipped to a gallery for exhibition was both innovative and pragmatic. Version 3 made it possible for Malloy to show *Uncle Roger* at festivals and gallery exhibitions in North America and Europe.

As in Version 2, in Version 3 *A Party in Woodside* and *The Blue Notebook* are organized as records evoked when readers query a database using a set of keywords, and *Terminals* remains programmed as randomly generated text. However, Version 3 builds more functionality into the database by making it possible for readers to combine two keywords in a search.

*A Party in Woodside* was created first and constitutes Version 3.1 of *Uncle Roger*. Malloy updated this version to eradicate a few bugs and rereleased it in 1988. We see this updated file as Version 3.2. After she completed the programming for *The Blue Notebook* and *Terminals*, she packaged the floppy disks of all three files together and sold them as a boxed set for $15 through the *Art Com Catalog*. This collection constitutes Version 3.3. Versions 3.1–3.3 were produced specifically for Apple II computers and state as much on their packaging (figure 2.4).

The David M. Rubenstein Rare Book & Manuscript Library at Duke University holds copies of *A Party in Woodside*, *The Blue Notebook*, and the complete Version 3.3. Stanford University also holds one copy of Version 3.3 in its Special Collections, and Malloy herself retains a copy of this version. The copy of Version 3.3 Malloy lent us is missing file 3. Thus only Duke, Stanford, and Malloy herself have copies of *Terminals* for Version 3.3. Because library collections restrict access to floppy disks due to digital preservation issues, there is no way today for anyone to read file 3 of
Version 3.3 to know precisely what the story entails or how it may differ from other versions of it. The copy of Uncle Roger used for this essay represents, Malloy believes, a “second” not sent to Art Com Catalog in the late 1980s. A close examination of it for Pathfinders also reveals differences from the inserts distributed by Art Com Catalog (Malloy, email to Grigar, May 24, 2015). The copy does, however, contain all other items associated with Uncle Roger, including files 1 and 2. For this reason, discussions about Version 3.3 in this essay are limited to those two files.

To read Uncle Roger, readers would have opened the plastic box, selected the floppy disk for A Party in Woodside, and loaded it into the computer’s drive. Once the drive was closed, readers would have needed to reach behind the computer to turn it on. As the Apple II or IIe booted up, it made a distinctive sound—a hum followed by a series of clicks. Bright green words, “Bad Information” produced in ASCII, briefly appeared on the dark green screen, giving way to a second screen that read, “Bad Information Presents” (figure 2.5), and a third containing a title page that announced, “A Party in Woodside by Judy Malloy.” This title page disappeared, and the
opening screen introducing the story appeared. Readers using an Apple IIe would have seen these words laid out exactly as printed below:

UNCLE ROGER—FILE 1
A PARTY IN WOODSIDE
Woodside is a small bedroom community South of San Francisco. Although many of the lords of Silicon Valley Live closer to the valley—in places like Los Gatos or Santa Clara. There are Some who—like tom Broadthrow—live In Woodside. The party which Tom and his wife Louise give in Woodside Is remembered fitfully—interspersed with dreams—by the narrator—Jenny.

The story was written and stored as a database and is read by searching keywords.

WHEN YOU’RE READY TO BEGIN, PRESS RETURN

?
Pressing “return,” readers would have been taken to the list of keywords. There are exactly twenty in Version 3, including:

JENNY  JEFF  DREAMS  UNCLE ROGER
PUFFY  JACK  FOOD  HOUSE
CHIPS  JANE  TOM  MEN IN TAN
LAURA  MARK  LOUISE  MISS GORGEL
DAVID  ROSE  DORRIE  CAROLINE

CHOOSE ONE KEYWORD AND TYPE IT
IN UPPER CASE
IN UPPER CASE, EXACTLY AS IT APPEARS ON
THE LIST
OR, TO QUIT, TYPE QUIT
? [BLINKING CURSOR]

This list differs from the one provided in Version 2 in that it omits “jenny’s family” and changes “refreshments” to “FOOD.” The word “suits” is also eliminated from the keyword, “MEN IN TAN.”

We may, at first, consider the move from twenty-one to twenty keywords from the standpoint of visual aesthetics: a way to create a symmetrical list with four neatly laid out columns of five keywords each, where no one line is longer than thirty-one characters. However, the list for The Blue Notebook, with its two rows of nine keywords and one row of eight, proves this theory wrong. What we can say is that all of the twenty keywords are derived from characters causing or involved in the story’s conflict. “Jenny’s family,” in comparison, provides her with comfort; its elimination from the list may be due to this reason. Or it may be due to the need to shorten the length of the keywords. Seventeen items in the list are one word of seven or fewer characters. Even the two two-word and one three-word keywords consist of eleven characters or fewer. The perceived need to save characters may also explain why Malloy omitted “suits” from “MEN IN TAN” and changed “refreshments” to “FOOD.” Malloy may have made this latter edit because there is just a lot of food in Uncle Roger, a story that unfolds at parties and restaurants. One can easily count over twenty-five references to cheese, cheese balls, salmon rolls, and sandwiches, to name a few foods referenced in the story. Finally, Malloy may have made these and other edits because she felt that as an artist, it is her right to do so (Malloy, email to Grigar, June 25, 2015).

Continuing with the work, readers would have typed in a keyword. Choosing “JENNY,” they would have received a message reading:
JENNY IS THE NARRATOR AND SHOULD BE SEARCHED IN COMBINATION WITH ANOTHER KEYWORD

WHAT KEYWORD DO YOU WANT TO COMBINE WITH JENNY?

As mentioned previously, Version 3 introduced the two-query search by which readers could combine keywords and thereby follow a more specific reading path. While other keywords could be searched individually or in combination with one additional, the keyword “JENNY” required a second keyword because she serves as the story’s narrator. Choosing “JEFF” in conjunction with “JENNY” results in 16 records in which both JENNY and JEFF appear or have some sort of association with the portion of the story contained in that record.

*A Party in Woodside* introduces its characters and the central conflict through the conceit of a party thrown by Tom and Louise Broadthrow at their home in Woodside, two weeks after Jenny starts working for the family (Record No. 2). Tom, whom Jenny refers to as one of the “lords of Silicon Valley” (Opening), is a very dangerous man according to Dorrie, Tom’s “right hand,” whom Jenny meets at the party (Record No. 56). Tom owns BroadthrowMicro and two other businesses, one each in Massachusetts and New Hampshire, where the family also owns residences (Record No. 19). Yet, despite the Broadthrows’ wealth, Jenny is provided only a room in the garage alongside the two Mercedes the Broadthrows drive (Record No. 69). The Broadthrows have two children, eleven-year-old Caroline, whom Jenny oversees, and her teenage brother Mark, whose libido is raging (Records No. 24, 26). Rounding out the household is Puffy the cat, who injects much mischief into the plot when she licks cheese balls (Records No. 68, 37) or brushes her tail in food that partygoers carelessly eat with eerie bad karma.

During the party we hear snippets of conversations taking place among the guests: Laura, the art historian from Stanford, flirts with Jeff, the man whom Jenny met when she first arrived in the Bay Area (Record No. 21) and now desires (Records No. 67, 22, 59, 60); an unidentified man complains about the color of a rug (Record No. 23); and three men in tan suits gossip about business and lust over Louise (Records No. 27, 28). Uncle Roger’s entrance and ongoing presence at the party introduce intrigue and dark humor to a gathering of the emerging computer industry’s tasteless and bloodthirsty nouveaux riches (Record No. 19). The way Jenny describes Uncle Roger, he is part buffoon (Records No. 44, 35), part trickster (Record No. 36), and very much a lecher (Records No. 11, 34, 4, 5). We also learn
that he is a thief, running off with a bottle of the Broadthrows’ vodka and “bulging” pockets as he leaves the party (Record No. 44). Jenny tells us that Uncle Roger slipped upstairs and out of sight in the Broadthrow home looking presumably for the bathroom (Record No. 39). We surmise he is up to no good because he instructs Jenny not to acknowledge that they know one another (Record No. 36) and continues this ruse even when introduced to her by Tom (Record No. 37). His sleazy behavior makes his secret trip to Haiti highly suspicious (Record No. 38). During the party readers also come to understand why Jenny, a graduate of prestigious Smith College, is whiling away her time as a babysitter (Record No. 61), and we learn of the intrigue between the Tom and Jeff. Jeff’s company has just designed a “pretty hot” custom chip and needs Tom’s venture capital to take it to market (Record No. 62). If Jenny is attracted to Jeff when they meet at the airport, she is smitten by him by the end of the party (Record No. 63).

Another story Jenny recounts has to do with her relationship with David, a young man she left behind on the East Coast. Though it is not clear what happened to their relationship except that they decided not to “see each other for a while” (Record No. 61), we do know that Jenny fantasizes about him, remembering vividly their sexual encounters (Record No. 51). Jenny also talks about her family—her mother and brother living back home (Record No. 10); the death of her father when she was only seven (Record No. 11); Uncle Roger’s depraved treatment of her cousin Anne (Record No. 11); and her grandfather “Grandy,” owner of Clark and Clark, where Uncle Roger serves as vice president (Record No. 34). Another story reveals how Jenny landed the job with the Broadthrows: Jane—now married to Jack Cardin, just recruited from Massachusetts to manage BroadthrowMicro (Record No. 42)—is the sister of Jenny’s college roommate and recommended Jenny to the Broadthrow family (Record No. 49) after the previous babysitter ran off to Mexico with a lifeguard (Record No. 20). Along with Puffy the cat, who sleeps with Jenny (Record No. 45), Jane is Jenny’s only companion. She has struggles of her own: her marriage may not be working out due to Jack’s interest in other women, particularly Rose (Records No. 12, 42, 50, 52, 53). At one point, Jenny is having dinner with Jane and Jack when Jack hints at his dim view of his wife and his own enjoyment of living on the West Coast (Record No. 48).

Interspersed with these stories are Jenny’s many dreams and fantasies: Louise and Jenny piloting a boat (Records No. 30, 7); Jeff “hover[ing] over her bed” (Record No. 9); sex with Jeff on a “pullman train,” which shifts into a story of a gangster trying to get back money the imagined lovers had
stolen from him (Records No. 17, 18); Jenny’s brother with a rowboat at the harbor she visits in the dream about Louise (Record No. 31); at a party with Jeff on a cruise ship, where the gangster reappears and Jenny morphs into a cigarette girl the gangster menaces (Record No. 51); a sexual interlude with Jeff in the sand at the reoccurring harbor (Record No. 70); a mysterious blue duffel bag in a house that she visits with Louise; a visit to Venice with Tom, though the man she is with “didn’t look anything like” him (Record No. 74). Jenny repeats her admission that she drank too much at the party—hinting that her memory may be impaired—when she complains of wishing for “some alka seltzer” (Record No. 72).

Though some keywords provide a series of lexias that, when combined, relay an episode of the story, the overall effect of Malloy’s composition is that the narrator’s fancies, fantasies, and dreams are realized through non-sequential storytelling that disturbs readers’ assumptions about Jenny’s experiences. It is a good example of form effectively serving the content of a literary work.

When we are ready to stop reading, we type QUIT and receive the message, “The party is over.”

The Blue Notebook

Like A Party at Woodside (file 1), The Blue Notebook (file 2) is a database narrative organized around the two-keyword query. Also like file 1, this file was constructed to offer seventy-five lexias but is missing one, Record No. 62. In conversation, Malloy has indicated that this was not intended (Malloy, email to Grigar, June 25, 2015).

To read The Blue Notebook, we go through a similar process of loading the floppy disk and booting up the computer as we did for A Party in Woodside. If we want to read both files in succession, we would have to turn off the computer after reading the first file, remove the floppy disk from the drive, place the new disk representing file 2 in the drive, and turn the computer on again. The materiality of the work and the computing environment apparent in this series of activities is erased in the later, Web version of Uncle Roger. It speaks to a specific cultural moment when our relationship with media was more physically embodied and visceral.

The opening screen of The Blue Notebook offers this introduction:

The story is continued by the narrator—Jenny.
The narrative is framed by a formal birthday party for Tom Broadthrow at a hotel restaurant. Within this
frame are fragmented memories—
a car trip with David
Jeff’s company in San Jose
An encounter with Uncle Roger in the
restaurant bathroom.
The story was written and stored as a
database and is read by searching
keywords. A good way to start searching
is to combine one of the main characters
at the beginning of the keyword list—
JENNY JEFF DAVID or Uncle Roger
—with one of the places or things in the list—
BLUE NOTEBOOK BATHROOM BEACH or CHI
PS. (Opening)

At this juncture readers are asked to press the return key to begin. After
doing so, a series of twenty-six keywords appears in two rows of nine
words and one row of eight, all in caps. To read the story, readers select and
type one or two keywords. Once again, “JENNY” is the only keyword that
requires a second; the rest can be searched alone:

<table>
<thead>
<tr>
<th>JENNY</th>
<th>DORRIE</th>
<th>BLUE NOTEBOOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEFF</td>
<td>LIZ</td>
<td>BATHROOM</td>
</tr>
<tr>
<td>DAVID</td>
<td>DENNIS</td>
<td>RESTAURANT</td>
</tr>
<tr>
<td>UNCLE ROGER</td>
<td>JACK</td>
<td>CHIPS</td>
</tr>
<tr>
<td>TOM</td>
<td>ROSE</td>
<td>BEACH</td>
</tr>
<tr>
<td>LOUISE</td>
<td>MARK</td>
<td>SAN JOSE</td>
</tr>
<tr>
<td>LINDA</td>
<td>PUFFY</td>
<td>CAFÉ</td>
</tr>
<tr>
<td>MEN IN TAN</td>
<td>FAMILY</td>
<td>WOODSIDE</td>
</tr>
<tr>
<td>SALLY</td>
<td>CAROLINE</td>
<td></td>
</tr>
</tbody>
</table>

The main difference between the list of keywords for Version 3 and
Version 2 is a slight change in the order of the three columns, which
seems to be arbitrary since it changes the character length of the lines little
and does not signify the importance of any person, place, or object in
the story. More interesting, however, is the substitution of “PUFFY” and
“SALLY” for the common noun “cats.” As we have seen, Puffy’s antics—
licking cheese balls and putting her tail in the dip just before a partygoer
eats—lighten the tension in the story and, at the same time, mete out
punishment to characters we may see as deserving. In file 2 Puffy’s role is
small—she appears when Caroline tells Jenny she is saving the shrimp
from her lunch for the cat (Record No. 72) and when Jenny asks Dennis
for his shrimp (Record No. 74)—but she is still given prominence by her
appearance in the list. Sally plays the role in file 2 that Puffy had previously played in file 1. Sally appears in Jenny’s memories of David, complicating their trip to the lake when she escapes from the car. Sally is also the name of Jenny’s aunt, referenced in later versions of *Terminals*, leading us to wonder if this is the origin of the cat’s name. If so, then Sally the cat also serves as a link between Jenny and her family, who frequently appear in her memories.

The story picks up a few months after the party at the Broadthrow home (Record No. 23). Again, the setting is a party, this one a luncheon at a South Bay hotel restaurant in celebration of Tom Broadthrow’s birthday (Record No. 1). Jenny is seated almost alone at the far end of four tables. Most of the celebrating is taking place elsewhere, especially at the first table, where Tom sits at the head. Beyond the main action, Jenny observes and reports what she sees, but, as before, readers can’t completely trust her judgment because she admits, “The things I wrote in the blue notebook didn’t happen in exactly the way I wrote them” (Record No. 11). The use of the past tense—“wrote” and “didn’t”—suggests the stories she relates have already happened. Her thoughts and perspectives speak to what may have been and what never was.

It is Christmas season, and the restaurant is festooned with lights (Record No. 2). Uncle Roger is present, as are other characters from *A Party in Woodside* and a few we have not previously met. Tom, Louise, and the two Broadthrow children are all seated with a new character—Tom’s lawyer, Bob Draper. At the second table, Jack and Rose, who were kindling an affair in *A Party in Woodside*, are now in full flame. Rose’s perfume, which reminds Jenny of her “grandmother’s back yard on an unseasonably hot day in late spring” (Record No. 3), hint at the fecundity and sexuality the couple exudes. Jane, Jack’s wife, is noticeably absent. With Jack and Rose at the second table are Uncle Roger, ridiculously decked out for the holidays in tweed and a “tie with little pink hula girls on it,” and Dorrie (Records No. 3, 4). A third table includes three men in tan suits and another new character, Dennis, a man with a “long ponytail” who Tom has recruited from Albuquerque to solve some sort of crisis at the company (Record No. 4). Relegated to the fourth table with Jenny is Mr. Fukita, a business associate of Tom’s. In this atmosphere of merriment, abounding with balloons and presents (Record No. 5), Uncle Roger takes the role of a raunchy jester, provoking the lawyer with lewd comments about “young boys” and exclaiming about “getting laid” during his trip to Hawaii (Records No. 6, 7).
From her distant place, Jenny catches snippets of conversations: Dennis mentions a bomb to the men in tan suits (Record No. 9); Jack tells Dorrie that Rose picked out the employees’ gift for Tom (Record No. 25); Rose whispers to Jack about the hotel room they booked for the day (Record No. 31). Uncle Roger mysteriously leaves the table, and when Jenny heads to the bathroom, she finds him “lying on the couch … drinking a Bloody Mary” and waiting for her (Records No. 31, 32). They debate the circumstances of her father’s death. Uncle Roger informs Jenny that he “promised” her father he would “watch over” her and that he, not her mother, paid for her college education (Records No. 32, 33). But the real reason for this clandestine meeting is to talk about Jeff and Tom (Record No. 35) and the conflict centering on the chip Tom stole from Jeff (Record No. 55), which Uncle Roger had “knocked off in Haiti” (Record No. 57). We learn that Uncle Roger pilfered it from Tom’s study on the night of the Broadthrows’ party (Record No. 60). The fact that Jeff lost it to Tom in the first place convinces Uncle Roger that Jeff is “not a good businessman” (Record No. 60) and, so, undeserving of Jenny, who has just confessed to her uncle that she may be in love with Jeff (Record No. 59). Uncle Roger gives Jenny the chip and takes her into a bathroom stall to fill her in on the details of his piracy (Records No. 55, 56, 57, 58, 59). Jenny is eventually left splashing water from the sink onto her face and trying to figure out her life.

This lexia is pivotal. Here Jenny confronts her feelings about herself and her future, issues introduced in A Party in Woodside and fully realized as three distinct conflicts in The Blue Notebook. She states her dilemma clearly: “David wanted me to go back East with him. I was having dinner with Jeff next Monday. Uncle Roger wanted me to be a file clerk” (Record No. 70). Jenny’s memories fill in the gaps, showing us why these three issues are causing her anguish. Uncle Roger, though an admitted thief, may have been kind enough to fund her college tuition; David shows up at her doorstep after driving nonstop across the country to rekindle their relationship but still has not been truthful about the relationship with his ex-girlfriend Linda (Records No. 64, 65, 66, 67, 68, 69); and Jeff reciprocated Jenny’s interest with an invitation to visit his office—and with a kiss (Records No. 10, 37, 54). Alone in the bathroom contemplating her life, Jenny’s isolation is evident. When she returns to the party, she is further alienated: Tom invites her to join the family at the first table, but Louise instead chooses to include Mr. Fukita. As Jenny heads back to her end of the table, she leans over and accidentally drops the chip in front of Dennis (Record No. 73), who hands it back to her after inspecting it closely (Record No. 74).
Nested within this action are other plots and storylines, the real and surreal mixed together in an element of “magical realism” (Malloy, 4 July 2015) that keeps us guessing. Perhaps Jenny is not so unlike her uncle. We see her waking at David's messy apartment, the “floor … covered with dirty clothes and empty food wrappers … photos of people’s picnics, weddings, and babies … tacked all over the walls (Record No. 12); discovering a photo of David’s ex-girlfriend Linda in his wallet, tearing it up, and placing it back into the wallet unnoticed (Record No. 16); losing Sally the cat in an episode that also features three women and a bucket of fish (Records No. 17, 18); remembering the shared birthday parties for her grandfather and Uncle Roger where “pointed silver hats” and party favors of “fake dog throw up” were the norm (Record No. 27); having torrid sex with David at his parents’ lake house (Records No. 47, 48, 49, 51). All these episodes ring somewhat strange, hyperbolic. Reports of Somerville being bombed by seven blimps (Record No. 50) are nothing shy of outrageous.

As in file 1, the way in which the story is evoked through keywords reflects the narrator’s fancies, fantasies, and experiences. This time, however, these are told under the conceit of retrospection and are realized through random storytelling. Files 1 and 2 share a measure of the same sketchy truthfulness, the former focused on the fuzzy nature of dreams and the latter on the nature of storytelling. In file 1 the keyword “dreams” evokes twelve records and recalls eight of Jenny’s dreams that. Four of the eight involve sexual fantasies with Jeff and the other four uncomfortable situations with Louise and Tom Broadthrow. In file 2, we find no mention of dreams. Instead Jenny uses the power of the pen and blue notebook pages to tell her tales. Shifting from dreams over which she has no control to imagination over which she has much is significant and speaks to Jenny’s evolution from girl to woman. She reveals her agency when she makes perhaps her most honest statement: “Things I wrote in the blue notebook didn’t really happen in exactly the way I wrote them” [Record No. 11]. “Blue notebook” is a keyword for twenty-one records, eighteen of which evoke conflicts involving David, Sally the cat, and chips. Only three focus on Jeff. These three, however, are the only ones in which the blue notebook appears as both keyword and object in the story. Essentially, Jenny uses the blue notebook to channel her feelings about what bothers her. It makes sense, then, that she puts away the blue notebook once and for all when Jeff discovers her writing in it at his office (Record No. 52). Thus, the writing process provides Jenny the outlet she needs to make sense of her life, especially her relationship with David, the theft of Jeff’s chip, and her feelings about Jeff. Thinking broadly about the many
versions of *Uncle Roger*, we may wonder if Malloy herself tells an essentially inconsistent story—a story whose instability is well suited for the digital format.

The sexual content of Version 3 is graphic, in line with the previous two versions. There was no need for Malloy to tone it down, because the audience buying *Uncle Roger* through *Art Com Catalog* would have been an intellectually curious one, interested in experimental art, accustomed to uncensored work, and inclusive of some of the same people who followed her work online.\(^{17}\)

The fifty-character line length that Malloy followed when programming Version 2 leads to unusual display in Version 3 on the Apple IIe, a popular computer that many of Malloy’s readers would have used. The Apple IIe was one of the most robust computers Apple ever produced, lasting eleven years on the market. It ran the ProDOS operating system and also offered Applesoft BASIC. By the time Malloy began work on *Uncle Roger*, the IIe had been available for over three years. Malloy herself owned an Apple computer but does not remember if it was an Apple II or IIe (Malloy, July 3, 2015). The standard Apple IIe made it possible to use both upper and lower case letters, which we see reflected in Version 3.3 of *Uncle Roger*. This version had forty-character line lengths that could be expanded to eighty.\(^{18}\)

When looking at the lexias on the two Apple IIe computers used for this research, we see that the lines break in ways that make the story difficult to read. For example, Record No. 30 of *The Blue Notebook* displays as follows, with character counts added in parentheses:

| Line 1 | I ate some shrimp. It had been barbequ         | (40) |
| Line 2 | ed in a                                       | (7)  |
| Line 3 | dark red sauce which tasted like those        | (39) |
| Line 4 | spiced meat sticks called “slim jims” w      | (40) |
| Line 5 | hich my                                      | (7)  |
| Line 6 | brother and I used take with us when we      | (40) |
| Line 7 | went out                                      | (9)  |
| Line 8 | in Marblehead harbor in the old rowboat      | (40) |
| Line 9 | .                                            | (1)  |
| Line 10| “Hi, I’m Jake”                                | (15) |
| Line 11| said a man in a tan suit.                    | (26) |

If we render the same passage with lines of up to fifty characters, as Malloy may have done for Version 2, it reads like this:
I ate some shrimp. It had been barbequed in a dark red sauce which tasted like those spiced meat sticks called “slim jims” which my brother and I used take with us when we went out in Marblehead harbor in the old rowboat. “Hi, I’m Jake” said a man in a tan suit.

It is important to note that the word “to” is missing from the line reading, “brother and I used [to] take with us when we went out.” Had it been included, the line would have wrapped even with the fifty-character limit.

In her Pathfinders interview Malloy explained that writing with the fifty-character restriction forced her to become a narrative poet and see her work as poetry (Malloy 2015b). Observing the varying line lengths of Uncle Roger, it is evident that Malloy thought carefully about where lines broke and how the story flowed given the line-length constraint.

While this discussion has focused, thus far, on the literary and artistic contributions of Uncle Roger as one of the first examples of a database novel and a boxed collection of hand-made art, we should also emphasize its contribution as software. Malloy began work on the Narrabase program in 1986. She envisioned the narrabase as “a fictional environment” that allows for “continually searching and retrieving narrative information” (McKeever 2014b). Uncle Roger Version 3.1, the result of these efforts, was released in 1987.

This was a watershed year for authoring software. In 1987 Bill Atkinson released HyperCard, a tool built on the concept of a stack of cards connected through a system of links. HyperCard was bundled free on Macintosh computers and was used for the production of early educational software. Digital literature, such as McDaid’s Uncle Buddy’s Phantom Funhouse (chapter 3), was made with HyperCard. At the Hypertext ’87 conference of the Association for Computing Machinery, Joyce and Bolter presented their paper “Hypertext and Creative Writing,” introducing Storyspace, a hypertext authoring system they created with John B. Smith. Joyce and Bolter also showed an early version of afternoon: a story, Joyce's hypertext novel created with Storyspace. Like HyperCard, Storyspace made it possible for artists to produce interactive and hypertextual fiction where stories unfolded through a system of nodes and links, ostensibly modeling “how we really think” (Bolter and Joyce 1987, 43–44). Over forty works of digital literature were created with this system, two of which are highlighted in this book. Also in 1987, a team at Brown University led by Landow produced Intermedia, an authoring system built with object
oriented programming that allowed for text and graphics to be linked as a “web of information” (Keep et al.). Landow wrote *The Dickens Web* (1990) and *The In Memoriam Web* (1992) using Intermedia. When Intermedia lost funding, both works were migrated to the Storyspace environment, a process undertaken by Robert Arellano (Landow), and republished by Eastgate Systems, Inc.

Even though Narrabase was in production alongside other authoring systems, and Version 3 of *Uncle Roger* was published commercially in the U.S. before any of the other works stemming from experiments with authoring systems (Beren 2014, 340; Grigar and Moulthrop 2015), Malloy has until recently received less attention for these accomplishments than have Landow, Bolter, Joyce, and others. However, she is well-established as an experimental artist for her artists’ books, one-off works involving such output as a hand-drawn map (*Map*, 1976), a quilt comprising xeroxed drawings (*March at Last*, 1976), a card catalog (*The TV Blew Up*, 1980), and a battery-operated address book (*I Don’t Care if I Never Get Back*, 1985). Her investigations befit the communities nurtured by the Art Com Electronic Network, a West Coast crowd decidedly different from more academic colleagues back east. Even her connection to *Leonardo* placed her in an orbit different from those of digital writing more widely. *Uncle Roger* has been exhibited since 1987 and, as we have seen, collected by the Museum of Modern Art/Franklin Furnace Artist Book Collection.

It was when Malloy shifted her mode of production and distribution, creating the third version of *its name was Penelope* in Storyspace and selling it via Eastgate Systems, Inc., in 1993, that she put herself squarely into the scholarly universe of early digital literature and the conversations surrounding hypertext theory and practice (see Bolter 1991; Landow 1992). Certainly, Malloy deserves to be acknowledged now for her pioneering contributions to electronic literature and computing.

**Version 4: Standalone Artists’ Software for IBM Compatible Computers**

In 1988 Malloy translated the code for Applesoft BASIC into GW-BASIC in order to make a version of the *Uncle Roger* boxed collection for IBM-compatible computers, which some gallery managers and festival curators were using. Malloy herself had made the leap to the IBM 286 (Malloy, email to Grigar, July 3, 2015). This version of *Uncle Roger*, 4.1, was not meant to be sold but rather given away (Malloy, email to Grigar, May 25, 2015). One copy is held at Duke; another, possibly originally belonging to Loeffler (Malloy, email to Grigar, May 27, 2015), resides at the Media Archaeology
Lab (MAL) at the University of Colorado Boulder. No other extant copy is on record, and Malloy has not discussed this work in the same detail as other versions.

Malloy remembers Version 4.1 having much the same content as Version 3.3, possibly with some small edits (McKeever 2014a). Unlike Version 3.3, where each file was saved on its own disk, this version featured all three files on the one floppy disk, sharing an “overarching menu” (Malloy, email to Grigar, May 25, 2015). Screenshots provided by Lori Emerson, director of MAL, only include records from *A Party in Woodside* and show the similarity in content between the two versions (figure 2.6). However, unlike Version 3 published as three files, Version 4 was structured like Versions 1 and 2 with all three files organized into one interface.

Malloy’s code for the directory clearly shows that all three files were programmed on the disk, located at lines 540, 550, and 560 of the code:

```plaintext
100 REM Uncle Roger PC Version
110 REM Copyright Judy Malloy 1988
350 FOR x = 1 to 10
400 SOUND 100, .01
410 SOUND 40, .01
415 SOUND 32767,1
420 NEXT x
500 FILE$ = “TITLE”
```

![Figure 2.6](image)

Introduction to Version 4.0 of *Uncle Roger*.
510 GOSUB 700
512 FOR x = 1 TO 10000: NEXT x
520 CLS: FILE$ = “MENU”
530 GOSUB 700
535 PRINT: INPUT ” ? “, C$
540 IF C$ = “1” THEN CHDIR “party”: CHAIN “PARTY.BAS”
550 IF C$ = “2” THEN CHDIR “blue”: CHAIN “BLUE.BAS”
560 IF C$ = “3” THEN CHDIR “terms”: CHAIN “FILE3.BAS”
565 IF C$ = “stop” THEN GOTO 900
570 IF C$ = “STOP” THEN GOTO 900
580 PRINT “You typed “; C$:PRINT “Please try again.”
585 FOR X=1 TO 10000: NEXT X: GOTO 520
690 END
700 REM FILE PRINTING SUB
710 OPEN FILE$ FOR INPUT AS #1
720 WHILE NOT EOF (1)
730 LINE INPUT #1, LINES$
740 PRINT LINES$
760 SOUND 100,.01
770 SOUND 40,.01
780 SOUND 32767,1
790 FOR A=1 to 500: NEXT A
800 WEND
810 CLOSE #1
820 PRINT
830 PRINT
840 RETURN
850 END
900 REM end
904 FOR x = 1 to 5
905 SOUND 100,.01
910 SOUND 40,.01
915 SOUND 32767,1
920 NEXT x
930 FILE$ = “title”
940 GOSUB 700
950 LOCATE 10,10: PRINT “THE END”
960 FOR x = 1 to 10000: NEXT x
As mentioned, the structure of Version 4.1 recalls that of Versions 1 and 2, where multiple files shared a common menu (Malloy 2015d). We know that Malloy later used the programming from this version of *Uncle Roger* for Version 6, the DOSBox emulation, so we can ascertain that *A Party in Woodside* and *The Blue Notebook* functioned as databases involving two keywords, and *Terminals* remained a generative text with a fixed beginning and ending.

The introductory screen for *A Party in Woodside* 4.1 is identical to that of Version 3.3. In fact, the screenshots of the ten records provided us from Version 4.1 (Records No. 4–5, 12, 32–38) show a work exactly the same as Version 3.3, including the broken lines caused by the fifty-character restriction. If indeed Malloy made edits to this version, we cannot know exactly what they are without a copy of the floppy disk.

**Version 5: Uncle Roger on the Web**

In 1993 Apple discontinued production of the Ile, and by the mid-1990s 5.25-inch floppy disks disappeared altogether from the market. This period also saw the introduction of browser software, a technology that made it possible to “surf” the World Wide Web to sites displaying color images, static and animated. By 1995, 16 million users worldwide were going online (“Internet Growth Statistics”). In comparison, The WELL’s usership amounted to 5,000–16,000, according to various sources.20 Recognizing what the Web had to offer to artists, Malloy created a fifth version of *Uncle Roger* in HTML and published it via The WELL in 1995, the first year the community opened its doors to websites (Pernick 1995). Updated in 2012 and again in 2015, this version is, according to Malloy, “the authorized text of the work” (Malloy, email to Grigar, June 25, 2015) and constitutes the version used by scholars for criticism and analysis of the work for the last twenty-two years.
The status conferred on this version, over the four previous, makes sense in light of the robustness of Web technology. Versions 3 and 4 were only accessible for about eight years. Approximately twenty copies of Version 3.3 were sold (Malloy, email to Grigar, June 13, 2015). We have no way of knowing how many copies of Version 4.1 Malloy produced, though we can estimate based on the number of exhibitions in which *Uncle Roger* was shown. Version 5, by comparison, has been readily available for over twenty years. With the exception of a new title page and introduction in 2012 (Version 5.2) and a revision to its metadata in 2015 (Version 5.3), the work remains as it was produced in 1995, unaffected by current browsers optimized for the fifth formal revision of Hypertext Markup Language, HTML5. The ubiquity and pervasiveness of the Web make Version 5 far easier to access than previous editions. Its potential audience is staggering: in 1995 less than 1 percent of the world’s population used the Internet daily; as of this writing, the number has risen to about 40 percent, or roughly 3.5 billion people (“Internet Live Stats”). There is no need to travel to Duke to read the print-out of the serial novel or to track down a vintage computer, much less find a copy of the database novel on floppy disks. Version 5 also took advantage color and images, made possible by the graphic user interface of the Web browser.

This version also has much more space for displaying text than did its predecessors. Obviously, book pages have a fixed physical boundary, but even digital technologies such as PicoSpan constrained Malloy to a fifty-character column length with between one and eighteen lines per screen. The Apple IIe forced text to break at forty or eighty characters, with a maximum of twenty-six lines per screen. The Web browser, however, is different. One can produce a webpage with words that go on and on, allowing readers to scroll seemingly forever. The only limitations center on design considerations, server capacity, and readers’ patience. The Web’s linking feature also condenses the actions required to access lexias into a simple click on a word in the navigational menu. Versions 3 and 4 of *Uncle Roger* required readers to query the system with a keyword, then wait for the next screen, possibly add a second keyword, then wait for the screen containing the first lexia associated with the relevant keywords. Cutting the number of steps between reader and text down to one click makes for a more immediate reading experience.

Version 5, like all versions besides 3.3, unites the three files into a single interface with a shared menu (figure 2.7). Different, however, from all other versions is the use of color and graphical elements for navigation. The layout, divided into two parts, offers a menu on the left of the screen.
containing an artist’s statement, background on the story, and access to a BASIC version created for the DOSBox emulator. Arranged vertically in the middle of the screen, in order from file 1 to file 3, we find *A Party in Woodside*, *The Blue Notebook*, and *Terminals* represented by both a graphic image and text. Visitors to the website simply click on one or the other to access the story.

Clicking on file 1 of *A Party in Woodside* takes readers to its opening page, where they encounter a list of fifteen hyperlinked words and an image of a wine glass filled with red wine. This image represents Jenny’s words, “I drank too much red wine,” encountered in the previous versions of the story. Each word in the list, if selected, takes readers to a screen that features a lexia with an accompanying image. Selecting “Louise” from the list of words on the opening page, for example, takes readers to this lexia:

When the party began, the plastic cover was removed from the white couch. Mrs Broadthrow was wearing a lime green silk suit that I had just picked up for her at the cleaners. Her blouse was white silk with a plunging neckline. Gold earrings framed her finely chiseled face. Her name is Louise.
To the left of the lexia is again the image of a wine glass. At the bottom of that lexia we find the navigational menu of twenty-one words, with four of these, including “Louise,” hyperlinked. Choosing “Louise” from that list or clicking on the image of the wineglass takes readers to a new lexia pertaining to Louise. The two choices for navigating through the story—the hyperlinked words at the bottom of the screen and the image—recall the two-keyword search combination of the database narrative that constitutes both Versions 3 and 4.

In Version 5 Malloy brings back all twenty-one keywords from Version 3.3 as well as one omitted—“family.” Five keywords listed in Version 3.3’s opening screen are excluded from Version 5’s—“Miss Gorgel,” “Mark,” “Caroline,” “David,” and “Rose”—but, thanks to the limitless space Malloy has to work with, are listed in the navigational menu at the bottom of the screen.

The structure of The Blue Notebook differs from that of A Party in Woodside. Malloy uses only images for navigation—gone are the textual links. Though Malloy had used graphic icons previously for The Woodpile, the artwork she produced as a card catalog in 1981 (McKeever 2014b), the addition of images to Uncle Roger in the Web version suggests a major change. Until this time the work had been expressed almost exclusively in words, with just one ASCII graphic found in its introductory screens. The inclusion of graphic images and use of graphical elements as hyperlinks were both innovative because early Web pages tended to comprise primarily text. The first Web pages, published in 1991, were “exclusively textual” because of speed constraints imposed by dial-up modems. By the mid-1990s, graphical elements had made their way into Web design (Kelly 2013), but Malloy’s application of them was unusual for 1995.

Another change in the Web version involves the way readers can search the work. Whereas before they could search one to two keywords for records, now readers had three graphical choices for navigating the story. As Malloy writes:

There is a difference between the Boolean searches allowed in the early versions of Uncle Roger and offering multiple link choices in the Web version. Boolean searches combine the links, for instance searching for Jenny and Chips produces only lexias in which both these words are applicable in each lexia; in contrast, hypertextual links generally only offer a choice of paths. You can’t search these paths simultaneously. (Malloy, email to Grigar, August 30, 2015)

Clicking on the image or words listed with The Blue Notebook, for example, takes readers to the first lexia:
I was down at the end of the last table. There was no one to my right and no one across from me. It was Tom’s birthday. He was at the head of the table. Louise was sitting at his right. We were sitting at four tables pushed together in a restaurant in a hotel just off the highway that runs down the East side of the South Bay. (Record No. 1)

To continue the story, readers choose from images of the filled wine glass, a man’s white tie (with a pink and blue design), and waves of water against a blue background. Clicking on any of these images, which surround the text, takes readers to a new lexia with the same layout. Besides these, readers also encounter images of a coffee cup, a man’s pink tie (with a white and blue design), and waves of water against a black background. All six images function as navigational mechanisms.

To access *Terminals*, readers click on the image of a computer keyboard or the name of the story and are taken to a screen showing the image of the keyboard below the first lexia:

In the room where I work, there are about twenty desks, called “stations”. A computer takes up most of the space at each station. Each computer has a black screen which rests on a gray case, and a keyboard which is attached to the computer by a cord, like those cords which hold the two pieces of telephones together. They call the computers “terminals”.

It is interesting to note that Malloy retains the forty-character line length in this lexia. However, accessing the story differs widely from previous versions. To navigate the story in Version 5, readers click on the keys of the keyboard. Because the keys are not lettered or numbered, readers have no idea what lexias they will be evoking when clicking on the keys. This design is intended to simulate the way the random generator worked in previous versions of *Terminals* (McKeever 2014b). The layout of *Terminals* Version 5 also differs from that of the previous two files. Where *A Party in Woodside* and *The Blue Notebook* are centered, *Terminals* is left justified.

In terms of the story, an examination of Versions 3.3 and 5 provides insight into the way Malloy edited her work for the Web and leveraged it to create an enduring legacy for *Uncle Roger*. The main changes seem to focus on broadening the appeal of the story to the larger Web audience, one that
differs from The WELL’s, who were, for the most part, “baby boomers in their late 30s and early 40s, smart and left-leaning without being self-consciously PC, mostly male, many with postgraduate degrees” (Hafner, 1997). Now *Uncle Roger* could be read by millions of people who might not be open to a story with graphic lovemaking and references to incest and pedophilia. Sexual content is toned down considerably in Version 5. Jenny also comes across as less insecure and tormented by nightmares, and Louise loses the pettiness and meanness she displayed toward Jenny in Version 3.3. In Version 5 Louise is simply cool and professional toward her.

In considering Malloy’s revisions to the story’s sexual content, it is important to note that she is a living writer, actively working to maintain her legacy. This much is clear in the way she has tended to the migration, emulation, and collection of her work, especially *Uncle Roger*. Her changes mark shifting societal views, but more importantly they represent changes authors can make anytime they wish. Such is the nature of creation. Because the Web provides a surface on which the things we write can always be in development, it encourages impermanence—what Landow described as lack of “fixity” (Landow 1992, 59). What is written one day can be overwritten the next. We may find that when this book is published, everything we have written about Malloy’s Version 5 could be woefully out of date because Malloy has changed the work.

Examples of the toned-down sexual content are seen in lexias 1, 17, and 70, when Jenny dreams about making love with Jeff:

<table>
<thead>
<tr>
<th>Lexia 1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Version 3.3</th>
<th>Version 5.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>I drank too much red wine.</td>
<td>I drank too much red wine.</td>
</tr>
<tr>
<td>The Broadthrow’s party is looping in my mind,</td>
<td>The Broadthrow’s party is looping in my mind,</td>
</tr>
<tr>
<td>nested with brief dreams and nightmares.</td>
<td>nested with brief dreams and nightmares.</td>
</tr>
<tr>
<td>I dreamed that Jeff and I were in bed.</td>
<td>I dreamed that Jeff and I were in bed.</td>
</tr>
<tr>
<td>He was running his hands up and down my body.</td>
<td>He was running his hands up and down my body.</td>
</tr>
<tr>
<td>He put his tongue in my mouth.</td>
<td>He put his tongue in my mouth.</td>
</tr>
<tr>
<td>His hands were on my nipples.</td>
<td>His hands were on my breasts.</td>
</tr>
<tr>
<td>He ran his fingers down the inside of my thighs.</td>
<td>He ran his fingers down the inside of my thighs.</td>
</tr>
<tr>
<td>But in the morning, he wanted fruit for breakfast.</td>
<td>We made love.</td>
</tr>
<tr>
<td>I didn’t have any fruit.</td>
<td>In the morning, he wanted a cheese omlette,</td>
</tr>
<tr>
<td>There was some broccoli behind the cookbook ooks,</td>
<td>but there was no cheese in the refrigerator.</td>
</tr>
<tr>
<td>but when I pulled it out,</td>
<td></td>
</tr>
<tr>
<td>it was covered with cockroaches.</td>
<td></td>
</tr>
</tbody>
</table>
In this dream, I was on a Pullman train with Jeff. It was like the train I took to Washington, DC with my Mother and Aunt Sally when I was in Junior High. Jeff and I were in the top bunk which was very small. He was biting my nipples. I put my hand on his cock. It was dark, and the train rocked gently on the tracks as it moved swiftly along toward San Francisco.

---

I dreamed that Jeff and I were lying on the sand beside the water on a small island in Trinnywind Harbor. I had taken off my bathingsuit and was lying on my stomach. Jeff was rubbing suntan oil on my back and down the backs of my thighs. He squeezed the bottle hard. A lot of suntan oil gushed out, and he gently guided it down my ass with his fingers. Then, he turned me over.

---

<table>
<thead>
<tr>
<th>Lexia 17</th>
<th>Lexia 70</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Version 3.3</strong></td>
<td><strong>Version 5.3</strong></td>
</tr>
<tr>
<td>In this dream, I was on a Pullman train with Jeff. It was like the train I took to Washington, DC with my Mother and Aunt Sally when I was in Junior High. Jeff and I were in the top bunk which was very small. He was biting my nipples. I put my hand on his cock. It was dark, and the train rocked gently on the tracks as it moved swiftly along toward San Francisco.</td>
<td>In this dream, I was on a pullman train with Jeff. It was like the train I took to Washington, DC with my Mother and Aunt Sally when I was in Junior High. Jeff and I were in the top bunk. I put my hands on his body. It was dark, and the train rocked gently on the tracks as it moved swiftly along towards San Francisco.</td>
</tr>
<tr>
<td>I dreamed that Jeff and I were lying on the sand beside the water on a small island in Trinnywind Harbor. I had taken off my bathingsuit and was lying on my stomach. Jeff was rubbing suntan oil on my back and down the backs of my thighs. He squeezed the bottle hard. A lot of suntan oil gushed out, and he gently guided it down my ass with his fingers. Then, he turned me over.</td>
<td>I dreamed that Jeff and I were lying on the sand beside the water on a small island in Trinnywind Harbor. I had taken off my bathingsuit and was lying on my stomach. Jeff was rubbing suntan oil on my back and down the sides of my thighs. This is listed as no 73; not listed as #70. This one is #70: The swimming pool in my dream was surrounded by an ivy covered fence and large maple trees. The grass was bright yellow-green. Jeff tossed me the beach ball. I dropped it.</td>
</tr>
</tbody>
</table>
Lexia 1 is the first evoked when querying or linking to the keyword “Jenny.” In both Versions 5 and 3.3. While both describe Jenny and Jeff making love, the line “his hands were on my nipples” is missing from Version 5. “Nipples” is a more specific and erotic part of the body than “breasts,” which may explain why the line is cut. In lexia 17 of Version 3.3 we find the two lines, “He was biting my nipples. / I put my hand on his cock.” In Version 5 Jenny and Jeff still make love, but now lovemaking is only suggested by circumstance—the characters are alone in a “bunk” in the “dark”—and the line, “I put my hands on his body.” In Version 3.3’s lexia 70 Jenny and Jeff engage in foreplay on the beach; he rubs her “ass” with “suntan oil” and then “turns her over.” In the corresponding lexia in Version 5, Jeff rubs the “oil” on Jenny’s “back” and “thighs.”

We also see significant changes to Uncle Roger in Version 5. Notably missing are allusions to pedophilia and incest found in lexias 5, 11, and 34 of Version 3.3. The first two of these recount a story Jenny heard from her cousin Anne about Uncle Roger, which may not be true. The third is reported, firsthand, by Jenny herself, who, as we know, is not a reliable narrator. The rumors about Uncle Roger may well be hearsay, but even so, this kind of behavior is not even raised in Version 5.

| Lexia 5 |
|---|---|
| **Version 3.3** | **Version 5.3** |
| One night, at his summer house, in Cape Cod, he tried to get into bed with my cousin Anne. My mother thought he was sleep walking, but I didn't, because when I went out to the bathroom, Uncle Roger was standing by the fire, smiling—with not hing on but a Dartmouth sweatshirt and a big hard. | I remembered a round tray of buffalo chicken wings on a marble coffee table, beside a silver candle holder bearing pink candles. Uncle Roger eating chicken wings, one after another, putting the bones in a small pile beside coffee table books about Michelangelo and Rembrandt. |
Uncle Roger usually wears tweed suits which look like he has had them for a long time. He is short and pudgy, and when I was younger I thought his briefcase was glued to his right hand. Although they were brothers, Uncle Roger is nothing like my father who died in a car crash on route 128 when I was 7. My cousin Anne who sometimes exaggerates, say Uncle Roger tied her to a bed once. It was one of those beds with pineapples on the bedknobs. He tied her hands and feet too the pineapples. Then he said, “take off all your clothes.”

---

My Grandfather Grandy is the other Clark in Clark. Grandy speaks Latin fluently and remembers things about the Greek and Persian Wars. That I have already forgotten even though I majored in history. He asks me questions like “What do you think of Cesare Borgia?” Uncle Roger asks questions like “Have you ever seen a grown man’s penis?” Or, “What do you do with boys now, Jenny?”
In lexias 5 and 11 of Version 3.3, we are told that Uncle Roger tried to get into bed with Anne and, later, “tied” her “hands and feet” to the bed-post with the (impractical) idea of having her strip naked for him. We are not certain of the relationship between the two; she may be his niece or his daughter. Neither of these passages is found in Version 5. Substituted are more benign descriptions of Uncle Roger playing with his food and his admission that he wished trains served martinis since he “lives” on them. Lexia thirty-four has Uncle Roger asking Jenny the inappropriate question about whether she had “ever seen a man’s penis” and what she is doing with “boys now.” In Version 5.3, these shift to expression of interest in a woman he notices. Though Uncle Roger’s question is not completely innocent—asking a young relative if she “know[s] the name of [a] woman” who may not be “wearing a bra”—he comes across more as libidinous than disreputable.

The keywords in the HTML source code for Version 5.2 examined in August 2015 demonstrate that Malloy did not intend to shy away from sexual content entirely:

```
<META NAME="keywords" CONTENT="hyperfiction,electronicliterature,narrative database, Silicon Valley, sex, unpredicatablerelatives, California culture, microelectronics, chip culture, industrial espionage, narrabase">
```

“Sex” is the fifth of eleven keywords. However, the sex that we encounter in Version 5 is less graphic than that of Version 3, suggesting that Malloy strove to make Uncle Roger acceptable to a more mainstream audience.

Looking at the same meta-tags in March 2016, we find the word “sex” eliminated from the list. Malloy says of the change in sexual content:

In 1995, when I transferred the text to the Web, I thought that the sexually explicit dreams which pervade the narrative were unexpected on the Web and would be taken out of context in the cluttered Web environment, where only a few screens are sometimes read, and (at that time) suddenly the audience was the general public.

I do not think it was a mistake to change the text for the Web version at that time. ... The issue of the public literature of the Web versus the literature of small presses is cogent. Perhaps one might look at the difference between Mark Amerika’s Sexual Blood and his Grammatron. Or even some of the passages in Victory Garden as opposed to what Stuart [Moulthrop] writes on the Web. (Malloy, email to Grigar, July 4, 2015).
We can also relate the sexual content to the fact that “scene-based Renaissance comedy was influential not only in the method but also in the ‘jig’ content that sometimes occurs in *Uncle Roger*” (McKeever 2014b).

Also changed in Version 5 are Jenny and Louise. Gone are the nightmares Jenny experiences in lexias 18 and 51 of Version 3.3, which portray her as tormented and fragile.

### Lexia 18

<table>
<thead>
<tr>
<th>Version 3.3</th>
<th>Version 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>There was a gangster on the train because we had stolen some money that was really ours from his safe. He knew Jeff and I were in there, in the compartment on the train. The gangster had connections with all the banks so we couldn’t deposit the money when we got to San Francisco. He knew all the landlords, too, and he kept in touch with them with his computer.</td>
<td>I dreamed that Jeff and I were standing in a shallow pool. The water came up to our waists. Along the edges of the pool were blue green tiles with handpainted pictures of birds and fish and flowers. Jeff was holding a multicolored beachball in his hands. I was wearing an old blue bathing suit that was a little too small for me.</td>
</tr>
</tbody>
</table>

### Lexia 51

<table>
<thead>
<tr>
<th>Version 3.3</th>
<th>Version 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I dreamed that Jeff and I were at a party on a cruise ship. Rows of glasses shone in the sun on the shelves of the ships’ mahogany bar. I was disguised as a cigarette girl. When I went to the bathroom, the gangster was there. He was big and dark, he didn’t have any face. He ripped the cigarette tray from my chest. I was wearing a shiny green bathing suit. He pulled me roughly to him and pulled down the top. “Do you know Jeff Gallagher?” I asked Jane. “A nice, solid guy,” said Jane. “Have you heard anything from David?” she asked, looking at me seriously over the tops of her glasses.</td>
<td>I dreamed that Jeff and I were at a party on a cruise ship. Rows of glasses shone in the sun on the shelves of the ship’s mahogany bar. I was disguised as a cigarette girl. When I went to the bathroom, the Secretary of Defense was there. He helped himself to a cigarette. I was wearing a shiny green bathing suit. “Do you know Jeff Gallagher?” I asked Jane at the party. “A nice, solid guy,” said Jane. “Have you heard anything from David?” she asked, looking at me seriously over the tops of her glasses.</td>
</tr>
</tbody>
</table>
In Version 5, the nightmare involving the gangster and the frustration of not being able to deposit the money she and Jeff stole from him is replaced by a more pleasant memory of Jenny and Jeff playing in a pool together. That the bathing suit was “a little too small” speaks to insecurities, but certainly this dream depicts a far less anxious Jenny than the one suggested in Version 3.3. In that version Jenny’s nightmare about the gangster continues in lexia 51, when he gets violent with Jenny, “rip[ping] the cigarette tray” from her “chest” and “pull[ing] down the top.” Version 5 shifts from nightmare to dream, with the gangster replaced by the “Secretary of Defense.” Jenny is still wearing a “green bathing suit,” but this time there is no mention of its improper fit or of the man accosting her. The subsequent exchange between Jenny and her friend Jane reminds us that Jenny is still bothered by her unresolved conflict with ex-boyfriend David, but her worries play out in her sleep with less violence in Version 5 than in Version 3.3.

Finally, the formerly jealous, mean-spirited Louise becomes simply indifferent to Jenny. Lexias twenty-one and sixty-five exemplify this transformation:

<table>
<thead>
<tr>
<th>Lexia 21</th>
<th>Version 3.3</th>
<th>Version 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Broadthrow was in Colorado Springs when Jeff Gallagher picked us up— Louise, Caroline, Mark, and me— at the San Francisco airport two weeks ago. Louise did not introduce me. “Mark, you may sit up front with Jeff and me,” she said. I reached for the back door handle. Jeff was there first. He opened the door. “How do you do? I’m Jeff,” he said. “I’m Jenny,” I stammered, tripping over my pocketbook as I followed Caroline into the back seat. “Our babysitter,” said Louise.</td>
<td>Tom Broadthrow was in Colorado Springs when Jeff Gallagher picked us up — Louise, Caroline, Mark, and me — at the San Francisco airport two weeks ago. Louise did not introduce me. I reached for the back door handle. Jeff’s hand was there first.</td>
<td></td>
</tr>
</tbody>
</table>
In lexia 21 of Version 3.3, Louise relegates Jenny to the backseat of the car, favoring instead her husband, Jeff, and sixteen-year-old son. In Version 5 there is no mention of seating arrangement. Thus, the edit eliminates Louise's poor treatment of Jenny, and the scene focuses, instead on Jenny and Jeff's first encounter. In Version 3.3 of lexia 65 Louise interrupts Jenny and Jeff's conversation at the party, “suddenly standing over them” and telling Jenny to take Caroline to bed. Louise quickly shifts her attention to Jeff, telling him that she wants to introduce him to “some people.” The suggestion here is that she purposely breaks up the conversation, perhaps discounting Jenny as someone with whom Jeff may—or should—enjoy meeting and talking. Louise comes across differently in Version 5. The addition of the first two sentences contextualizes the situation and explains that Louise may have been anxious about Caroline's bed time. In any case, it is clear that Louise considers Jenny an employee rather than a guest at the party.

In Version 5 of *Terminals* we learn that Jenny has left her job as Caroline's babysitter and now works for a word processing firm on Embarcadero Square in San Francisco, where she—along with a pool of a lot of other women—watches the clock and struggles to enter data properly on the computer. Even though Jenny has left the Broadthrow home, she remains embroiled in the scheming surrounding BroadthrowMicro. Her continued involvement with Tom and Louise gains her an invitation to their residence for a Christmas party, where much of the action in *Terminals* takes place. Like the gathering in *A Party in Woodside*, this party is also lively and full of intrigue—and food. We find cookies “shaped like stars” on “silver plates,” cakes, and cheese balls.

Memories of her family enter in and out of the narrative: their hemlock Christmas tree, her mother's red candles, and her brother eating popcorn from the bowl they shared. David, her former lover, appears in her mind like a specter. She remembers him talking about the studio
he had been crashing at, a memory that gives way to other memories unassociated with him. Uncle Roger figures importantly in *Terminals*, remaining the center of conflict involving the pirated chip. Though he fails to convince Jenny to work at his company, Clark and Clark, he tries to urge upon her romance with one of his successful young business associates. The word “chip” takes shape in Jenny's mind as “Hawaiian potato chips,” as “Haitian chips,” as Jeff's pilfered chip. At some point during the party, Jeff storms into the house angry about the stolen chip. He attacks Tom and slugs Uncle Roger, bruising his face. Jenny recalls making love to Jeff in a room, at “an old fort overlooking San Francisco Bay” and in a “shallow pool” of water.

The drudgery Jenny experiences in her job feeds her dreams. In one, she finds herself in a room with concrete walls. She thinks of her old house, her trip back home to Boston with Uncle Roger, her mother's car with the broken heater. Jenny recounts a dream where she and Jeff encounter a sleeping lion. She remembers Uncle Roger’s admission to Jeff that he has the chip. Readers might evoke one lexia after another, repeating some memories, encountering others only once—or never—until they come to one that forces them to rethink their opinion of Uncle Roger: at the airport he reveals to Jenny that he has signed over to Jeff the company he built from pirating his chip. Uncle Roger’s last words, which end the story, are “Merry Christmas!” “Pudgy” and jolly, though hard-drinking and libidinous, Uncle Roger is Santa Claus for a late twentieth and early twenty-first century audience apparently comfortable with intellectual property pirates as antiheroes.

We do not know the outcome of Jenny's romance with Jeff, but that does not seem to be the point of the story. What we really come to understand is that Jenny is able to move forward with her life. She is able to adapt to the West Coast, land one job and then a second, leave an unhealthy relationship and risk herself for one that may turn out better. Once an employee in the Broadthrow home, by the end, she is a guest. She comes to some resolution with Uncle Roger. She is his confidant, privy to espionage and piracy without losing her cool. The story may be named after the man, but it belongs to the woman who grows up before our eyes and begins to understand the complexities of life.

**Version 6: The DOSBox Version**

In 2012 Malloy created an edition of Version 4 in DOSBox, an emulator of the Disk Operating System (DOS) that makes it possible to “re-live”
vintage media built for platforms now outdated ("DOSBox," 2015). The point of an emulator is to “duplicate features of one computing system using the resources of another so as to imitate behaviors of the first system as closely as possible” (Harpold 2009, 4). With DOSBox readers of Version 6 experience the IBM-compatible system for which the database narrative of Version 4 was built. As discussed earlier, Version 3, specifically Versions 3.1–3.3, was originally built for the Apple IIe in Applesoft BASIC, but Malloy found she needed a version of Uncle Roger that could be shown in exhibitions where IBM-compatible computers were used, so she converted the files to Microsoft’s GW-BASIC. That version of the work, we argued earlier, constitutes Version 4.1. Because DOSBox uses this same dialect of BASIC, the emulation of Uncle Roger available through the Uncle Roger website is actually developed from Version 4.1 (Malloy, email to Grigar, July 4, 2015).

But there is more going on than merely translating Uncle Roger from standalone artists’ software running on a 5.25-inch floppy disk to an emulator. Malloy uses the Version 5 text, rather than that of version 4.1, for the emulation (Malloy, email to Grigar, July 4, 2015). Thus both A Party in Woodside and The Blue Notebook function as database novels with the two-keyword search, and Terminals remains a generative text in which readers encounter random lexias along with a fixed beginning and ending lexia. The content has changed, but the functionality has not, perhaps reflecting her interest in toning down later versions. The DOSBox emulator is made available for download from the website that also contains Version 5, so it makes sense that both versions have the same content. Essentially what Malloy did to produce Version 6 was replace Version 4.1 content with Version 5 content, while retaining Version 4.1 programming.

While Malloy provides detailed directions for how to set up the emulator, the activity still requires a fair amount of comfort with a terminal emulator and the command shell of a computer. After mounting DOSBox and Uncle Roger, readers are taken to the opening screen, where the menu is displayed. As the program loads, the emulator treats readers to the whirring of a computer loading the program, a sound that captures, to a certain extent, the experience of reading the story on a vintage machine. Along with sound, a title produced in ASCII appears briefly before readers are taken to the opening screen (figure 2.8).

The screen contains the menu, which presents the title and author and the first line from Record No. 1 of A Party in Woodside. Next is the list of three files followed by simple directions for reading the story. Typing “1” takes readers to the opening page of that file, where they find twenty
keywords in lower-case letters arranged in three rows of seven, seven, and six (figure 2.9). Choosing “jenny,” readers are asked if they want to combine this keyword with another. Typing “no,” results in the program taking readers directly to a lexia. All the while, the emulator continues its whirring noises as each file loads.

Since Version 6 borrows the database narrative structure of Version 4 as it was articulated in GW-BASIC, we can get a sense from the emulation of what Version 4.1 may have entailed. Furthermore, comparing Version 6.1 with others—Versions 3.3 and 5.3—also may provide insights into Version 4.1. For example, we see that the opening screen of Version 6.1 is missing the contextual information provided in Version 3.3. This information is also missing in Version 5 and its updates, where readers are taken to an opening screen with fifteen keywords and directions for reading the story. Version 6.1 offers twenty keywords, the same as Version 3.3 but arranged differently; the earlier version has four rows of five instead of three rows of seven, seven, and six. More importantly, Version 6.1 does not require readers to combine a second keyword with “jenny,” as in Version 3.3, where all action involving others—people, places, and things—is predicated on what Jenny wants to share about them and on her perspective about their contribution to the story. In a sense Version 3.3 confers upon Jenny a primacy not

Figure 2.8
Opening screen of DOSBox Emulation of Uncle Roger.
reflected so firmly in the versions that follow. True, Jenny’s name appears first on the list for all versions of Uncle Roger, but her role as storyteller stands out most in Version 3.3.

Another notable difference, one that improves upon the reading experience of Version 3.3, is the extended line length. As pointed out previously, Malloy had created the interactive narrative of Uncle Roger—that is, Version 2—with a fifty-character line length as required by ACEN Datanet’s system. The Apple IIe, however, came standard with a forty-character column length. When Malloy created Version 3, the line length programmed in Version 2 persisted, causing lines to break in Version 3.3 in odd ways. Record No. 1 in Version 3.3, for example, reads:

I drank too much red wine.
The Broadthrow’s party is looping in my
mind,
nested with brief dreams and nightmares.
I dreamed that Jeff and I were in bed.
He was running his hands up and down my
body.
He put his tongue in my mouth.
His hands were on my nipples.
He ran his fingers down the inside of my thighs.
But in the morning, he wanted fruit for breakfast.
I didn’t have any fruit.
There was some broccoli behind the cookbooks,
but when I pulled it out,
it was covered with cockroaches.

Line two breaks after the word “my,” pushing “mind” to its own line. Lines five, eight, nine, and eleven also feature unusual breaks, with line eleven breaking “cookbook” not between syllables but between letters in the same syllable.

In Version 6.1, the odd line breaks are gone:

I drank too much red wine.
The Broadthrow’s party is looping in my mind,
nested with brief dreams and nightmares.
I dreamed that Jeff and I were in bed.
He was running his hands up and down my body.
He put his tongue in my mouth. His hands were on my breasts.
He ran his fingers down the inside of my thighs.
We made love.
In the morning, he wanted a cheese omelette,
but there was no cheese in the refrigerator.

The story flows, and lines end in logical places, marked by commas and periods.

Emulators provide an important service by allowing readers access to works that otherwise may not be available—certainly DOSBox emulation enables readers a sense of how the story in Version 4 unfolds as a database narrative. However, emulators cannot completely capture the cultural experience of the original. They offer translations and, as such, betray a work as much as they support it. As William Weaver writes in a contribution to the collection *The Process of Translation*, “There are no perfect solutions. You simply do your best” (Weaver 1989, 119). The clever adage, *Traduttore e traditore*, suggests that no matter how hard a translator works to recreate the original experience, he or she is always on some level a traitor to the text (Keeley 1989, 54).

What of *Uncle Roger* has been betrayed when emulating Version 4? Missing from Version 6.1 are the green ASCII letters of the IBM 286 and green monitor of the Apple IIe (figure 2.10)—the one reflected in the story Jenny
tells and the one with which readers were well familiar and may have been using themselves. Missing also is the computer itself, whose design acted as a breadcrumb linking the physicality of typewriters and paper to the ephemeral world of digital information. The heavy and dull tan cases of these early computers have given way to the sleek, silver bodies of contemporary laptops. Even on today’s desktop, with its large-screen monitor, emulators are noticeably small and strange, like aliens from another world. One can enlarge the screen by pressing the alt + enter keys, but this function is not listed in the directions; readers would have to know about it by some other means.

Those of us who make art on computers may not be aware that what we create is framed by the material surrounding it. Taking the work out of the frame is like moving it into another context that may not correlate with the work, may not help with its translation for a new audience. For a work such as Uncle Roger, set in the Silicon Valley of the 1980s and aimed at an audience of tech-savvy computer specialists or experimental artists, nothing speaks to the period or carries the cultural context of the work better than the original platform.

Conclusion

Having studied many works of hypertext narrative, flash poetry, and interactive fiction for our research into early digital literature, we are struck by Malloy’s tenacity. She has strived to keep her art alive despite technological changes.
For thirty years audiences have been able to read some version of *Uncle Roger*—first as a serial novel, second as an interactive narrative, then as a database novel, next as hypertext fiction, and finally as an emulated database novel. Each version offers unique experiences for readers and is the result of significant modifications. What is left in all of these six versions, the common denominator tying them together into a single vision of *Uncle Roger*, is the legacy of Malloy’s vision—her understanding of digital technologies and how they can be harnessed for digital storytelling. Also left to us is Jenny, the “dominant” voice (Malloy 2015a) of *Uncle Roger*, who serves as the proverbial fly-on-the-wall capturing a cultural moment we think of as the rise of the computer age.

Malloy’s development as an experimental artist aligned with the rise of the computer age. From the envelope-pushing days of The WELL to the mainstream of the Web browser, Malloy remained at the forefront of innovation. While it is easy to attribute her lack of recognition in the field of electronic literature as primarily a gender issue, we also need to remember that Malloy had long garnered a great deal of respect in media art among those engaged in experimental art. It was when she published *its name was Penelope* with Eastgate Systems, Inc., that Malloy expanded her reach into the community of Storyspace authors, which then brought her to the attention of electronic literature scholars. Certainly, it is not difficult to say that Malloy’s contributions to electronic literature—being among the first to create participatory literature, sell work commercially to the public, program authoring software, and publish on the Web—are immense and worthy of continued study for years to come.  

**Coda: *Uncle Roger*, Version—?**

In October 2015, during a visit to the David M. Rubenstein Rare Book and Manuscript Library two months after wrapping up the draft of this chapter, this author made a discovery: an image of a card catalog entitled *Uncle Roger*. As mentioned, prior to joining The WELL and creating Version 1 of *Uncle Roger*, Malloy had experimented with nonsequential storytelling using cards containing story content as words and/or images. Among the output were works such as *The Woodpile* (1979) and *The TV Blew Up* (1980). *Uncle Roger*’s lexias were printed on individual cards and housed in a wooden catalog box from which readers would select cards sequentially or nonsequentially (Malloy, email to Grigar, March 12, 2016). Produced in 1987, after she had made the leap into digital storytelling with *Uncle Roger*, this work raises interesting questions about versioning contemporary literature
produced for different mediums and what constitutes legacy materials as they relate to a work of electronic literature. We also have to wonder what new archivial methods are needed in order to retain the integrity of a work. Without the ability to study the card catalog in detail, we are left wondering where it fits in our research of *Uncle Roger*. Such is the outcome of loss; such are the complexities of experimental writing.

**Acknowledgments**

The authors would like to thank Lori Emerson at the University of Colorado Boulder, who shared screenshots of Version 4.1 of *Uncle Roger* for this chapter, of which but a few copies exist. Documenting it through images will be helpful for future generations interested in early digital literature. We also thank Judy Malloy, who shared much time with us answering questions and providing documentation about *Uncle Roger's* history.
3 Coelacanth History: *Uncle Buddy’s Phantom Funhouse* and the Cybertext of Things

Stuart Moulthrop

Figure 3.1
John McDaid giving his Traversal at the Electronic Literature Lab at Washington State University in August 2013.

The *Funhouse*

In 1993 Eastgate Systems, Inc., released a distinctive piece of digital fiction, John McDaid’s “hypermedia novel” *Uncle Buddy’s Phantom Funhouse*. Though this work does include some words on printed pages (a set of proofs for a science fiction story; an instructional booklet), it is unlike almost anything else called a novel. It comprises an assortment of artifacts delivered in a repurposed candy box: page proofs, booklet, a pair of audio cassettes, and in the original edition, five 3.5-inch diskettes readable by Apple Macintosh computers, containing a series of multimedia documents produced in the HyperCard authoring system. This ensemble is ostensibly
conveyed to the reader through a legal release mechanism after the disappearance of their original owner, a science fiction writer named Arthur “Buddy” Newkirk. The diskettes represent contents of Buddy’s hard drive, including his idea journal, e-mail program, and various creative experiments. The *Funhouse*, as the work is familiarly known, is nothing at all like a conventional novel. It is instead a radical experiment in what McDaid calls “modally appropriate” design (McDaid 2015a), not a relation of events so much as a collection of evidence. Readers are free to explore this archive in any way they desire, though the primary motivation would seem to be the solution of a mystery.

In this respect the *Funhouse* may appear no different from more conventional, book-bound novels. In a sense every story begins with—or as—a mystery. As we read the first words from some as yet-unknown narrator, we inevitably ask ourselves about this implied and often anonymous presence and the world to which she, he, or it belongs. “Who am I this time?” McDaid’s vanished writer wonders (“Newkirk.ID”). Readers of more ordinary stories may ask where or when as well as who, but these pronouns all point to the same ontological problem. All writing is mystery, presenting traces of prior events and intentions that must be inferred. The *Funhouse* is particularly mysterious because it postulates a trauma, the disappearance of the author, our lost Art. While there is nothing especially new about this gambit—all writing involves disappearance—the *Funhouse* adds a dimension to the effect. McDaid’s unconventional novel confronts us not just with an enigma of events but also with the peculiarity of its very being. It is not simply a relation but, at least implicitly, a set of relationships. What are we to make of this box of things? How do we navigate it? How can we understand the interdependency of its various tangible and virtual parts?

These questions require us to understand *mystery* not in its contemporary sense but in the older idiom of *mystère* or *maistrie*, an esoteric knowledge-practice attainable only through experience. Bogost imagines an “ethics of things” in which we can be said to have a duty toward ideas and expressions (2012, 75). His examples include memes, tweets, and Web comics, though surely the concept applies to other sorts of text as well. We might ask *what does the Funhouse want from us?* What lost or findable art does it imply? These questions have many answers. The craft and craftsmanship of the *Funhouse* may be irreducible to any singular expression. Nonetheless we now have benefit of several recorded Traversals of the work, including one performed by its author as part of our Pathfinders project. This chapter mines that record, in conjunction with other explorations, to respond to
matters at the core of McDaid’s mystery: the “Theory of TT” and the meaning of broken time machines.

A Picture of You Traveling

Electronic literature tends toward the complex and dynamic. Works of this sort are usually less like poems than like oral epics in the wild. Even more than other forms of writing, they are founded on what Drucker calls “event” (2013, 29). They unfold in emergent moments. This is what makes electronic literature interesting to some, maddening to others. Lévy describes the episteme of the digital-network era in terms of a “universal without totality” (2001, 17). If not literally universal, electronic texts generally constitute nontotalizing multiplicities, arrays of possible states subject to a large number of permutations. As such, they favor contingency and wandering. Unless we are obsessive completists, we are not expected to follow every path, encounter each image, read or hear every word (Eskelinen 2012, 70). While the work before us may imply multiple unfoldings in many streams of time, we can only ever know a few of these.

In such conditions textual reception may resemble silhouetting or shadow play, tracing in two dimensions the flattened projection of an object extended in some more generous or complex space. Particular encounters with the text, such as our Traversals, might be described by data engineers as inevitably lossy. They record incidental and occasionally accidental behavior, not a final statement. When performed by the author or designer, the Traversal may have a certain additional salience, though it can never be definitive. Any particular tour may neglect certain parts of the terrain in favor of others. As all the studies in this book and others like it demonstrate, this problem is pervasive for electronic literature.

Moving purposefully through a piece of electronic literature—for the moment, we can continue to call this reading—can be a radically subjective process. In the conversation that followed his 2013 Traversal, McDaid talked about a particularly revealing encounter:

One of my favorite readings was actually a misreading. ... Googling myself on the Web, I found a blog by a guy named Jed Hartman, who is actually an editor at a science fiction magazine ... who was talking about this series of [HyperCard] stacks he had found about this guy named Arthur Newkirk, who seemed like a really cool guy. [Hartman] said, “He likes some of the books I like, so I’m going to look him up and send him an e-mail.” And he writes in his blog, “I discovered that—he wasn’t real!” And for me that was an enormously satisfying and close reading, because it was a completely erroneous reading, but at the same time, it meant that I had met the bar
of writing something that was modally appropriate, to the extent that someone who got a pirated copy from a friend said, “Yeah, that looks real.” (McDaid 2015d)

Like all funhouses, McDaid’s hypertext fiction imposes an artificial reality. Entering that illusion invites us to project a world of our own; but your projection and the author’s may vary. Readings inevitably diverge. This chapter’s tour of the Funhouse begins with such a departure. Figure 3.2 shows a piece of McDaid’s text that is not included, for whatever reason, in the 2013 Traversal of his work. The item is buried deep within an important subdivision of the project, a HyperCard stack called “The Writer’s Brain,” where it appears as Card 189.

HyperCard was Apple Computer’s attempt to add new forms of utility to its personal computers by means of a powerful, readily useable program tightly integrated with the operating system. Introduced in 1987, the software was presented to consumers as nothing more ambitious than a virtual card file. In fact the program, aptly named WildCard during development, was never constrained by this metaphor. Trademark conflicts led to the name change on release. The ultimate name, HyperCard, also hints at something more than a serial filing system. The program allowed

![Figure 3.2](image)

Card 189 of “The Writer’s Brain”: “Toward a Theory of TT.”
nonsequential links between elements, introducing the possibility of hyper-textual structure. Even that, however, was just the beginning.

HyperCard’s chief developer, Bill Atkinson, saw his invention as a way to empower nonprogrammers, providing an inviting creative platform for those who wished to learn more ambitious forms of coding (Moggridge 2006, 104). To these ends HyperCard came with a built-in scripting language, HyperTalk, which allowed users to extend the function of their projects, and beyond this, to manipulate system software and even hardware. HyperCard stacks could process and create files of various types; they could open other stacks; they could modify these stacks as well as themselves. Through added scripts called XCMDs and XFCNs, they could launch and cooperate with other applications. In early versions a HyperTalk command could shut down all processes in the host computer and turn off the power supply—actions virtually unthinkable in modern computing practice.

These capabilities came with what now seem major limitations: no support beyond Apple machines; monochrome, one-bit graphics; monaural sound; an 800-kilobyte maximum file size dictated by early diskettes; and no simple way of sharing creations without transfer of physical media. Nonetheless users recognized HyperCard’s possibilities. In addition to innovative graphic design, makers of HyperCard stackware introduced elaborate visual transitions, recorded music, flip-card animation, and dynamically computed sound and graphics. Projects such as Brian Thomas’s If Monks Had Macs (1988), Gareth Branwyn and Peter Sugarman’s Beyond Cyberpunk (1991), Jim Rosenberg’s Intergrams (1988), and Larsen’s Marble Springs (1993) pushed out the early frontiers of electronic literature. The Voyager Company began with HyperCard projects, such as their CD-ROM companions to classical music, and moved on to more ambitious efforts in multimedia including their groundbreaking line of Expanded Books. Before creating the classic Myst, the game designers Rand and Robin Miller published stackware titles including The Manhole (1988) and Cosmic Osmo (1989), children’s entertainments that crossed storybooks with exploratory play.¹

Formally begun in 1987, Uncle Buddy’s Phantom Funhouse reflects this creative and technical ebullience. Its seventeen component stacks include animations (“The Aliens’ Animatic”), a graphical browser-cum-Tarot-deck (“Oracle”), a William S. Burroughs-Brion Gysin cut-up engine (“Burrower”), simulated software utilities (“Terminal” and “HyperEarth™”), radical code experiments, game-like puzzles (“Egypt”), and some significant bonuses concealed in the binary files of certain stacks. Virtually every digital item in the Funhouse shows off some form of virtuosic hyper-hacking, perhaps none more than “The Writer’s Brain.”
This stack is a notebook and sketch file ostensibly maintained by Buddy on an early Macintosh. The stack comprise 219 cards, most juxtaposing an image with a brief, nonscrolling passage of text. The contents touch on subjects philosophical, political, aesthetic, and personal. They are usually abstruse, often comical, sometimes baffling. Though the cards comprise a diary or idea journal, only a few include dates. Card 189 is one of these: “4-22-88 Toward a Theory of TT.” The date is interesting, though it may also be incidental. April 22, 1988, was the nineteenth Earth Day. The month and day multiplied equal the year. We can consult the list of famous persons born on this date without enlightenment. As Buddy teases, such incidental details seem “faint ripples” at best. The simplest explanation is probably that Buddy’s author-ego, John G. McDaid, made a similar if not identical note in his sketchbook on 4-22-88; though this account makes a dangerous equation between fiction and autobiography. If we respect the boundaries of the story world, the act of specification probably matters more than the day specified. The assertion of a date may primarily remind us of the card’s principal theme, which is time itself.

“TT” is science-fiction-writer’s shorthand for time travel—specifically, incursions from the future into the present that entail violations of linear causality. Thinking about the perception of time, Stephen Hawking famously asked, “Why do we remember the past and not the future?” (1988, 144). On Card 189 Buddy meditates about what would happen if we could at least begin to remember the future—if we could know some aspect of present reality as an intrusion from time to come. Encountering a numinous “owl at dusk,” how could we examine the phenomenon? Surely the physico-causal system would simply rearrange itself to smooth over any break in historical sequence. Or perhaps our relentlessly linear construction of reality would lead us to rationalize the rupture. Any intruder from the future would be, or appear to have been, always part of our here-and-now. Time travel in this sense might be possible but undetectable, never anomalous or ready-to-hand but simply what has happened.

However, Buddy turns to another, more fictively inviting possibility: “around the one or place involved, there may be a magic circle of duality—of Dasein and Nichts—that might reveal itself through vanishings, sudden curvings of reality, unexplained lacunae in the life-world, certain absences” (Card 189). As will become clear, this idea has considerable significance in and for the Funhouse, though its full significance takes some explaining.

To a skeptic, the TT involved here may seem nothing more than a familiar journey through the past. McDaid’s philosophical fantasist—as much a student of Philip K. Dick, Samuel R. Delany, and Thomas Pynchon
as Martin Heidegger and C. I. Lewis—displays a turn of mind perhaps typical of the late twentieth century, drawn to ontological incoherence and stories featuring shattered or inconsistent realities. Brian McHale identifies this tendency as a major concern of postmodernist fiction (1987, 6), and Alice Bell likewise associates it with early hypertext fiction (2010, 37). In a sense Card 189 is just so 1988. To be sure, “The Writer’s Brain” is undeniably invested in memories of a certain moment. On Card 28 Buddy sketches an autobiographical fragment: “‘What could be better,’ he said, ‘than lying in a bathtub in Syracuse, drinking Genesee Cream Ale, and writing about metaphysics?’” Unless it’s writing about cultural history on Card 76:

1960’s/Dylan: everyone wanted to be a stochastic multidimensional genius.  
1980’s/Now everyone wants to be a cynical, self-actualized comedian.

Well maybe not everyone: strong traces of the stochastic and multidimensional persist in Arthur “Buddy” Newkirk, duly endowed by his creator. Uncle Buddy’s Phantom Funhouse may be an instance of high postmodernist fiction, an elaborate game of discontinuous world-play, but in an important way it departs from the rest of its kind, novels such as Burroughs’s Nova Express (1964), Delany’s Dhalgren (1975), Dick’s Do Androids Dream of Electric Sheep? (1968), and Pynchon’s The Crying of Lot 49 (1966). McDaid’s work consists of cards and stacks, not pages and chapters: to be read, seen, and heard, it must be computationally processed and, in some cases, otherwise manipulated. In other words, the Funhouse is not simply a time capsule but, at least figuratively, a time machine.

The conceptual idiom of the Funhouse is what Lev Manovich calls “the language of new media.” What McDaid insistently refers to as a novel is something arguably new for that form—in Manovich’s terms, an ensemble of interfaces to a collection of databases (Manovich 2001, 77). Every screen of information in the Funhouse is the result of a process and remains open to reprocessing. In “The Writer’s Brain,” for instance, the basic card template includes a button marked with the head of a donkey (burro, in Spanish). Clicking this button opens the “Burrower” stack and transfers into it the text of the “Writer’s Brain” card on which the button was clicked. “Burrower” performs a Burroughs-Gysin cutup procedure on the text, a process that can be reiterated as many times as desired.

The Funhouse also stands apart from hypertextual contemporaries such as afternoon, Victory Garden, and Patchwork Girl. While the Funhouse does include many linked transitions among its various parts, thus qualifying as hypertext, the work’s version of “non-sequential writing” (Nelson 1987,
117) involves more than the disjunctive leaps familiar from systems such as Storyspace and the World Wide Web. It inaugurates something we might call, adapting Aarseth’s term for logically processed artforms, the cybertext of things (1997, 1). The Funhouse is not simply a database with links but an explorable archive or simulation where we encounter information in what McDaid calls “modally appropriate” form:

My conscious aim was that [the artifacts in the Funhouse] were modally appropriate ... these were the way you would find them. The convention program was a convention program—it was the way a group of HyperCard-literate hackers might have made a convention program for a science fiction con in '88. So: using the tool the way the tool was designed and embedding the narrative diegetically within the actual artifact. (2015a)

McDaid speaks of diegesis, using the modern meaning of that term derived from film theory. In a more classical sense, though, the Funhouse is not diegetic (descriptive) but more radically mimetic (performative). The text requires us to engage its world contextually and operationally. When we read Buddy’s posts to an online forum, we use a HyperCard simulation of a terminal emulator; when we explore his physical surroundings, we do so with “HyperEarth™,” McDaid’s accurate forecast of Google Earth, fifteen years before its introduction. Printed page proofs of a Buddy Newkirk story are included in the Funhouse, and his troubadour albums come on old-fashioned, analog cassettes. Hayles observes that cybernetic writing requires a “media-specific criticism” capable of attending to deep relations between statements and their means of transmission (2008, 30). Her point has particular force for readers of the Funhouse, where mediations are always essential to message.

Buddy is as much graphic artist as writer, so we need to pay close attention to the image on Card 189, as well as the words. The left side of the card (figure 3.2) features a hand-drawn portrait of the artist in transit, sitting in a railroad car with one foot propped against a bulkhead. Visible through the window is an array of poles or pylons topped by flares of light. Superimposed on this picture is a title, “The Story of Emily and the TIME MACHINE.” The detail points to another major piece of the Funhouse: a collection of songs by Buddy bearing this title. Here are the first words of that recording, played back by McDaid at the start of his Traversal:

Looking at a picture of you
Traveling through time

Buddy sings in first person, apparently studying an unseen picture of his counterpart/nemesis—the mysterious Emily. As will happen in fiction,
the influence of this image ripples and radiates. On Card 189 we may be looking at Buddy himself (represented in synecdoche by a sneaker-clad foot) traveling through space as well as time or memory. We do not know exactly where he is headed on that mystery train, or why. An obscure clue is provided in the typed annotation at bottom left of the image panel: “The Hat-Z lights of Metuchen and Iselin.” The note establishes a place—eastern New Jersey—as well as a crucial theme. “Hat-Z” was early shorthand among Apple developers for the keystroke combination command-Z, or control-Z—used then as now to invoke the undo operation, restoring a program to a previous state (McDaid, email to Moulthrop, July 14, 2014). This too might tie back to TT. The undo operation, after all, represents that distinctive, revisionary form of backward time travel made familiar by personal computing.

Buddy looks out the window and, perhaps with the help of a certain indole alkaloid, reads a message in the landscape, a repeated string of Hat-Zs—or, as we might extrapolate, CTRL-Z my life: reset the program, edit the script of reality. From a literal-minded perspective, this sentiment may seem merely wishful or magical thinking. Uncle Buddy imagines himself undone, erased from present circumstances. He may be driven to this desire by some undefined mental breakdown or erotic catastrophe. Again, mysteries: Why is he on this journey, and who is Emily? More to the point, what is the story of the time machine? Connecting this situation to TT and the proposed thought experiment suggests more fantastic possibilities consistent with the framing fiction to which Uncle Buddy belongs. Hat-Z might not simply mean forget what just happened but also change history; curve time upon itself; invoke a “magic circle of Dasein and Nichts.” Thus we enter the mystery—discipline, craft, art—of the Funhouse.

Speaking of discipline, if we observe accepted interface conventions, we will enter the Funhouse through a stack titled “READ ME FIRST.” (Less obedient readers proceed at their own risk.) In that stack we come to know Buddy as a paradoxical figure, an unknown known. As readers—witnesses? executors? players?—we have come into possession of his literary estate consisting of audio tapes, papers, and a handful of diskettes (in later editions a CD-ROM) holding the contents of his early-1990s hard drive. “We are instructed to inform you,” says a digitized lawyer’s letter, that you have, at some time, known Mr. Newkirk. Probably as a family acquaintance referred to as “Uncle Buddy.” While you may not remember this, we are instructed to inform you that there may be reasons for this involving “lapses of memory” or other “divergences” of an unspecified nature. (“READ ME FIRST,” Card 1)
In this scenario Uncle Buddy himself figures as the owl at dusk, a time-skipping vagrant enclosed in a temporal or ontological loop, an anomaly shrouded in enigma. The problem he poses on Card 189—“suppose one were investigating such an event, eh?”—might well define our interpretive agenda as explorers of the work. His literary relics represent the accretion disk of a temporal singularity, the magic circle, membrane, or web that surrounds the writer’s collapsed presence. The event horizon of this fictive singularity consists of the reader and her relation to the text, the contour along which a world of referential logic maps paradoxically onto something no logic can contain.

Or so we might say for starters. The vanished writer and his halo of “divergences” is just the half of it, or possibly less than that. Uncle Buddy is a fugitive abstraction, a traveler through time in either the ordinary sense of nostalgia or the extraordinary imaginings of science fiction. Yet there is much more to the story, which after all contains a second “speaking part” as McDaid calls her, Emily Keane and her time machine. As Buddy testifies in the song “White Subway,” “It’s her movie, too”—and/or their story, and/and somebody’s incidental Traversal, if we remember the hand that moves the cursor. This is cybertext, where multiplicity rules. There is more than one floor plan for the Funhouse, and it is home to multiple phantoms.

By definition, hauntings cross or confuse levels of reality. Magic circles may expand or explode as well as collapse. Fiction, as Jorge Luis Borges suggests, inevitably threatens to invade the nonfictional world (1970, 196). So it is with Uncle Buddy’s Phantom Funhouse. In an important sense the work is itself revenant or phantasm, something that pushes into our world through a membrane of extinction. There is a story behind or upon this fiction, a tale of the text as technical artifact implicated in history, commerce, and the vicissitudes of information machines. As Hayles teaches, any deep understanding of the Funhouse must account both for its media and its messages, which necessitates some further thinking about writing, history, and time.

Out of Time

The future has imploded onto the present. There was no nuclear Armageddon. There’s too much Real Estate to lose. The new battlefield is people’s minds.
—Gareth Branwyn, “Cyberpunk Manifesto”

If Buddy is a man out of time, he comes by the condition honestly, through direct inheritance from his maker. Reflecting twenty-five years later on the generative impulse of the Funhouse, McDaid says:
One of the things I was trying to do—one of the challenges I had set for me for this text—was to try to write a novel that no twentieth-century writer could write. And the only way to do that is obviously to try to push the text itself beyond what it’s possible to do. So, including projective things like the Oracle, including a Burrower that literally takes the text and reconfigures it in ways that cannot be predicted—and that is I think what Burroughs is getting at ... the text itself can be exploded, and ... when you take those pieces and reassemble them, something new can come out that you did not even put there, that you did not know was there. (McDaid 2015c)

In his Traversal, McDaid pauses on a card in the stack, “Fictionary of the Bezoars,” which defines a “Bagel Stretcher” as a mind-boggling proposition. His statement here about wanting to write a novel no twentieth-century writer could write, a text full of unpredictable and emergent effects, appears to qualify as one of these toroidal distortions. It also recalls an earlier usage from Mark Twain’s Adventures of Huckleberry Finn, where a “stretcher” is defined as a distortion of facts or a convenient fiction—not exactly a lie but a statement at some voluntary remove from the truth. Maybe McDaid’s attempt at TT is more of a Huck Finn stretcher, a calendar-defying leap in which the author wishfully doctors his working papers.

By strict chronology no one composing between 1987 and 1992 could produce a novel unwriteable by a twentieth-century novelist. In addition to simple arithmetic, T. S. Eliot’s commutative law comes into play here (1975, 38). Any work appended to the latter end of tradition alters the entire excursus. If—and it may be a bigger if for some critics than others—we admit McDaid or Joyce or Jackson or Malloy to full membership in the visionary company, then in a sense all twentieth-century writers become companions of cybertext. In this view literature imitates a certain kind of economics: Bill Gates walks into a bar and, statistically speaking, everyone in the room turns into a multimillionaire. Buddy invades your time-stream and, hey presto, you are living in the future. We have crossed into playful territory here, but that is at least partly because McDaid’s conception invites such jaunts. Perhaps his counter-temporal remark is one of those paradoxes meant as riddle or thought experiment. When is the boat not the same boat? Is the cat alive or dead? How can the year 1987 not belong to the twentieth century? In literary terms, does the calendar need to come into this at all?

At least two arguments might be made to extenuate McDaid’s bagel stretcher. The first is techno-phenomenological. Looking for the first time at a Macintosh running HyperCard, it was hard not to sense that history, in the guise of technical progress, had just lurched ahead. The point-and-click desktop and bitmapped screen were in themselves revolutionary. Adding to these a framework for multimedia authoring and ready access to the code
layer was indeed like mashing the fast-forward button. Similar sentiments were no doubt inspired by the first interactive operating systems and *Colossal Cave Adventure* (1976); the first photorealistic simulations and *Myst*; early 3-D technologies, *Doom* (1993), and *Quake* (1996). These developments altered the imaginative timeline. After they arrived, it was as if we no longer lived in that old century—or no longer wanted to.¹

One might also consider this leap forward in terms of literary history, though a caution is needed before we start in this direction. There is a risk of over-emphasizing one particular strand in the rich intellectual genealogy of McDaid’s work. The readings behind the *Funhouse*—not to mention films, comics, jokes, memes, snack foods, drugs legal and otherwise—may be as numerous as the famous books at the Wake (see Atherton 2009 on *Finnegans Wake*). For instance, Buddy is a science fiction writer, and the *Funhouse* regularly refers to figures in that field—for example, “fanzines and Ellison anthologies” on the first card of “The Writer’s Brain.” Especially significant in this regard is the work of Le Guin, whose *Always Coming Home* (1985), a novel of anthropological futurism that includes audio recordings, is an acknowledged inspiration for the *Funhouse* (McDaid 2015b).

Like his author, Uncle Buddy is also something of a media ecologist, deeply interested in post-McLuhan communications theory particularly where it touches on the physics and metaphysics of mind. The *Funhouse* has much to say, in its erudite, elliptical way, about magic, mysticism, and speculative ontology. References to academic theorists abound, from the usual lineup of first-year philosophy (comments on Plato, Immanuel Kant, G. W. F. Hegel, and a breakfast cereal called “Zarathustra Flakes”) to less familiar graduate-level fare (Jean Baudet, Julian Jaynes, David Loye).

Playing across this academic current is a distinct influence from late- or postmodern fiction, particularly works by Burroughs, from whom McDaid takes the title of the important song “White Subway” as well as the algorithm of the “Burrower.” An even more titanic imprint is left by Pynchon’s *Gravity’s Rainbow* (1973). It is worth noting that *Uncle Buddy’s Phantom Funhouse* was created toward the end of the seventeen-year period in which Pynchon published no major new work, a time of radical uncertainty among his readers. Would there be anything after *Gravity’s Rainbow*? Could there be? A particularly deep recess of the *Funhouse* contains a card featuring a list of unborn masterworks that alludes to Pynchon’s next big project, *Mason and Dixon* (“Egypt/Decorticationary of the Schizonts,” Card 21). The card is titled “Dead Man’s Book,” a phrase apparently inspired by Baudet’s assertion that writing empties or erases authorial presence.
Aside from writerly angst, Buddy seems to have acquired a several more specific qualities from late-1960s Pynchon, including elements of prose style. These include jivey colloquialism, casual obscenity, Strategic Capitalization, the high magic of low puns, and of course, ellipsis. An entire card in “The Writer’s Brain” is devoted to this effect (Card 35, “I’ll see you inchoate …”):

Ever since I discovered ellipses, my life—if not my text—has been complete. I can actually forward pass the train of thought, from concept to concept, character to character, shifting vision as required …

And shit, it’s easier than writing sentences …

There are plenty of places to discover ellipses (for instance, Harlan Ellison, Norman Spinrad, Michael Moorcock, and other New Wave science fiction writers), though that quirk of style is a notable feature of *Gravity’s Rainbow*, to which one could read Card 35 as satiric homage. This is one of several bits of the *Funhouse* that verge on overt pastiche. Consider also Card 55, “The Infinite Steel Test Stand.” In *Gravity’s Rainbow* the phrase “test stand” has twin references, the apparatus of I. P. Pavlov’s animal experiments and the proving ground for the V-2 rocket. In a bit of highly informal Socratic dialogue, Buddy folds in a third possibility, the familiar bar magnet:

“You know about lines of force?”

“Lines of force? The things they have around magnets, like?”

“Yeah.”

“Well some of ’em come out of one end of the magnet an’ get sucked around into the other end …”

“Yeah.”

“Some of ’em don’t. They escape to infinity.”

“Huh?”

“No one knows what happens to them. They just keep goin’."

Pause.

“Holy shit …”

Though plausible enough as college-daze memoir, this passage also could pass for one of the bizarre excursions (“cadenzas”) that crop up toward the end of Pynchon’s novel. It shares with those moments a theme of sinister, cosmic mystery—*things in the physical world really can go on forever!*—conjoined with the terrible innocence of the *schlemiel*, someone always on the point of existential pratfall. See for instance Pynchon’s colloquy between Skippy and Mister Information concerning the terrible Pointsman (1973, 644–645) or the reconstruction of the numinous kreplach joke:
Remember the story about the kid who hates kreplach? Hates and fears the dish, breaks out in these horrible green hives [...] in the mere presence of kreplach. Kid’s mother takes him to the psychiatrist. “Fear of the unknown,” diagnoses this gray eminence, “let him watch you making the kreplach, that’ll ease him into it.” Home to Mother’s kitchen. “Now,” sez Mother, “I’m going to make us a delicious surprise!” “Oh, boy!” cries the kid, “that’s keen, Mom!” “See, now I’m sifting the flour and salt into a nice little pile.” “What’s that, Mom, hamburger? oh boy!” “Hamburger, and onions. I’m frying them here, see, in this frying pan.” “Gee, I can hardly wait! This is exciting! What’re ya doin’ now?” “Making a little volcano in the flour here, and breaking these eggs into it.” “Can I help ya mix it up? Oh boy!” “Now, I’m going to roll the dough out, see? into a nice flat sheet, now I’m cutting it up into squares—” “This is terrif, Mom!” “Now I spoon some of the hamburger into this little square, and now I fold it over into a tri—” “GAAHHHH!” screams the kid, in absolute terror—“kreplach!” (Pynchon 1973, 737)

In addition to these bits of mimicry, specific textual references to *Gravity’s Rainbow* dot the *Funhouse* like, well, mushrooms. Confining ourselves just to the first twenty cards of the “Writer’s Brain”:

- Card 2 (“The Sudden Rescale”) twists “There is a Hand to turn the time,” from William Slothrop’s hymn at the end of the book, into “A Hand to Hold the Time.”
- Card 13 (“TANSTAAFA!”) contains speculation that Pirate Prentice, a *Gravity’s Rainbow* character, may have crossed into, or from, certain lyrics by Bob Dylan.
- Card 16 (“Sooner or Later”) contains a poem ending with the phrase “Now everybody—” which also happen to be the final words of Pynchon’s third novel ...

Usw. (*und so weiter*), a *Deutschismus* Pynchon liked to use when bailing out of a list, which phrase is also the title of a certain satirical stack in the *Funhouse*. Having noticed these things—with once again due warning about over-selection—we might take a line from Pynchon’s old schoolfellow, Harold Bloom, suggesting that McDaid’s attempted time-jumping betrays certain feelings about a problematically absent poetic father. *Take that, Nobodaddy—I don’t want to be part of your stupid century anyway*. Which may be true enough, so far as it goes, for many of us technology-gazers.

With or without the Oedipal cargo, certain key events in *Gravity’s Rainbow* suggest a point of inflection, if not “exhaustion,” beyond which the imagination must proceed along different vectors. For some the twentieth century of novels faded out on these words that come swift on the heels of the kreplach joke:
There is also the story about Tyrone Slothrop, who was sent into the Zone to be present at his own assembly—perhaps, heavily paranoid voices have whispered, *his time’s assembly*—and there ought to be a punch line to it, but there isn’t. The plan went wrong. He is being broken down instead, and scattered. His cards have been laid down, Celtic style, in the order suggested by Mr. A. E. Waite, laid out and read, but they are the cards of a tanker and feeb: they point only to a long and scuffling future, to mediocrity (not only in his life but also, heh, heh, in his chroniclers too). (Pynchon 1973, 738)

This is not the actual ending of *Gravity’s Rainbow*, but it may be, as many have suggested, the limit of something called modernist fiction. “The plan went wrong”—or differently, as it happens. Time has been otherwise assembled. No kreplach tonight. The novel’s insanely elaborate quest-structure, with its insinuations of ritual murder and uncanny betrayals of the flesh, collapses under its own inertia. The so-called heroes arrive, my God, too late—or they arrive at differing conclusions. Key aspects of Slothrop’s mythology are debunked and denied. Agents of the Counterforce fail to retrieve him from the Zone of Occupation and are last heard giving self-serving interviews to *The Wall Street Journal*. Slothrop himself ceases to be positively identifiable or detainable, undergoing a reduction of “temporal bandwidth” until he exists only in a vanishing present (Pynchon 1973, 509). In an ultimate effacement, the seer of this vision, the chronicler himself, cops to the same “long and scuffling” sentence of “mediocrity” he has passed on his creation.

Yet to read this outcome simply as abnegation or failure is to miss the Zen of the non-joke, which is that we are no longer interested in punch lines or perhaps in prose epics. Such structures belong to those “self-actualized comedians” Buddy so mistrusts and to others invested in singular sorts of master narrative. Rejecting them, we might try to see ourselves in a world of diverse stories and flexibly eligible plots, much as Slothrop discovers before his final scattering. The scene is Putzi’s, a German bordello where agents of the State coming to castrate Slothrop will shortly unman the wrong man (plans go wrong). Also present are Seaman Bodine and Solange (formerly known as Leni Pökler), two of the wisest wisdom characters active in the Zone:

“This is some kind of a plot, right?” Slothrop sucking saliva from velvet pile.

“Everything is some kind of a plot, man,” Bodine laughing.

“And yes but, the arrows are pointing all different ways,” Solange illustrating with a dance of hands, red-pointed fingervectors. Which is Slothrop’s first news, out loud, that the Zone can sustain many other plots besides those polarized upon himself ... that these are the els and busses of an enormous transit system here in the
Raketenstadt, more tangled even than Boston’s—and that by riding each branch the proper distance, knowing when to transfer, keeping some state of minimum grace though it might often look like he’s headed the wrong way, this network of all plots may yet carry him to freedom. (Pynchon 1973, 603)

Slow dissolve from the els and buses of prewar Boston to Buddy south-bound on Amtrak half a burned-out century later. Match cuts of this sort contract or counteract time, hinting at resonance if not eternal recurrence. In a sense we have never left the Zone or its capital, Rocket City, since we still live under potential parabolas of mutual assured destruction or the less predictable exposure swaths of imagined WMD. No wonder then that a novelist who claims to occupy the future imagines a character defined in a mosaic of documents, not so much broken down and scattered as conjured from traces in the nascent digital cloud. In this too Pynchon saw us coming, as precursors tend to do. At a much earlier point in Gravity’s Rainbow, the black-marketeer Mario Schweitar utters a prophetic rejoinder when Slothrop demands information:

Information. What’s wrong with dope and women? It is any wonder the world’s gone insane, with information come to be the only real medium of exchange? [...] It’ll get easier. Someday it’ll all be done by machine. Information machines. You are the wave of the future. (Pynchon 1973, 258)

The wave has broken. As Branwyn says, “The future has imploded onto the present.” A very nasty plan most fortunately failed. The thermonuclear extinction Pynchon imagines at the end of Gravity’s Rainbow did not arrive, and one hopes it never will. Real estate is too valuable, at least until someone starts lobbing dirty bombs into the high-rent districts, also hopefully never. Fatal plans having gone otherwise, we find ourselves in a non-zero future—which is to say in a scuffling but so far tenuously sustainable present. Unto the fathers the Zone. Offspring have to make do with the Web and—as the Old Man himself has recently discovered, for the future is indeed long—the “Deep Web.” These days we are all able to write twenty-first-century novels, or hypertext fictions, if so inclined. The wave of the future has soaked us and moved on.

Coelacanth History

de the now and then of comestibles, brewis of unknown shellfish, coelacanth history (you had to be there)
—Wenders, W. End of World
Coelacanth History

before until then after now
—Michael Joyce, Was (2007)

Can anyone really come from the future? Not so far as we know, still stubbornly inhabiting the day formerly known as tomorrow, locked into our one-track-mindedness of time. Fantasy and science fiction, both forms of dreaming, may be the only ways to escape the relentless succession of moments, the steady slide into belatedness. “Take me back,” Uncle Buddy sings, “Take me back, to last night’s dream.” This is a bittersweet imprecation. As Wim Wenders reminds in Until the End of the World, we may all feel that primal desire for return to the dream, but only exceptional visionaries or those descending into madness can manage the trick for real (Wenders 1991). Generally speaking we are never the same dreamers, night to night. Living brains change ceaselessly, and they do not ship with a Hat-Z function.

With this acknowledgment of mortality and mutability, we arrive at the darker side of McDaid’s counter-temporal claim as well as the somewhat sad backstory of the Funhouse itself. The desire to write ahead of one’s century flouts chronological law, making the act inherently hubristic. Once that term is applied, we may find ourselves back in an Aristotelian frame governed by a single, triangular plot very much polarized on a protagonist, in this case an author. Where hybris enters, hamartia and peripeteia cannot be far behind. Anyone who tries to diddle history must face a reckoning. As detailed in chapter 5, Bill Bly touches this theme in his own way in We Descend. The recurrence is hardly coincidental, given the way writing and technology were converging at the end of the last century. Writing in those closing decades, it was hard to escape certain encounters with destiny.

History has its revenge on the Funhouse. In trying to write a novel no twentieth-century author could write, McDaid ended up with a hypertext that few twenty-first-century readers can read at this moment—and then only with notable effort and in tenuous circumstances. This is a statement of technical fact, not critical opinion. It has nothing to do with the supposed unintelligibility or aesthetic failings of hypertext or other kinds of experimental writing. It applies in the immediate case only to the Funhouse and some other works from HyperCard’s Cambrian explosion whose software bodies are not preserved in the sediments of later systems. The future has indeed imploded all over them, with unfortunate results. They lie perilously close to oblivion.
In March 2004, after years of diminishing interest and investment, Apple Computer withdrew HyperCard from sale. In October 2007, with the release of Macintosh OS 10.5, Apple ended support for Classic mode, the emulation environment under which HyperCard could still run on newer machines. Perhaps significantly, this was the same year Apple dropped the term *Computer* from its name and became simply Apple, Inc. A virtual-machine substitute for Classic called SheepShaver can be found on the Web and installed by those with a certain level of technical knowledge. Its compatibility with future system releases is not assured, and it is of no use for retrospective purposes without some means of reading original HyperCard data. Alternatively, one can find a machine built in the 1980s or 1990s running an earlier version of Macintosh system software and equipped with an appropriate disk drive. At this writing, many such systems are still viable, a testimony to excellent design and manufacture. It is only a matter of time, however, before these machines become inert relics.

Options for translation and software emulation are likewise limited. HyperCard is a proprietary product whose source code and file format are trade secrets. For unknown reasons, perhaps simply force of precedent, Apple seems unwilling to relinquish legal protection. There is at least one automated transcoder for HyperCard stacks—MetaCard, lately repurposed as the app development tool LiveCode—but using it requires expert knowledge. Migration of HyperCard stackware to other platforms has generally required laborious design and engineering. Given the complexity of the *Funhouse*, such a task would be enormously demanding.

Mark Bernstein, publisher of the *Funhouse*, famously described the work as “a chocolate box full of death” (McDaid 2015f). Apparently the cardboard packaging was originally designed for confectioners. At the time of publication, the “death” in question must have referred to Uncle Buddy’s disappearance, but in ironic hindsight it might now point to the artifactual fate of the project itself. After all, at least some of those black boxes contain short stacks of 3.5-inch diskettes.

Today the diskettes used by the second generation of personal computers (originally called flexi-disks to differentiate them from larger, soft-sided floppies) are the technological equivalent of skeletal remains. The relentless advance of our software civilization left this format behind long ago. Diskette versions of the *Funhouse* appear to be relegated to the language of old media, offering a database without working interface. History wins and the *Funhouse* is evidently lost. The box is filled with obsolescence, the cybernetic aspect of death. Another technically invested, century-crossing writer, Steve Tomasula, observes that under the influence of advancing
technology, every machine is a time machine (2009). As Kathi Inman Berens notes, for the moment, Tomasula’s hypermedia novel TOC has been saved from obsolescence through a recent conversion for mobile devices. It remains a functional time machine (Berens 2015, 180) and thus a revealing contrast to the Funhouse, which is anything but.

A minimizing or fatalistic critic might uncharitably compare the fate of McDaid’s protagonist, stuck in his broken time machine, to that of Pynchon’s Slothrop, a comparison that implicitly sets the two texts in parallel as well. Slothrop inhabits a narrative structure—some would say a tradition—destined not for self-assembly but for collapse. His personal deconstruction may coincide with that of the novel form itself. Buddy, by comparison, arrives in his chocolate box pre-broken and artfully scattered, deployed in structures that are ostensibly much less overdetermined. This procedure is supposed to confer a crucial difference defining the outlook for a new century, but this plan has also gone wrong, at least on the evidence of the upgrade stream. Whatever nonzero temporal bandwidth Uncle Buddy may enjoy within his cybertextual world, the mechanism on which that simulation depends has undergone a collapse considerably more swift than any alleged for the novel. The conceptual breakdown-and-scattering of the digital text is met by another, cruelly literal version, as systems capable of running the Funhouse break down mechanically and are scattered to attics and trash bins. Far from escaping the fatal narrative of its century, the Funhouse may seem to repeat that story—in fact to embody it. In this view McDaid has not managed to write a novel no twentieth-century novelist could write. Climbing onto giant shoulders, he has simply replicated the results of an earlier, definitive experiment.

True enough, maybe; though in the indispensable words of Solange, our lady of the fingervectors, “And yes but.” There is more to say on this subject. Our personal histories may inevitably resolve to failure and obsolescence, but these are not the only stories imaginable. Time machines may fail us. Extinctions are inevitable. There may also be, as Pynchon hints, “a silent extinction beyond the zero” (1973, 84–85)—some permutation of text and invention that denies time and markets the final word. To grasp this paradoxical possibility, we need to retrace the conceptual ground and try a new way forward.

Milorad Pavičić’s “lexicon novel,” Dictionary of the Khazars (1988), was an important source for McDaid, the satiric referent of the main-sequence stack “Fictionary of the Bezoars” and the secret stack “Decorticationary of the Schizonts.”6 The epitaph-and-epigraph of that novel has some resonance for this discussion:
Here lies the reader
who will never open this book.
He is here forever dead. (Pavič 1993, iv)

We might say something similar about the straw man or virtual critic conjured up in preceding paragraphs. Having heard his piece, we now make the sign of Hat-Z and dismiss him with similar valediction. Here lies the reader who can only open his book. He is now forever obsolete.

It may indeed have been possible to write a twenty-first-century novel in 1987, though perhaps only if one could implicitly reinvent readers and reading. As will be apparent, this revolution has dimensions both conceptual and technical. It involves the work of hands (configuration) as well as thinking (interpretation). The two are intimately and intricately joined, but the mysterious nature of that union can only be explained by stepping deeper into the Funhouse.

This Is Not a Game. This Is Not.

As previously noted, new-media texts are less like books than like libraries, which is to say they are inherently spatial—sites of “topographic writing,” in Bolter’s term (2001, 36). This quality of extension seems particularly important in McDaid’s artifactual fiction, which extends into the same space we bodily occupy. However, as evolution has duly impressed on every reptile brain, surviving in three-space can be tricky. Objects tend to overlap, and may cast complicated shadows. There is often more to a landscape, or especially a built environment, than we immediately perceive. Surprises—predators as well as prey—may lurk in the bits we cannot see. So it is with the Funhouse. We must differentiate between its overt or exoteric arrangement, with which we have been solely concerned thus far, and several levels of concealed or esoteric structure, one of which is very deeply concealed indeed. We begin this descent at the top of the ontological stack, where the Funhouse offers the usefully domestic image shown in figure 3.3.

Like early adopters of the World Wide Web, HyperCard users were encouraged to develop a basic index resource—a home stack prefiguring the later home page—as a handy departure point to important documents and programs. Uncle Buddy seems to have taken the concept literally, using a digitized photo of his Rhode Island house overlaid at various points with hypertext links. The oddly blacked-out apertures (primarily an artifact of one-bit image processing) give the picture an ominously flat appearance—who knows what lies in those absolute shadows? This is, after all, a scene of
disappearance as well as disclosure. Yet this flatness or absence of detail also signifies an absence of hierarchy. All the link signatures are visible, so far as we can tell, and any one can be activated at will. All but one of these links—the one at middle right-labeled “Egypt”—provide direct transitions to their respective stacks. The “Egypt” link ultimately will also take us to a stack of that name, but only if we first supply a password.

“Egypt” is not like other divisions of Uncle Buddy’s virtual space. For most users the password prompt that appears after it is clicked serves as first indication that the Funhouse is more than a loose, minimally structured collection of documents. Evidently the work also contains elements of restriction, challenge, and puzzle. There are ways of proceeding that may require us to make deductions or locate hidden information. In this way the hypertext novel bears at least superficial resemblance to adventure games. The difference between a simple puzzle and a game lies in the greater degree of freedom allowed by the latter. Any problem posed by the game may need to be resolved eventually, but perhaps not immediately. In a spatialized story-world we can continue to explore even if a particular route is blocked. This exploration can take many forms, but we might differentiate between relatively aimless browsing and a more purposive or analytical method.
Either can deliver us to “Egypt,” though the latter is both more likely and more in keeping with the concept of McDaid’s project.

It is possible to find, or at least approach, a solution to the password puzzle essentially by accident. Many cards in the Funhouse contain links on words or regions of images. The card named “Riddle” in the stack “Oracle,” Uncle Buddy’s version of the Tarot deck, includes a graphic of a tiny man standing before the Sphinx. Clicking on this image takes us to a stack called “Riddle,” whose single card displays the same image in a different context. As we will see, that context can lead to solution to the password puzzle. However, arriving at this hidden entrance is not nearly as simple as our account may suggest. The “Riddle” card is one of fifty-three in the “Oracle” stack, itself one of seventeen stacks. The card contains no overt indication that its main image is linked to another stack. HyperCard reveals clickable hot spots whenever a user holds down the two keys adjacent to the space-bar, but it is unlikely that casual or contemporary users would know this bit of lore, since they are probably more accustomed to systems like the World Wide Web, where link cues tend to be explicitly marked. Thus the odds are decidedly low that anyone will first find the relevant card in “Oracle” and somehow discover its link to the “Riddle” stack.

There is a second way to come to this important stack, however. A particularly inquisitive reader may notice a discrepancy between the home card and the files that make up the Funhouse. There are seventeen stacks in the Funhouse ensemble but only thirteen links on the home card, counting the graphical house link at lower left, which at least initially loops back to the home stack itself. Four stacks are not linked. The reader may already have visited one of these, the virtual lawyer’s letter presented in “READ ME FIRST.” The nature of a second, “Burrower,” becomes clear as soon as we click a relevant link in “The Writer’s Brain.” (The stack can also be used independently.) A third, “The Aliens’ Animatic,” appears to be another freestanding element referenced elsewhere in the fiction. The fourth anomalous stack is the crucial one, “Riddle.”

The single card of this stack presents in its left panel a cartoon image headed “Uncle Buddy’s Letter Fun.” The image shows a very small person wearing a loincloth, addressing a listening Sphinx. The Sphinx may be about to break into a smile. At right is a scrambled-word puzzle of the sort familiar from daily newspapers. The jumbled words are Iaphd, Cermuy, Imaan, and Kragoran. Boxes appear below each jumble with circles marked in eight of them. Evidently unscrambling the words will spell out the eight-letter solution to a riddle: “What you might need to be a comedian in ancient Egypt ...” Boxes given for entry of the solution indicate we are
looking for three words, with one, five, and two letters respectively. Working out the puzzle takes some doing, though a Hint button hovers tantalizingly at lower right. The four scrambled words decode as *aphid, mercury, mania, ragnarök*, a sequence that is not particularly suggestive. Moving to the second level of the puzzle, the circled letters yield *ameyarrk*, which is kind of fun to say, at risk of summoning an unemployed demon from Hell, and contains some nifty anagrams—rye karma, ray maker, year mark. But none of these fits the pattern of the lowermost boxes.

Happily, while the *Funhouse* flirts with cryptography, it does so at this point without too much seriousness. Clicking the Hint button brings up a dialog box asking, “How much of a hint do you want?” Three options are offered: Little (the default), Big, and Tell me. The first yields another dialog box with the text: “Guess you’d need a ‘happy’ sort of ‘spirit,’ eh? Nudge nudge, wink wink …” Impressively, the “Big” option initiates a multi-card sequence (the HyperCard equivalent of cinematic montage) that takes us briefly to cards in two other stacks. We first visit “Final Cuts,” where we pause on a highlighted line from Buddy’s song “Titanic”: *America, where we blew apart like rags in a furnace*. From there we flip to “Fictionary of the Bezoars,” where we visit the entry for *Ka*. After a short pause we return to “Riddle.” For those who haven’t worked out the answer by this point, the “Tell me” option furnishes the solution in letter-to-number cipher.

There is no direct indication that the phrase thus decoded is the password for the “Egypt” stack. Making this connection requires inference, that familiar form of nontrivial engagement that occurs in most mystery stories and text adventures. In retrospect the clue seems fairly obvious: the “Riddle” cartoon, in which a Nilotic comedian performs stand-up before a half-amused Sphinx, is set after all in EGYPT—nudge nudge, wink wink. Yet the solution asks the reader not simply to process this visual detail but also to relate it to the data architecture of the *Funhouse*. “Egypt” is a place to exercise your merry ka, but also a link destination and the name of a component stack. The reader may for a time drift sideways across the surface of the slippery pun. How does the Land of the Pharaohs relate to “America, where we blew apart like rags in a furnace?” What are we to make of the contents of this mysterious box, the ragged traces of Buddy’s scattered spirit? Ultimately we must move beyond “Letter Fun” to a deeper consideration of the numinous chocolate box and its contents. We are dealing with an ensemble of documents that is suspiciously oversized, offering more items than appear on the Home Card. Making this connection is our surest route to the crucial stack called “Riddle,” which in this way is not just the door into Egypt but the conceptual and procedural key to the *Funhouse*. 
The “modal appropriateness” principle of the *Funhouse*, of which the Egypt solution seems a remarkable demonstration, emphasizes the message of mediation. It is worth noting here that McDaid did doctoral work with the technology critic Neil Postman in his McLuhan-influenced Media Ecology program at New York University. McLuhan and Postman may well be other important phantoms haunting the *Funhouse* along with its vanished Art. The medium is the message; and, as important, the content of any medium is another medium. We have to deal not just with visual-verbal puzzles at the signifying surface but also with the nature and arrangement of the elements that contain them. The *Funhouse* regularly asks us to confront media in material and practical terms, loading and examining the contents of disks, inspecting the cover art and labeling of cassettes, poring over page proofs of a story intended for print. We have to understand not just what we see but how the presentation is framed or substantiated.

This principle becomes even more deeply ingrained as we make our way into an initially concealed second level of the text: the contents of the stack called “Egypt.” After entering the password, we reach a card that may seem deceptively similar. It is clearly an alternative version of the prior home card, with differences that stand out on close inspection. “We’re clearly in different place now,” McDaid observes when he comes to this card during his Traversal (McDaid 2015f). This is not Buddy’s Funhouse but a parallel space, Aunty Em’s Haunt House, whose features “mirror and evert” those of the first-level domain. The home image is unchanged, and the array of links will seem familiar, but the names they wear are different. “The Writer’s Brain” is now “The Writher’s Pain”; “Fictionary of the Bezoars” has become “Decorticationary of the Schizonts”; in the place of “Egypt” we now find “Necropolis.” The notion of mirrored, inverted, or “everted” spaces has many antecedents, from Lewis Carroll’s looking-glass to Dorothy’s sojourn in Oz. Considering the dark tone of the names on this side of the mirror, we might also bring in the Bizarro World of Superman, where moral axes are set askew, and the bearded-Spock universe of *Star Trek*, in which a brutal empire replaces the Federation.

Mirroring can suggest an antithetical or zero-sum relationship in which one side cancels or eliminates the other. The shift from “Writer” to “Writher,” “Brain” to “Pain,” and the suggestion of decortication, a scary-sounding medical procedure that is actually a treatment for chronic laryngitis, all point in this direction. Funhouse and Haunt House are in many ways opposites. Emily is in some respects less Aunty Em than anti-Buddy, perhaps his oppositely charged particle in a cosmological sense. If this is the
case, however, we are dealing with a notably complex cosmology. Here, for instance, are the “Welcome” texts attached to each of the home cards (accessed by clicking on the main title box at upper left):

WELCOME TO THE FUNHOUSE
If you’re reading this, we must assume that you’re supposed to. Perhaps you don’t remember me yet. Perhaps you never will. (Yes, I do mean you.) But play along with me for now. Pop a tape in your walkperson. Click through a few screens. Come on. Suspend, for a moment, disbelief.
You’re thinking that this is some kind of scam, a commercial hoax. How could some computer game that I’ve bought have anything to do with me? Or worse yet, that some pseudorelevant teacher is forcing you to play this game for a class? Or if you’ve pirated this game from a friend?
This is not a game. This was never meant to be a game.
Imagine, if you will, having to send a message to someone. And you might not even know who that person is. Or even if they will, or have, or do, exist. But you do know some things about what that person will be like if they did exist. You think. They might be interested in reading this.
At least, one must assume that they will.
Won’t they?
-Art
p.s. Believe everything, at least temporarily.
Believe nothing permanently.

AUNTY EM’S HAUNT HOUSE
If you’re assuming this, we must suppose that you’re reading. Perhaps you haven’t dismembered will yet. You? Perhaps never. (Yes, you do mean “I do.”)
But play along with now for me. Pop a person in your walk tape. Screen through a few clicks. Come on. Disbelieve, for a moment, suspension.
You’re scamming that this is some kind of commercial think-hoax. How could anything have anything to do with me? Or worse yet, what if some computer game is actually forcing you to be pseudorelevant? Or if you’re a pirated friend from a game?
This is not. This was never.
Imagine, if you will, having a message. And you might even know who that person is. Or they will, or have, or do, exist. But you know some person would be things about what, if they did exist. You think.
They might be reading this.
Interested?
At least, one must assume. Won’t they?
-Buddy
p.s. Believe nothing, at least temporarily.
Believe everything permanently.

The final lines of these texts differ diametrically—“Believe nothing permanently/Believe everything permanently”—but until those points, the Haunt House text seems to rearrange or remix the Funhouse version, running permutations with a cutup procedure probably based on the Burrower, though with important variations. Some lines are strictly resequenced (e.g., “You’re scamming that this is some kind of commercial think-hoax”). Others are more radically rewritten, as when “This is not a game” becomes simply “This is not.” Why is the word “game,” of all words, suppressed on
the Haunt House side? There is also the matter of the signatures, “Art” in the Funhouse, but where we might expect Emily or Em in the Haunt House, we find instead “Buddy.” Does this imply that Buddy is a pseudonym of Emily? Or vice versa, is Emily a mask assumed by Buddy?

The Egypt of Egypt

These questions need to be taken considerably further, but to do so we have to make an even deeper incursion into the secret world of the Funhouse. The home card of the “Egypt” stack (the Haunt House) contains its own password-protected link marked “Necropolis.” This time around the prompt differs a bit (or strictly speaking, a byte).

This dialog box in figure 3.4 likely represents an homage to the early interactive fiction Zork (1977), where players may become caught in “A MAZE OF TWISTY LITTLE PASSAGES, ALL ALIKE” until making their way to “A MAZE OF LITTLE TWISTY PASSAGES, ALL ALIKE” (Kidder 1981, 86). Syntax can be very important in technological fictions; likewise punctuation. The password prompt on the Buddy side of the house, the one so comically easy to answer, reads: “What is the password?” By contrast, note

![Password prompt in the “Egypt” stack.](image)
the final character here on the Aunty Em side – period, not question mark. The sentence is declarative not interrogative, and the password prompt is in fact a giveaway. Four letters later we are on our way into the second covert level of the Funhouse, a region McDaid calls “the Egypt of Egypt.” If the Haunt House is a mirror world, this locked room within it seems more like the “Nighttown” section of Ulysses—recursive, oneiric, and in a way dangerous.

“The Egypt of Egypt” is a sequence of thirteen cards, in effect a punctuated montage. All but the last card are scripted to proceed to the next when the mouse button is clicked. McDaid calls his twin characters “speaking parts,” and the voice here is Emily’s. We are reading her journal entries and interior monologue. The cards contain frequent images of Buddy, with first-person lines attributed to him, but these presumably come from Emily’s perspective. The first card bears the title “Welcome to Egypt” and contains a sketch showing Buddy’s head on the body of the Sphinx of Giza. A text box bears this inscription:

There was a time, not too long ago, when the only part of the Sphinx that was visible was the head. The rest remained buried in the sand. Legend had it that if you slept near its mouth, it would whisper the future to you.

At this point the reader may indeed be about to discover her future as a reader/player of the Funhouse, as we will see two sections hence—but not before proceeding with the montage.

The second card shows Buddy in graduation garb standing outside the New School for Social Research. Over this image is the legend “TIME IS A LIE.” The next card, “Harley’s Moon,” presents a vignette about a pigeon run over by a car. After that comes a card titled, “The last sketchbook entry...” where the text is deliberately distorted into near-illegibility. It describes a visit to a dying AIDS patient (Harley) just before he falls into his final agonies. On the next card, a scrapbook-styled page shows Buddy over the title “I don’t exist,” with the prompt, “Click the sphinx for the awful truth.” Clicking anywhere at this point leads to a card in which Buddy is caricatured as a horned devil, with the messages “DO AS YOU ARE TOLD” and “EVIL IS A LIE.” The next card uses the HyperCard dissolve-in effect to gradually reveal a woman’s face (Emily’s?) and the text, “There are no last entries, last words, last looks, last chances” and “BUD IS A LIE.” The next card after this features a photonegative, halftone image of Buddy with text beginning, “HE’S ALL DOTS” and ending “EVERYTHING IS TRUE.” After this comes a card titled “Dead Man’s Book,” containing the legend “EMILY IS A LIE” and the text, “The final fiction is that it is fiction / nothing is true
/ but this." Next, another version of "Dead Man's Book," with the words, "Suppose I am" and "Suppose You are." After this, an iris-open visual effect introduces a card bearing an extreme close-up of someone's eye, lettered below it a deliberate misquotation from Meister Eckhart: "ONLY THE HAND THAT ERASES CAN READ THE TRUE THING." Finally, the thirteenth card in the sequence (figure 3.5), announcing itself with a flourish of animation as "LEFT-RITE."  

Our earlier side-by-side comparison of Buddy and Emily texts had to be synthesized. Here, "in this decrypted world," the juxtaposition is direct. On the left Buddy's voice declares, "Emily is a fiction. A term of Art." On the right Emily pronounces Art (Buddy) an artifice: "a fiction. A voice. A character." Both texts contain evocations of death. On the Buddy side we find "one little quantum bubble extruded from my brain at the point of impact with that oak tree in Tully," referring to a car crash in upstate New York. Buddy was perhaps in the car. Maybe he survived, or as the allusion to "Occurrence [sic] at Owl Creek Bridge" hints, perhaps all that he experiences is a "bubble" of failing consciousness—a last night's dream indeed.

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Figure 3.5
Card "Left-Rite" of the "Egypt" stack.
On the Emily side we have the reference to “coke-addict warfuck hemisphere, Jaynes Kingvoice,” and the stark statement, “I must exist, even if existence means death.” The reference to Jaynes, hemispheres, and “Kingvoice” probably points to Julian Jaynes, whose *Origin of Consciousness in the Breakdown of the Bicameral Mind* is another of McDaid’s media-ecological sources (Jaynes 2000). Jaynes argues that our apparently native self-awareness actually emerged in early antiquity when the invention of writing caused a physical change in human brains. The reconfiguration allowed communication across the corpus callosum, banishing internal voices heard as gods or kings to the realms of poetry, dream, and delusion. Needless to say, someone who thinks half her brain is dominated by a “coke-addict warfuck” is probably not in the happiest frame of mind. Equating existence with death might simply reflect the human condition. Or it could intimate suicide.

The mirrored symmetry of Emily and Buddy seems fearful indeed, though not in William Blake’s sense of an ontological sublime. The *Funhouse* seems less concerned with who has made its lamb and tyger than with the unmaking of those personae. After all, Blake did not have to live in the twentieth century and learn the term mutual assured destruction. To be sure, the scope here is personal rather than general. “Global thermonuclear war” may not come in at this moment, though the phrase appears elsewhere in the *Funhouse*; still, “Left-Rite” seems governed by a principle of extinction.

**Funhouse Mirror**

We now come to two texts included in McDaid’s Traversal as some of the final words of the work. They belong to the “Egypt” stack and hence to the mirror-world of the Haunt House, though their formal and technical circumstances need more detailed attention, which will be pursued in the next section. The texts themselves are enormously relevant in their own right. For reasons that will be explained later, they are best identified by number:

**Text 128:**

(c) 1992 Emily Keane and Arthur “Buddy” Newkirk-Osiris and the trustees of Arthur Newkirk. No dedicated mother, no Walker Percy, just a kid I used to know who never had the chance to grow up to be the writer he dreamed of. Strange how you find yourself replicating your parent’s [sic] lives, despite analysis and insight, as the grooves in the spiral find us despite ourselves, oscillating between Spinx [sic] and Rainbow ...
Text 129:

(c) 1992 Buddy Newkirk and the friends of Emily Keane. Nothing’s over till we SAY it’s over. To wake up and find that one has, in some chemical fugue state, embed-
ded signatures even unto the resource fork, ah, madness at the lights. The wish for
the return. But no. Emily is the friend you knew, the first of your charmed circle to
fall. The one whom you were sure was faking, that this was all some massive cha-
rade cooked up at your expense, as you looked down in the casket at the sewn-up
face, the blotted makeup applied all wrong, you were sure that at any moment
those eyes would open, she would laugh *that* laugh, pleased beyond words, as
would all the assembled “mourners” at the success of their Long Joke. But it was
not to be. The next day, you put her in the ground and went to cry mindlessly and
ceaselessly, over her sketchbooks and super-8s, last remnants of the Lost Continent.
And you thought, perhaps, that by creating, re-creating yourself through her, that
the memory might somehow become an ally, rather than this dark upwelling of
hopelessness.

As we have noted, the major mysteries of the Funhouse are ontological and
artifactual. Every time we encounter a piece of it, we need to ask, among
other questions, what we are looking at, how the item is meant to function,
and how it integrates into the general scheme. Texts 128 and 129 appear to
be paratextual, in the mode of authors’ afterwords, dedications, or acknowl-
edgments. Text 128 is in Emily’s voice, 129 in Buddy’s. Their numerical
order may reflect an un-nesting from inner to outer.

Each text begins with an assertion of copyright, a pair of curious fic-
tions that might make a juridico-formalist’s head swim. Here we have two
fictional characters, each of whom claims to have invented the other,
both claiming ownership of the text that contains them. Notably both
claims include the readers, either as “the trustees of Arthur Newkirk”
(remember that legal document we read on entry), or as “the friends of
Emily Keane” (which we surely must be by now). As interested parties, we
are invited to a pair of wakes and burials. Emily’s, described by Buddy, is
more literally rendered. We see her in the casket with suggestions of a
traumatic end (her “sewn-up face”). Emily’s eulogy for Buddy invokes the
story of John Kennedy Toole, the young suicide whose first and only
novel, Confederacy of Dunces, appeared posthumously in 1980 through
efforts of the writer’s mother and the novelist Walker Percy. Buddy’s end
seems more accidental than deliberate, though it is hard to be sure. Evi-
dence of the event can be found at several points in the Haunt House.
There is the allusion in “Left-Rite” to the oak tree in Tully, and what we
can see in figure 3.6.
Figure 3.6 shows the twelfth card of “The Writher’s Pain” section of the Haunt House, Emily’s equivalent of Buddy’s sketchbook. The text at right begins with a chilling vignette (“I held his hand in this piece of paper”) before departing into an Orwellian or Orson-Wellesian fugue. The evident reason for this mental flight can be found at left in the rendering of a newspaper clipping announcing the death of Buddy and his bandmate Mu in a car crash. On the Buddy side of the house, at cards 82–84 of “The Writer’s Brain,” we find a different version of this event where it is Will Neustadter who dies, with Buddy and the other Reptiles surviving. “Perhaps it happened,” Buddy writes at the end of this somber reflection (Card 84). Or perhaps, in Emily’s view, something else did.⁹

So Uncle Buddy’s Phantom Funhouse seems to verify Bernstein’s tag line, “A chocolate box full of death.” There is plenty of mortality here. On the evidence of these gravestone texts, the mirroring of Buddy and Emily does indeed sum to zero. Each character mourns and thus fictively annihilates the other. Their worlds appear to be mutually destructive or exclusive—though, to take the side of chocolate over death, we might also call them mutually creative. Each imagines the other into literary existence,
preserving their lost lives momentarily against extinction. During his post-Traversal interview, McDaid invokes a particular artistic analog for this relationship:

One of the stories I wrote at [the Clarion Writers’ Workshop] is a recursive science fiction story about either Buddy or Emily, at Clarion, writing the story that the other one could never read. And that story, if I ever do a [Funhouse] 2.0 ... would be part of the fiction because for me the central conceit is like the Escher [lithograph of] two hands drawing each other, and that is ... in terms of the science ... that question of identity under uncertainty. (McDaid 2015d)

McDaid refers to “Drawing Hands,” a 1948 lithograph by M. C. Escher in which twin hands holding pencils emerge from a sheet of paper, each completing the delineation of the other. While this image appears to assert absolute balance—left/right indeed—it is also a visual conundrum or sublime joke, one of Escher’s many flirtations with “strange loops,” the recursive intertwining of ontological levels described by another of McDaid’s favorite sources, Douglas Hofstadter (2007). Considered in its strangeness, the image suggests an approach to Buddy-Emily that moves beyond a simple, zero-sum game. Two details of Escher’s lithograph deserve particular attention. The first is a quartet of pushpins that holds in place the plane from which the hands emerge. They serve as anchors figuratively or diegetically within the image, but also meta-figuratively, identifying this shaded, rotated rectangle as the representation of a sheet of drawing paper—anchoring both the paper and our interpretation. The implicit pun here is no doubt part of the joke, a further game of level-crossing.

The second salient feature of the Escher image is a subtle, diagonal shadow, a trompe l’oeil crease running across the center of the depicted paper. It also identifies the containing rectangle as medium or ground, but at the same time suggests both complexity—the intricate rendering of paper fiber—and also imperfection—the implied buckling of the surface under tension. It thus adds a final, absurd touch of realism. Both these features use visual language to deconstruct visual language. They are all about drawing, in the sense of emphasis or attention as well as depiction. In drawing one another on their drawn-out surface, the hands attract notice to their artificiality. Thus in a sense they undraw themselves even as they reassert their basic outlines. Mirrors, after all, both reflect and represent. They confront us with ourselves confronting ourselves. Like certain fictions, mirrors can thus raise an existential question: Which of these figures is real? In the lithograph neither half-constructed hand can claim reality beyond the domain of the image. The only true existent is the image itself, the ground
within which the mirror-illusion is created. To paraphrase the bad-girl toon of *Who Framed Roger Rabbit* (1988), the hands are not situated in reality, they just draw us that way.

We might apply a similar logic to Buddy and Emily. The two character/voices may be suggestively symmetrical—male and female, overt and covert, creator and disrupter if not destroyer. In her eulogy for Buddy (Text 128), Emily compares life to a vinyl record: “as the grooves in the spiral find us despite ourselves, oscillating between Spinx [sic] and Rainbow. …” The misspelling conveys the unedited intimacy and stressful circumstances of the text. There is no entity in the *Funhouse* called Spinx, and while we have already noted echoes of a certain novelistic Rainbow, there are none here. The reference is instead to *The Sphinx and the Rainbow*, a book on philosophy of mind by David Loye, in which Sphinx indicates materiality, or what David Bohm calls the “explicate order,” while Rainbow stands for mind, the flickering emergence of consciousness in the “implicate” (see Loye 1998; Bohm 2002).

So, Buddy is Sphinx-Brain, and Emily Rainbow-Mind. They are mutually dependent of course, but why should they be self-canceling? Perhaps this work obeys some principle other than simple oscillation, the tick and tock of Left-Rite. Asked about this, McDaid replies:

Buddy is the Sphinx, and Emily the Rainbow, although ... they may (implicately, as Ding an sich) both be portions of a circular wave that unfolds to a different explicate order depending on where you position the reading frame. All is one.

I really, really like the ending of *BioShock Infinite*. (McDaid, email to Moulthrop, July 14, 2014)

We will come to *BioShock Infinite*, the notable 2013 computer game, in due course. Suffice it to say McDaid’s playful allusion to a contemporary game is not the non sequitur it may seem. Remember how numinously that elided word “game” haunts McDaid’s text. Games may be a necessary if problematic reference point here. Emily and Buddy can be seen as pieces (players?) in a game that insists it is not a game, perhaps in the same way Escher’s lithograph seduces us with realist technique, all the time declaring that it is not (not) an illusion.

The apparently absolute symmetries in fact mask something. The true design is more complicated. Escher must include his exquisite dimple or crease, adding a simulated imperfection to ensure an overdose of realism. For Escher this is a matter of topography; McDaid seems more interested in topology.10 Emily’s “speaking part” is considerably shorter than Buddy’s. Her domain is confined entirely to the “Egypt” stack. The links from the
Haunt House home card connect to other cards in that stack, not to independent stacks as on the Buddy side. Her pieces are thus necessarily limited in scope. For instance, “Decorticationary of the Schizonts,” the stack corresponding to Buddy’s “Fictionary of the Bezoars,” contains only ten entries, where the “Fictionary” has eighty-five. If Emily’s space represents a hidden dimension of the *Funhouse*, it seems to follow the logic of string theory—a reference McDaid very likely intended—in which the unseen is folded or coiled within some dimension of the overt or familiar. If the Haunt House is a mirror world, it is after all a *Funhouse* mirror. Its symmetries may be skewed or distorted, subject to uncanny “divergences.” We may need to consider its geometries in more than just the two dimensions of Rainbow and Sphinx. As McDaid points out, the relationship of Emily and Buddy very much depends on “where you position the reading frame,” which means, as those copyright statements imply, that we are also in the shot.

So we come to a truth about the *Funhouse* not hitherto acknowledged: Aunty Em wants us dead.

**Beyond the Zero**

As previously noted, the “Egypt of Egypt” sequence reveals our immediate future as readers of the *Funhouse*—what little there is. Clicking on the thirteenth card, “Left-Rite,” sends us back to the previous card, over which we now see a dialog box (figure 3.7).

The curious line breaks may be a technical artifact (at some point Apple seems to have changed the way dialog boxes display linefeed characters), though their disruption of syntax is consistent with what is about to happen. Things are falling apart, chiefly our relationship with Emily. In the manner of a B-movie mad scientist or the spy in the worn-out joke, she cannot permit us to continue after we read “Left-Rite.” Now that she has told us the awful truth, she has to kill us. “ONLY THE HAND THAT ERASES CAN READ THE TRUE THING,” says the altered quotation from Eckhart at the bottom of the card. In the original “READ” is “WRITE.” We may also remember that the image below the dialog box, which we have seen previously, shows a wide-open eye. Again the Blakean question recurs—what immortal hand or eye?—but that question does not apply here since in effect we trade a hand for an eye and are assigned at least a figurative mortality. It is normally the eye that reads and the hand that writes. Here, though, what the eye sees leads to erasure, which is the work of hands, or, in this case, the reader’s index finger poised
on the mouse button. The eye having read the true thing, the hand must now erase.

Dialog boxes remain visible until we click a response button, choosing our line in a scripted exchange. In this case only one option is offered, the standard victim’s expostulation, “But …” But—also and—nothing. Clicking the button activates a HyperTalk command that closes the current stack and quits the HyperCard application. This would appear to be the end of our time in the Funhouse. Technically speaking, Emily extinguishes not the reader but the evident or available text, the scripton (Aarseth 1997, 19). Her action (or the program’s, or its programmer’s) switches off the hypermedia machine. According to the rhetoric of this fiction, however, the act is an assassination. Fictively speaking she kills us.

At this point we may recall Buddy’s declaration in his welcome message: “This is not a game.” The claim seems at least partly debatable. The line between games and other, literary sorts of cybertext can be hard to define. Many works of electronic literature borrow game concepts and conventions (see Ensslin 2014). Even when they do not formally imitate games, literary cybertexts such as Talan Memmott’s Lexia to Perplexia (2000) or Tomasula’s TOC may approach the semiotic richness found in modern computer

Figure 3.7
Final card of the “Egypt” stack.
games. However, of all works of electronic literature produced to date, the *Funhouse* may be the only one to equal the structural and cognitive complexity of twenty-first-century games.

On formal grounds, there seems less room for argument. The *Funhouse* lacks several elements commonly thought to identify something as a game. There is no score, no clear exigency driving players’ decisions, and at least apparently no winning outcome, only abrupt termination. Many computer programs calling themselves games display similar quirks or deficiencies, but outside the similarly liminal area of interactive fiction, none involve anything like the word count found in the *Funhouse*. As Buddy and his creator insist, the work may be best understood as hypermedia fiction or unconventional novel (Aarseth 2006, 841). Yet the *Funhouse* does share with computer games one very important concept: its treatment of player death.

In computer games the experience represented as death is never necessarily terminal. True, a player having watched his virtual body blown up or shot to pieces for the three hundredth time may hurl the game disk out the nearest window or boot his Xbox with an actual boot. These are extreme instances. More usually the outcome of player death is some form of resigned reengagement. In *Bioshock Infinite*, the game that so impresses McDaid, in-game mortality almost always leads to a video sequence in which a companion injects the protagonist with rejuvenation serum. (This may not be the best game for recovering addicts or people with needle phobias.) Once revived, we return to the fray, hopefully with smarter tactics.

Sometimes we may cheat our way around in-game death. Some players may lack the fast-twitch control, visual acuity, and combat brainpower to survive the final fight sequence of *Bioshock Infinite* even in its easiest play mode. For such players there is Internet video. Since *Bioshock Infinite* generously permits the skipping of levels, we can watch someone else save the battleship core and get on with the rest of the game on our own terms. Following the game researcher Jesper Juul (2013), it is possible to come to terms with the limits of one’s skills. Also, like Juul, and perhaps like most gamers, some of us now understand failure and regeneration—Hat-Z, in Uncle Buddy’s terms—not simply as a vicissitude of play but as something fundamental to meaning in cybertexts. Figuratively speaking, these things will kill you—over and over again.

This discovery may apply beyond cybertext as well. The first part of *Gravity’s Rainbow* is called “Beyond the Zero.” Pynchon takes the phrase
from the writings of I. P. Pavlov, whose work with conditioned reflexes leads into strange philosophical territory:

As Ivan Petrovich himself said, “Not only must we speak of partial or of complete extinction of a conditioned reflex, but we must also realize that extinction can proceed beyond the point of reducing a reflex to zero. We cannot therefore judge the degree of extinction only by the magnitude of the reflex or its absence, since there can still be a silent extinction beyond the zero.” (Pynchon 1973, 84–85)

It is not clear how an organism can express or otherwise enact a reflex extinguished beyond zero observed response. As Buddy asks about time travel, how would you know? For Pynchon this question can only be addressed through sublime, mystical, and ultimately self-defying fiction. So perhaps also for McDaid, though arguably the Funhouse adds a new dimension to the problem. In an important way, McDaid’s work does not simply gesture or speculate beyond the zero; it allows us, perhaps not so figuratively speaking, to go there.

While acknowledging that the Funhouse is not in strict terms a game, we need to borrow from the logic of that form. At least some forms of game play, especially in the realm of computer games, bring us repeatedly to a state of disrupted or minimal engagement. Games handle player death in myriad ways, but almost always the player loses connection to the in-game character. Keyboard or controller input is suspended. This situation may not amount to complete extinction of engagement. Player attention may simply fall to an unhappy minimum, asymptotically approaching zero, while the diegetic illusion of the game persists, for instance in the form of some ministering angel.

The matter is clearer in cases where the player leaves the game entirely, as less capable players may do in Bioshock Infinite, and as we are forced to do in the Funhouse when Emily kills us. The former may be elective, but the latter is programmatically ordained. In his theory of “gamic action,” Galloway calls this occurrence a “death act” (2004, 28). At such a moment the player/reader definitely passes through a zero state. The entertainment ceases to hold our attention. We are placed suddenly in a different frame of mind. The experience is similar if not identical to what Terry Winograd and Fernando Flores call “breakdown,” the instant when software fails to function as intended and becomes apparent to the user no longer as an extension of will but as an external object (1986, 36). What follows this recognition might well be thought of as passage beyond the zero—though if we are more interested in pragmatics than mysticism, we may want to replace extinction with extension.
The concept of extension beyond the zero, or cybertextual engagement after breakdown, allows us to understand the final mystery of the *Funhouse*, which is to say the full extent of its intricate architecture. Something important was left unsaid about the twin valedictions discussed in the previous section, Texts 128 and 129. They belong to the “Egypt” stack in the *Funhouse*, but they are not readable from within the HyperCard application. There is no hypertext link to these texts. In fact, the reader has no simple way of knowing they exist. Their concealment is much more radical than that of the Haunt House, with its broad hints at the password, or even “The Egypt of Egypt,” with its obvious grammatical clue. They have been placed at an innermost level of secrecy.

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<th>Levels of Concealment in the Funhouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
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<tr>
<td>All stacks except “Egypt”</td>
</tr>
<tr>
<td>“Egypt”</td>
</tr>
<tr>
<td>“The Egypt of Egypt”</td>
</tr>
<tr>
<td>Resource Fork texts</td>
</tr>
</tbody>
</table>

The twin tombstone texts belong to what Aarseth would call the *textonic* dimension of the *Funhouse*—in this case, the code structure of the “Egypt” stack. They are potentially accessible but must be delivered through a special *traversal function*, which in Aarseth’s terms is the agency that converts textons to scriptons or elements of presentation. Indeed, the same is true for all the components of the *Funhouse* we have discussed so far. As a cyber-text, it uses the traversal functions built into HyperCard to processing digital information from storage media into screen presentation. In the case of our numbered texts, this scheme involves an interesting complication. Aarseth does not restrict the traversal function to machinic systems (*I Ching* has such a function, for instance; see Aarseth 1997, 1). Even in cases where a mechanical device is involved, the traversal function may demand human operation as well, which is why we have named our recorded encounters Traversals. In the case of Texts 128 and 129, however, human and machinic agency crucially diverge.

In McDaid’s tour of his work, the numbered texts are penultimate stops. He introduces them after clicking the fatal button at the end of “The Egypt of Egypt,” after the HyperCard program shuts itself down. To access the
texts he makes use of a second application—in Aarseth’s terms, he activates a different traversal function. This is a piece of software called ResEdit, short for Resource Editor, a utility program originally distributed with every Macintosh. ResEdit permits users to explore and, if they wish, modify part of the inner structure of files and applications. Documents in the file system of early Macintosh OS could have two divisions, data fork and resource fork. The former generally contained information intended for output or manipulation. The data fork of a word-processor file would hold its verbal contents. For a bitmapped image, it held binary data specifying the arrangement of pixels. The resource fork was generally used for items needed by the application but not readily available for user modification. For instance, the Macintosh versions of afternoon and Victory Garden both use the resource fork to store the main display font.

Though the resource fork was conventionally reserved for infrastructure—the software equivalent of a crawlspace or utility closet—developers could put anything they wanted there. Using ASCII text files, coders frequently left advice or hidden messages in the resource forks of their programs. Such cached items are often considered Easter eggs, for both their concealment and the transitory pleasure that may attend their discovery. Text 128 is installed in the resource fork of “Egypt” as Text Resource 128 (a number that may have been assigned automatically by ResEdit). Text Resource 129 is the next item in sequence.

As we have seen, Texts 128 and 129 are not mere lagniappes. They elaborate and perhaps seal off the creative-destructive pairing of Emily and Buddy. They also mean something quite important for that third party—reader, friend, and trustee—who has brought them into view by adopting a second mode of Traversal. In order to discover the hidden texts, we must change profoundly the way we think about the Funhouse. We must in effect jump out of the system, a phrase from Hofstadter that appears on Card 60 of “Fictionary of the Bezoars,” with certain Buddy variations:

**Jootsing** gerund acronym (for “Jumping Out Of The System” Douglas Hofstadter, Gödel, Escher, Bach 1979)

1. The process of self-transcendence required to achieve a meta-level picture or solution to situationally-engendered problems, particularly constraint-driven paradoxes like “This sentence is false,” or Gödel’s Theorem, *q.v.*
2. **Joots** *tr v* (from 1) The act of self-transcending a system, especially one predicated on control structures geared to prevent just that, like religions or schizophrenic family structures. *Usage:* “Oh, criminy, will you just Joots out of that stupid, catholic, Batesonian double-bind family of yours.”
3. *jocular* (from 2) To get something, particularly in the sense of extraction. *Ex: “Joots* me a beer from Frostigone.*"

Fetching beer from the fridge is one thing; it is something else again to extract hidden texts from a storytelling machine after it confronts us with a death act. Call this a higher sort of Jootsing. This transformation both of the text and its situation of reception brings us to a moment of excess or extremity. As Buddy, or perhaps his author, says:

To wake up and find that one has, in some chemical fugue state, embedded signatures even unto the resource fork, ah, madness at the lights.

Yet if these deepest-buried secrets of the *Funhouse* suggest “madness,” they betray a certain method as well. There are three Easter egg texts in “Egypt,” the last of which, number 130, contains a single line:

**Finis coronat opus.**

This proverbial tag can be read literally—*the end crowns the work*—or in a more interesting, figurative way: *the ends justify the means*. What might excuse the “madness” of descending into the resource fork or concealing what are arguably crucial bits of the project? The obvious answer is the one we suggested earlier in trying to explain how McDaid could write a twenty-first-century fiction a decade and a half ahead of the millennium. The ends—literally so, considering there are two or more end-texts in play—crown the work of reimagining the reader. Among Buddy’s/McDaid’s references to *Gravity’s Rainbow* is a design for a “paranoid bumpersticker” featuring the cover of Pynchon’s novel and the message, “If you can read this, you are too close” (“The Writer’s Brain,” Card 115). We might similarly say of the texts McDaid has resourcefully hidden, *if you can read THESE, “close” is no longer an option.*

In his meditation on TT, Buddy complains that hunting for time travelers would require “a mindset so totally committed to finding these faint ripples that issues of subjectivity—and paranoia—would necessarily prevent testing and verification” (“The Writer’s Brain,” Card 189). Happily, the hermeneutics of time travel is not that of new-media writing or cybertext. Making our way through the *Funhouse*, we may indeed require “paranoia” of a sort—the awareness that we are dealing with complex, deeply implicated systems that may need to be interrogated formally and operationally as well as in more conventional ways. The text has at least four levels of security or concealment and, cybertextually speaking, two distinct types of traversal function, the second requiring return to the text-machine after it shuts us out.
This complexity is daunting but it need not be defeating. If we grasp the structural logic of the *Funhouse*—no mean task, to be sure—if we understand that Emily and Buddy are not symmetrical mirror-twins but representatives of alternative universes fused into a mutually enfolded system, we may be prepared to proceed. Understanding this asymmetrical, topological arrangement teaches us to interrogate any act of apparent closure, to ask what is below or within any apparent surface. McDaid may refuse to call his work a game, and most theorists of digital games may agree, but the *Funhouse* clearly shares one important property with its ludic cousins. As Eskelinen memorably observes:

The dominant user function in literature, theatre and film is interpretative, but in games it is the configurative one. To generalize: in art we might have to configure in order to be able to interpret whereas in games we have to interpret in order to be able to configure, and proceed from the beginning to the winning or some other situation. (2001)

Our exit from the *Funhouse* may well define “some other situation,” neither winning nor losing. Reentry into the text via ResEdit confirms the importance of configuration. We may not need literally to alter the code of the *Funhouse* to find its hidden depths, but we are required to recognize the work’s infrastructure as a particular conjunction of database and interface. “Software, It’s a Thing,” Kirschenbaum (2014) reminds us. In the *Funhouse*, software is a thing with which and on which we can operate—perhaps the ultimate modally appropriate object. In applying ResEdit, we introduce an interface that differs radically from the one initially provided, belonging more closely to the domain of tools than texts or entertainments, a distinction HyperCard itself partly dismantles. In language Buddy shares with theorists of the ludic, we are asked to conceive the entire technical situation of the *Funhouse*—HyperCard, Macintosh Operating System, the computer itself—within a “magic circle” of play, if not cosmic “divergence.”

Play has its limits, of course, all the more so in a text that is not truly a game but rather a strange kind of time machine. Persisting after death in the *Funhouse*, crawling through the resource fork, we may find our way to a definitive interpretation, a sense of what the Buddy-Emily complex might amount to in personal if not cosmic terms. Something similar can happen in games as well, at least in the cinematic or saga-intensive games of which *Bioshock Infinite* is a prime example. Players of that game may also come to a point where configuration yields to interpretation. After all, every show eventually ends. Until that moment of enlightenment or “madness,” the
two user functions remain in recirculating play, in the hypermedia novel as well as the game.

In this way the *Funhouse* may be said to reconfigure its readers. We are, as the text repeatedly reminds us, always ourselves in the frame, quasi-legally implicated, at least on the level of memory, in the fates of Emily and Buddy. To fulfill or understand this obligation we need to configure as well as interpret, or to interpret predefined structures as objects of further technical engagement. This recognition involves learning to extend our commitment to the text beyond an apparent zero, to find a future in our experience after it has broken down—even if what we discover amounts only to a scattering of paratextual Easter eggs. Above all, McDaid’s new reader, early adopter of twenty-first-century consciousness, is asked to regard the mediated object not as unknowable *Ding an sich* but as a more useable thing, the known unknown, a field of possibilities ruled by a system whose properties can be specified and engaged. In this respect McDaid joins and in a significant way inaugurates a shift in poetics from description to a particular kind of simulation, one in which the specificity of medium is insistently co-present with message. This is by any reckoning a historic change, perhaps one with which the current history of art and writing has not yet caught up. It remains to be seen how the arrival of this artifact-aware, configurative hacker-reader can help us with the greatest problem of the *Funhouse* and of the Pathfinders project itself: coelacanth history, or being out of time.

**Constants and Variables, or the Way into Brooklyn**

McDaid’s allusion to *Bioshock Infinite* is hardly incidental. Like *Gravity’s Rainbow*, the game evokes its “time’s assembly,” which, poetically speaking, could mark the emergence of a new condition for narrative or the turn to a post-narrative, cybertextual mode of exposition. However we describe this process, its relevance to our present discussion is clear. This is the same transformation in which the *Funhouse* also plays its part. The full nature, operation, and meaning of *Bioshock Infinite* lie far beyond our scope here. We are able only to glance at a moment from one of its endings. For those who care, the spoiler flag is hereby set.

Ken Levine’s game is also a story of B and E, Booker and Elizabeth, and in a way also breaking and entering. The game transports us to certain physical spaces, in which one spends a lot of time shooting and looting, but it also takes us across multiple space-time dimensions or universes, which Elizabeth can manipulate—configure, if you will—by creating tears in the
fabric of reality. Like the Funhouse, Bioshock Infinite explores the fictive possibilities of a multiverse. Late in the game, after a bewildering series of quests and campaigns, we are rewarded with a striking image of this cosmos (figure 3.8).

We are looking at Elizabeth looking at a lighthouse, the ominous structure with which every Bioshock game begins. Beyond it we see an astonishing profusion of lighthouses, something no previous game in the series has shown—madness at the lights indeed. The points of illumination recede but notably do not sink to a horizon line, ascending instead as if on an upward slope. Following their implied curve we find another eye-tricking distortion or crease, though this one is the inverse of Escher’s, suggesting a concave not a convex bend. We are gazing at the interior surface of a sphere. As Elizabeth explains, the lights in the upper part of the sky are not stars. They are distant clusters made from instances of the same beacon we see in the foreground:

They’re a million million worlds. All different and all similar. Constants and variables. ... There’s always a lighthouse. There’s always a man. There’s always a city. (Bioshock Infinite)

One would like to add, having been through a lot together, there should always be an Elizabeth, though in fact she comes late to the Bioshock franchise, a crucial evolution from more problematic female figures in earlier games. Elizabeth is in many respects more complicated than the Emily of

Figure 3.8
The universe of lighthouses in Bioshock Infinite.
the *Funhouse*, especially in her relationship to Booker. Yet there are certain parallels. She is in her own way Booker’s nemesis, mistress of his secrets and those of the world, and, if we play along, sponsor of his undoing. To the extent we identify with Booker, she too wants us dead. This is not simply to maintain secrecy; Elizabeth has more complex reasons having to do with the moral arc of her multiverse. Perhaps most significantly, Elizabeth is also one of those owls at dusk, a time traveler trans-dimensionally abducted through an existential rift—in this way as much like Buddy as Emily.

In * Bioshock Infinite time travel is also space travel, transit between worlds. Like McDaid’s Sphinx and Rainbow, we have here another primal pair: constants and variables, constituent principles of a “million million” realities—and one might also say videogames or cybertexts. Sphinx/Rainbow and constant/variable may not correspond precisely, though the resemblance is suggestive. Just as no mortal brain can encompass infinitely implicate mind, so the local conditions of any universe are always subject to particularity, variations between this world and the world next door.

There are fundamental differences in the way the game and the hypertext novel operate, but we can propose at least one common element. The *Funhouse* ultimately drives us out, from which position we can reach back in. The saga of B and E in * Bioshock Infinite goes a different way but also seems inherently recursive. It ends not simply in denouement or the setup for another, probably impossible, sequel, but in the unveiling of the plenary cosmos from which its possible stories emerge. In both cases we return to the world-as-system, represented or mediated by an overtly systematic text. All is one, as McDaid says, and the one is limitlessly many. The most profound questions require multiple answers. *What does this story mean?* In * Bioshock Infinite* the solutions are uncountable—or as we might say, constantly variable.

This was not always the case. Back at the beginning, in the first game called * Bioshock* (2007), there were only three outcomes (by some reckonings two and a half), each reachable through a particular configuration of play. Much as we share McDaid’s affection for the finale of * Bioshock Infinite*, we will stick with the earlier model here. How can a text be both in and out of its time? In the case of the *Funhouse*, there is no way to arrive at a single conclusion, though we can reduce infinity to three.

**Ending 128**

This is the dark ending—perhaps, to extend our * Bioshock* analogy, the path of least resistance haunted by repeated human sacrifice in the first game. The dire ending of the original * Bioshock* features a haunting, the fearful
return of figures (the Little Sisters) who have been consigned to extinction. Our situation at the deep end of the Funhouse is not the same, though we may suggest some analogies. We are visited not by Little Sisters but by the zombie presence of our old Adam, an unconverted reader, the Fool who shambles stubbornly down the path of denial. In a way, he is similarly obsessed with death.

To hear this Fool moan about it, the Funhouse cannot escape its obsolescence. There are no such things as time machines. Recording the author’s tour of the work, with or without a side order of critical interpretation, cannot substitute for direct access to the primary experience. Cybertexts are meant to be explored, not simply demonstrated. Therefore the Funhouse, and by extension any game or fiction that depends on evanescent technologies, will never match the temporal reach of traditional writing, which has no such commitment to nontotality and can therefore rely on simpler and more durable infrastructure. Here lies the reader who cannot run HyperCard; or we may instead find the chocolate-box sarcophagus empty, since that reader has moved on to other sorts of textual play, from epic video games to social media. Say rather, there goes the reader who connects to the world with phone or tablet, who may never own a laptop or game console, let alone a deskbound PC.

The issue, as Grigar points out, is not just a limit of accessibility but a lack of knowledge of the form—perhaps of the deeper mystery of technological expression. The image of a reconfigured reader remains a somewhat dubious thought experiment. The evolutionary move it implies was always elective, and it makes exceptional demands. Even among those who could access the work directly, how many readers of the Funhouse have actually descended into its resource forks? Who besides the author would suspect such hidden treasures? There may be a textual world beyond the zero, but how would you know?

Much may depend on who is meant by \textit{you}. The optimal set may not be entirely empty, though it also may not include this writer. In a symposium on the Funhouse in 2016, McDaid demonstrated a hitherto unnoticed feature of the work.\cite{McDaid2016} Card 192 of “The Writer’s Brain” includes what appears to be a digitally reduced image of a text field. In fact it is an actual text field whose type size is set to one point. The text in this field can be read using perhaps the strangest quirk in Atkinson’s ingenious program. A clever reader can copy the tiny type into a more readable field and thus access a diegetically important message from Buddy, implying that fine print can be used to pass messages across folds in space-time. The physics of this suggestion is less important than the fantasy. Fictive implications aside, McDaid’s
exploit suggests another expansion of the series of concealments outlined earlier in this chapter (figure 3.2). It also confirms that the *Funhouse* is designed to inculcate readers into both deep inquisition and formal manipulation of its structures. There is no doubt a considerable gap between tricky text fields hidden in plain sight and texts buried in the resource fork, but an attentive reader will be led to the edge of that gap.

Are there any readers so attentive? In more than two decades since publication of the *Funhouse*, almost none have been detected.\(^\text{13}\) Perhaps, like the advanced or alien intelligences they may well be, they prefer to remain silent. Such may ultimately be the sad fate of the *Funhouse*. Meanwhile, results from other cybertexual domains are more promising. The genre of interactive fiction or text adventure has been improbably preserved over those same three decades by devotees who understand deeply the complementarity of story and game, not to mention readable scripton and textonic code. With the emergence of systems such as Inform 7 (http://inform7.com), Versu (http://www.versu.com), and Twine (Hudson 2014), the popularity of these practices may spread still further through our relentlessly dissipative culture. At the end of the day, though, it still seems fair to ask if these converts will ever amount to more than a clever elite—odd audience and few.

Treating the matter liberally, perhaps McDaid’s project augurs some actual literary future. In the eyes of our Foolish pessimist, however, this can only be a future that came too soon. McDaid’s project is defined by its own central image: the figure out of time, an impossible insurgency from a world that does not yet exist and perhaps never will. Passing messages in one-point type is all well and good, but it depends on systems that can handle such outlandish specifications. For the moment at least, *Uncle Bud-dy’s Phantom Funhouse* represents a fork off the main timeline of technological development, an evolutionary dead end. Coelacanth history may bring to light a living fossil, but at a certain point the phrase *out of time* must fall back into its primary reference of exhaustion, tragedy, and failure. *Too soon* inevitably becomes *too late*.

**Ending 129**

But. … And yes but. Damn the Fool and *setzen Hat-Z ein*. We might, if we dare, factor the constant of our time-traveling text against a different set of variables. Go ahead, read the fine print.

Suppose the major term in *coelacanth history* is the second not the first—not the history of strange fish, but *history* … with coelacanths. How does the appearance of an impossible animal alter our sense of nature? How is
history-with-coelancanths different from history without them? The discovery of cryptozoa or owls at dusk shifts attention beyond the particular specimen to the system itself. We might find here a different way to think about what is apparently lost. Bohm has something to say about thought in general, which might also apply to literary expression:

What I mean by “thought” is the whole thing—thought, “felt,” the body, the whole society sharing thoughts—it’s all one process. It is essential for me not to break that up, because it’s all one process; somebody else’s thoughts become my thoughts, and vice versa. Therefore it would be wrong and misleading to break it up into my thought, your thought, my feelings, these feelings, those feelings. For some purposes that’s all right, but not for the purpose we’re talking about now.

I would say that thought makes what is often called in modern language a system. A system means a set of connected things or parts. But the way people commonly use the word nowadays it means something all of whose parts are mutually interdependent—not only for their mutual action, but for their meaning and for their existence. (1994, 19)

Bohm was a distinguished theoretical physicist who eventually turned his attention to the phenomenon of consciousness. A radical reading of his remarks might associate them with his work on quantum effects and implicate order, basing the interdependence of thought on as yet undiscovered nonlocal processes. Welcome to the Funhouse.

We do not need to posit clairvoyance, panpsychism, or telepathy to appreciate Bohm’s point. The systematicity of thought could also operate through classically physical processes of expression. Thus to speak of “the whole society sharing thoughts” might imply a buzz of ordinary actions: direct and telephonic speech, email, text messages, tweets, viral video, television and film acting, rude gestures, commercials. We could start with Bohm and bend toward Richard Dawkins’s concept of the self-reproducing statement or meme (Dawkins 1976, 192). In a hyper-connected society, once one person has an idea, it will spread through repetition, perhaps in ways too broad and subtle to trace, answerable to Bogost’s ethics of ideation. The precise genealogies of the meme may be hard to see, but signatures of family or species are plain enough.

A history-with-coelacanths is different from a history without them. The appearance of lobe-finned fish indicates the possibility of related and parallel developments (lungfish, salamanders, lizards, owls), even if they proceed from entirely distinct arrangements of DNA. To turn this logic back to electronic literature, we can place two texts within a system of thought or expression even if they have no direct associations. In Bohm’s conception, the system embodies the link.
In August 2013, the Fullbright Company released *Gone Home*, a first-person computer game featuring a character driven by the desire to find a lost relative. Assuming the role of this character, the player wanders through an unoccupied house, examining artifacts and piecing together a story. The central character is herself out of time, or at least untimely, having come back from Europe earlier than expected to a mysteriously empty house. The game is set in 1995, two years in nonfictional history after publication of the *Funhouse*. There are, however, no personal or commercial connections between the two projects. The artistic DNA of *Gone Home* probably owes more to Myst and Riven (1997) than anything from the earlier HyperCard phase, since its creators appear to have been born in the 1990s and thus came to maturity after that program had become obsolete. There is a more direct link to the Bioshock franchise. Part of the Fullbright team previously worked at 2K Games on Minerva’s Den, a modification of Bioshock 2 (2010).

These differences notwithstanding, there are some interesting resonances between *Gone Home* and the *Funhouse*. Like McDaid’s effort, *Gone Home* presents us with a world of objects through which we move as a disembodied but active investigator, configuring to interpret. There’s always a house, always a cassette, always a tape player … not to mention three-chord rock and a certain punk sensibility. Some of the music on virtual cassettes in *Gone Home* comes from the real-life band Bratmobile, a riot grrrl group notably different from Buddy’s Reptiles. Their style reflects the grunge-inflected Pacific Northwest, not an open-mic night at CBGB or other forms of late-1980s Americana. They are also, significantly, grrrls, with a gendered position on late modernity that marks a crucial departure from earlier, boy-centric scenes. Any more detailed comparison of *Gone Home* and the *Funhouse* (or, for that matter, Bioshock Infinite) would have to account for the axial shift from a punctuated but still essentially male gaze to a world seen through a daughter and sister’s eyes, and a story whose characters participate in what Adrienne Rich called “the lesbian continuum” (1980). Against the patriarchal constant, there must and will be variations.

Yet we can still assert a certain oneness. Fullbright’s world (the game, the text) is constituted from the interplay of stability and change, operating perhaps through no paranoid assembly-of-time but rather in self-organization or emergence. Without direct genetic inheritance, arising more or less spontaneously within the thought-system, *Gone Home* has its own way with the cybertext of things, bending it back toward the tradition of the adventure game—ironically, a heritage the *Funhouse* takes some pains to disclaim.¹⁴ Long and scuffling future, indeed.
With these tensions we come to the limit of systemic or oceanic thinking and must return to the particularity of the work. It is no doubt important to identify analogues, cognates, and even distant relatives of the Funhouse, self-assembled from the soup of concepts, styles, and memes. Resonance matters, but so does dissonance or distinction. The attempt to document McDaid’s project, through the Traversal and subsequent study, stems not just from omnivorous archivalism—the desire to save everything, no matter how obscure—but from a sense that this work matters, in its peculiar way, to the still-emerging discourse of cybertext. Compromised though it may have been by the passing of HyperCard and the early Macintosh operating system, the Funhouse may be something more than a broken-down time machine.

This assertion is ultimately a question of objects, instantiated in software and otherwise. Aarseth (2007) differentiates between two kinds of doors in computer games. If the player can issue a command to change state of the door from closed to open, then a door is being simulated. Such a simulation counts as genuine within the game world. However, games sometimes offer representations that look like doors but which are not connected to any software construct, and so cannot respond to player action. We can interpret these as annoying distractions but we cannot configure them. These are simply pictures of doors.

We might adapt this logic to think about manipulable objects in Gone Home. In Aarseth-Eskelinen terms, they are legitimately configurable. On discovering a simulated tape cassette, we can virtually feed it to the in-game stereo system and listen to its ostensible contents (actually a discrete audio file). We can manipulate the controls on the virtual device to advance, rewind, and so forth. And yet the cassette in Gone Home remains a representation in software: not just the picture of a cassette, but also not the real thing. In contrast, the cassettes included in the Funhouse are tangible objects on the same plane of existence as our bodies. They depend on a technological medium, analog tape recording, but that dependency operates at a level outside HyperCard or other forms of computer software.

This difference is in every sense material. The Funhouse as originally conceived cannot be streamed from the cloud. Software may well be a thing, but the Funhouse also contains things that have different ontological status. This variety is essential. The most significant contribution of the Funhouse to the cybertext of things lies in its demand that we configure our relationship to systems, which involves more than manipulating objects within an encompassing simulation. This is the major implication of McDaid’s “modally appropriate” design. It is also the principle that
underlies his mad exploits—deployment of text in one-point type, or in the resource fork. Until now, these tricks have remained almost entirely undocumented, dependent on a Kierkegaardian leap of faith in the ingenuity of future folk.

Some of those folk may have been playing Gone Home. The game eminently deserves the recognition it has received. It is a remarkable production—for some not a videogame at all but an important departure from an increasingly self-limited form. For many reasons, including its media specifics (3-D simulation), genre (first-person adventure), and means of distribution (software download), Gone Home cannot do what the Funhouse does. Gone Home contains items recognized by players as Easter eggs, though notably their discovery does not require intervention into the game’s code structure. The hidden components of Gone Home are found by closely examining in-game objects and performing certain specialized actions.¹⁵

What you do is go and stand in the doorway to the garage and look up in the rafters. You’ll see a purple ball. Throw other objects at it to knock the ball down. Then take the purple ball up to Sam’s room, close the door and slam bam that ball into the basketball hoop. Enjoy your easter egg [sic] and final audio log. It’s not story relevant. Just funny. (Sheridanmoviegu 2013)

The jump outside the system involved in this latter-day example involves reading an online resource—finding instructions in a wiki post—not combing through the infrastructure of the game. As Emerson points out, exploits of this sort are officially discouraged by at least some of the dominant software publishers (e.g., Apple) and beclouded by legislation such as the Digital Millennium Copyright Act, which could be used to ban tools for decompiling and intervention, the twenty-first-century descendants of ResEdit (2014, 24). There is an evident difference between then and now. Today’s jumps outside and back into the main sequence of a game appear to require less extraordinary effort, and indeed no formal departure. It is tempting to suggest that something important has been lost. However, pessimism is not a foregone conclusion here. One could also say that deep investigation and active manipulation have become ingrained as part of the genre, at least among those who play intensely. Rather than reflecting a decay of JOOTsing, this modern form might represent its perfection.

Indeed, we could say that the reception of electronic texts as deeply explorable spaces is becoming more strongly established. A few years after the Funhouse appeared, art objects that would come to be called alternate
reality games began to take shape in ventures such as *Dreadnot* (1996) and the *Starship Titanic* (1998) email prank (see Kim et al., 2008). A few years after these came the early classics of the form, *The Beast* (2001), *Majestic* (2001), and *I Love Bees* (2004). At this writing a close cousin of this lineage, the augmented-reality game *Pokémon Go*, has made a major impact on popular culture (see Bogost 2016). Alternate- and augmented-reality games share many basic principles with the *Funhouse*—encyclopedic design, poly-linear or multivariate discourse, a sensibility verging on paranoia, and, in many cases, a requirement that the player configure objects across multiple media. These games typically depart from the *Funhouse*, and from cinematic-epic videogames, with respect to unity of space. Alternate reality games often have no funhouses, lighthouses, or magically encircled domains—or if they evoke such spaces, as in the gyms of *Pokémon Go*, they do so in notable tension with features of physical space, asking players to inhabit two worlds simultaneously. These games tend to incorporate and invade the here and now, using both technical systems and aspects of social reality. As such they may begin to materialize that future from which Buddy Newkirk will have traveled in his textual time machine. Alternate- and augmented-reality games could be agents of further evolution, disruption, or simply recurrence. It is not hard to imagine, any minute now, some band of Generation-Z hackers launching such a project, saying to themselves, *I challenge us to build a game no twenty-first-century game designer could create*. Centuries are so much shorter these days.

**Ending 130**

Coelacanth history: the story of untimely discoveries, derelict houses, forgotten mechanisms, strange fish. Maybe, as Joyce says, you had to be there, in that place and time from which Buddy writes. Maybe at the least you should have on hand one of those precious time machines that still speaks the thirty-two-bit language of the ancients. In place of such fragile mediation, the best we can offer is an imperfect record or image, a silhouette tracing left as mark of passage and passing-away. Even if we could travel there in clouds of mystery and paradox, the past is not what it once was. Indeed, something is inevitably and irrevocably lost.

As testament to this loss, consider one last finding. Given the ingenious, insane topology of the *Funhouse*, there might always be more secret creatures hovering in its depths. A bit of careful trawling reveals a fourth concealed text in the stacks of the *Funhouse*, also unvisited in McDaid's Traversal. It waits for us on Buddy's side of the house, lodged in the resource fork of "The Writer's Brain." The document is rich in expression and
symbolism, but it is time to leave those matters to the reader. We configure, you interpret. We will note only that this final message takes us back to the dream-image with which we started, the time traveler in transit on the rails:

I am (Copains ... Lindenhurst) at home, here on the train, always the same train, the Nova Express, the White Subway to downtown Dhalgren ... it’s just me, and the books, blue fluorescent handshadows, a drink in my hand, yes, Emily, I died in 1957, look that up in your Akashic records, mumbling amazed reverence at the seeming endless photonic triggering, word to word, line in an intro firing another author, a different self ...

[elsewhere, the fractals are growing, over my shoulder I see them, a rain, slow rain, of color, on the desktop Mac]

     Stay away from electrocution, from the lethal injections of the nippleless republican overlords. And smack yourself once in a while to make sure you haven’t fallen asleep, or taken a full-time job stroking the corporate wang.

     It’s the need for balance: choleric walking-around-wounded-bristly doesn’t help anyone; staggering too-stoned-to-phone doesn’t either.

     We win by losing. It’s the Brooklyn way.

<grin>
In the process of reading for what she has not written (or written well) she often does not read what she has written well (or not written). Most often she looks for the thicket, the paragraph or phrase that relinks a vision or reforms it, a vision she put aside or lost, which dwindled or lapsed, which exhausted her or she exhausted. The writer rereads and unreads in the same scan, sometimes looking for the place that needs attention, other times seeking surprising instances of unnoticed eloquence that her attention now confirms in a process of authorship. That which is reread is that which is not read.

—Michael Joyce, “Nonce Upon Some Times”
Imagine a not too distant, all too plausible future in which preservationists, savaged by budget cuts, are allowed to save only one example of early cybernetic fiction. A short list comes easily: Joseph Weizenbaum’s 1966 simulator ELIZA, bpNichol’s *First Screening*, Steve Meretzky’s *A Mind Forever Voyaging* (1985), Joyce’s *afternoon*, Malloy’s *Uncle Roger*, Gibson’s *Agrippa*, perhaps the Miller brothers’ *Myst*. Each of these projects introduced major formal and conceptual innovations and in its way redrew the contours of digital expression. All are distinguished in vision and execution, and it would be tragic to lose any to enforced forgetting. However, add one more title to the set—Shelley Jackson’s *Patchwork Girl, or A Modern Monster*—and the decision, if still fraught, becomes clearer.

Jackson’s hypertext fiction, published at mid-decade, is among the most widely read of 1990s-vintage experimental texts and arguably the best appreciated. Coover (1999) called *Patchwork Girl* “The true paradigmatic work of the era,” itself a “golden age” of rare originality. Even allowing for home-team bias—Jackson wrote the work while studying with Coover and George P. Landow at Brown University—that judgment holds up. Others have taken *Patchwork Girl* seriously and to good effect. Joyce crystallizes much of his understanding of literary hypertext—a subject he essentially invented—around Jackson’s work (Joyce 1997). The “flickering connectivities” of *Patchwork Girl* furnish a proving ground for Hayles’s (2000) influential theory of “media-specific analysis,” the groundbreaking recognition that literary work extends beyond conventions of the book.

Much of the appeal of *Patchwork Girl* lies in Jackson’s artful conflation of text, textiles, and bodies. This feature aligns her work with feminist and other critiques of technical antimaterialism, such as the “cyborg” politics that emerged around Donna Haraway’s famous essay “A cyborg manifesto: Science, technology, and socialist-feminism in the late 20th century” (1985). Jackson’s attention to embodiment, as both physical condition and metaphor, permits her to characterize technical innovation not as abstraction but as something fundamental to human and particularly women’s experience. “Hypertext is the body languorously extending itself to its own limits, hemmed in only by its own lack of extent,” Jackson writes. It is also “what literature has edited out: the feminine” (Jackson, “Stitch Bitch”). These thoughts come not from *Patchwork Girl* but from “Stitch Bitch: The Patchwork Girl,” a separate coda spoken by the Girl herself, a document that provides something like the definitive manifesto of literary hypertext. Jackson cannily and insightfully relates technical innovation to an
important cultural development, lending her project undeniable distinction. More than other works of its time—edging out even the formidable *afternoon*—*Patchwork Girl* advances and embodies its conceptual agenda. It was indeed a high point for something, whether a true “golden age” or just a moment in the sun.

To these serious considerations must be added something less refined, a rube’s admiration for a piece of sublime branding. There is, after all, a sheer, zany marvelousness in writing a reinvention of *Frankenstein* under the name “Shelley Jackson”—no *nom de plume* but evidently what Jackson’s parents called her, and, in any event, the name she wears. This onomastic flourish allows the author to add “by Mary/Shelley” to her extended title, ringing all sorts of interesting changes on the conjunction. The magic of Shelley Jackson’s name runs deep. Retrospectively it resonates against the troubled naming of the author of *Frankenstein*, which pains every scholar who has to invoke her as “Mary Shelley” (or worse, “Mrs. Shelley”). Switching to “Mary Wollstonecraft Shelley” hardly solves the patronymic problem. Women’s names, as Jackson well understands, are primary traumas, the linguistic distillation of the gendered-body conundrum that serves as preamble to the vast problem of the self. The proper imagining of a self has been a particular concern for American writers, and here again this maker’s mark deeply signifies. Just as Democrats in the US have their Jefferson-Jackson Dinners, maybe American romanticists (or techno-fictionists, anyway) should lay on an annual Shelley-Jackson fête.¹

*Patchwork Girl, or a Modern Monster, by Mary/Shelley & Herself* stands apart for several reasons. No hypertext writer did a better job of articulating her work both to a crucial strain of tradition—represented by *Frankenstein*, a great origin-text of modern women’s writing—and simultaneously to challenges of the moment, the techno-textual and the biopolitical. With the exception of Joyce, no one surpassed her in turning technical innovation to the purposes of a distinctive vision. As the name games suggest, the work even has a certain glamorous *weirdness*—using that word in its oldest sense where it overlaps *logos*—as if it were written less by a certain talented Californian than in some mysterious conspiracy of language and history ginned up by the mother tongue herself.

So imagine a Committee of Preservation arriving at its decision, not in the onrushing future but a recent yesterday such as 2013. Informed of the selection, the chairperson retrieves a *Patchwork Girl* CD from its packaging, slots it into her twenty-first-century computer, and discovers that she is either unable to run the installer that will copy the software onto her hard drive, or, having found a way around that problem, that the *Patchwork Girl*
application is incompatible with her operating system. Until a few years ago, this scenario would have been not fiction but sad fact. Arguably the most significant and widely recognized work of hypertext fiction was, between roughly 2010 and 2014, inaccessible on the latest personal computers.

It bears pointing out that *Patchwork Girl* is, at this writing, once again available on the Apple Macintosh.² Eastgate Systems, Inc., publisher of the work, issued an updated version at the end of 2014. The new release arrives on a removable memory chip, described in catalog copy as a “USB stick,” otherwise known as a thumb drive or flash drive. This change of medium was inspired by the removal of CD drives from increasingly popular thin-format laptops and by the expected disappearance of CDs from the general installed base. Contents of the memory-stick release include the latest iteration of *Patchwork Girl* (compatible with current, 64-bit systems) and all previous Macintosh versions, even those meant for systems long outdated—a lagniappe for archivists.

The momentary eclipse of *Patchwork Girl* had many causes. Most immediate were technical problems: code originally written in the 1990s was no longer supported on operating systems released twenty years later. To ask how and why this situation came about would broaden our inquiry significantly, implicitly suggesting that the idea of electronic literature may represent a discordia concors, if not a less functional contradiction in terms. Literary publishing, as the great bookman Jason Epstein points out, has been for most of its history a fairly steady business, a virtuous if clubby “amateur sport” (2001, 4). Though print publishers care deeply about the materiality of their products—hence their durable bindings, acid-free stock, and carefully managing print runs and back lists—these concerns generally do not need attention on a weekly or daily basis or in ways that involve extensive retraining of key personnel. An expert publisher or craft bookbinder may give a great impromptu seminar on the history and chemistry of rag paper, but such knowledge is acquired steadily through long experience and changes more or less gradually over time.

As literary publishing converges with software publishing, the business undergoes a fundamental shift. When a company sells software designed to run on the Macintosh operating system, Microsoft Windows, Android, or other systems for mobile devices, that enterprise must maintain extensive, timely knowledge about these highly complex products. Increasingly this commitment involves not simply system affordances (application programmer interfaces) and development tools (integrated development environments), but also standards and practices imposed by system vendors. In this
regard, Apple is notorious; its App Store sets detailed restrictions on form and content of supported publications (Emerson 2014, 18–19). The position of registered developer—a status that must be periodically updated at some expense—entails regular doses of that life-long learning for which technical professions have come to be known. The multi-martini lunch is gone, replaced by a long succession of webinars.

From a technical standpoint, selling literary software on an extended basis is considerably more difficult than selling books. Add to this the fact that the market for so-called serious digital work, to use Eastgate Systems Inc.’s preferred term, has never been large or broad. In her retrospective study of hypertext fiction, the narrative theorist Alice Bell tells a hard truth:

> The distribution of hypertext fiction is limited to a relatively, small, niche market which mainly includes other writers of hypertext fiction and university students. It is taught on university syllabi and many hypertext authors … are university professors or academic researchers. (2010, 166)

While there is no point arguing the facts, Bell’s account needs to be set in context. One could plausibly replace “hypertext fiction” with just about any form of traditional poetry, or some strains of paper-based fiction and drama, without altering the truth of the statement. Academic niches are where intellectually ambitious art forms tend to survive, even as these niches come under constant and increasing threat. Further, thanks to its recognition by such mainline critics as Perloff, other forms of electronic literature, notably electronic poetry and conceptual/experimental writing, are more actively discussed, practiced, and perhaps more widely consumed than hypertext fiction (2010, 17). The limited prospects of one form do not necessarily apply to electronic writing generally.

It is also possible that the limits of hypertext fiction have been overestimated. Since Bell published her study in 2010, there has been a surge of interest, especially among younger readers and writers, in a reasonably close cousin of hypertext fiction called Twine games, or simply twines (Kopas 2015, 5–11). Generally speaking—though generalization is always risky in the case of art movements—these productions bear less resemblance to Patchwork Girl than to the choose-your-own-adventure (CYOA) books marketed to ostensibly prose-averse young readers. CYOA stories are a simplified and constrained form of hypertext fiction, where links are restricted to circumstantial logic: *Turn to page 22 if Frances takes the red pill or page 34 if she climbs out the window*. Most Twine games build highly sophisticated logical and narrative structures upon this simple mechanism, or twist it into interesting variations. Twine, the authoring system with
which these works are produced for open circulation on the Web, imple-
ments and expands many functions and concepts of classic hypertext
systems through cascading stylesheets, Javascript, and other Web-derived
tools. Its potential remains partly untapped at this point, though there are
hundreds if not thousands of writer and designers exploring the form. Only
a few are college professors.

It seems particularly significant that Twine writers call their productions
games and not fictions, stories, or novels. This rebranding of hypertextual
storytelling (in the recent cinematic term, a reboot) calls attention to the
genetic connection between hypertext and narrative computer games. At
the heart of any game with an extensive narrative and complex decision
to name just a few—lies a finite-state machine, the same formal class of
software to which hypertext fiction belongs (Wardrip-Fruin 2009, 169).
Through this association it might be possible to gather within an enlarged
domain of electronic literature a number of computer games with strong
and explicit elements of storytelling, titles such as Jonathan Blow’s Braid
(2008), Dan Pinchbeck’s Dear Esther (2008), and Davey Wreden’s Stanley
Parable (2011). These titles are so-called independent games, developed
and marketed without major corporate involvement. They belong to
an economic niche perhaps only slightly more robust than that of hyper-
text fiction—in any case, less academic. Adding them to the ecology of
electronic literature would significantly expand the species count (Grigar
2008).

Letting Go

Taking this more generous view, perhaps electronic literature, procedural
narrative, and even hypertext fiction have sustainable futures—though as is
the case with most experimental or culturally ambitious art practices, that
future is uncertain, and so the generous view can be elusive. The end of the
“golden age” was for some an exit cue: many early luminaries of electronic
literature are no longer in the field. After a second Storyspace project
(Twilight, A Symphony, 1996) and a definitive Web fiction (“Twelve Blue,”
1996), Joyce amicably separated from the electronic literature community
and has since concentrated on books, including the intriguingly subtitled
“novel of internet” discussed in chapter 1. After Uncle Buddy’s Phantom Fun-
house, McDaid returned to his primary calling as a writer of science fiction
stories for magazines and books. Jackson produced two Web pieces of note,
“Stitch Bitch” and the hypertext “my body—a Wunderkammer” (1997),
after which she moved on to a series of well-received novels and short stories, as well as the deeply conceptual Skin project.

A handful of cases make poor evidence of a trend. Prominent withdrawals notwithstanding, many early adopters have remained active in electronic writing. To mention just a few, these include Malloy, Strickland, Larsen, Coverley, Fisher, Cayley, and both authors of this book, all of whom have continued to publish various forms of electronic literature into the new century. Hypertext per se may have had its moment, but neighboring niches show steady signs of life.

The departures remain significant, however, in illuminating certain basic problems of innovation. To begin with the most pragmatic or cynical, prose fiction enjoys, for the moment at least, its established fellowships, prizes, and literary agencies. Out at the glittery end of the boardwalk, it has its ties to the mass entertainment economy—book tours, talk shows, bestseller lists, film rights. With rare exceptions, these benefits are unavailable to makers of electronic literature. On the contrary, being identified with an unusual or insurgent practice often brings problems. Joyce’s self-extraction was at least partly motivated by combat fatigue from attacks on new technology as a rivalrous end of books, leading to a situation in which his writing seemed less important than the things said about it. Likewise, Jackson laments the “pre-existing critical agenda” some critics have brought to her work, either to celebrate or condemn its formal originality, without paying sufficient attention to aesthetic achievement or intended meaning (Jackson 2015e).

Probably no creative worker wants to be defined by a particular period or production, and this feeling may be even more pronounced for electronic writers. Artists who invent or pioneer forms, being inclined to try new things, may logically drift toward other media and practices, unwilling to limit themselves to a single set of commitments. Careers have a developmental logic and continuity. In her Pathfinders interview, Jackson explains how her interest in monstrous bodies has continued through much of her subsequent work even as the work has changed. She describes the Skin project, in which a story is tattooed one word at a time on the bodies of volunteers, as the relict or residue of Patchwork Girl: “Skin is what the patchwork girl became after she fell apart” (Jackson 2015d).

Things fall apart, literary initiatives and patchwork girls alike. Jackson’s Skin, a story whose words literally have lives of their own, provides a useful metaphor for the ambivalent situation of electronic literature and Jackson’s contribution to it. There are opposed interests here, integral and centrifugal. Some of us insist on holding on to a given configuration (a work, a
movement, a moment), especially when that configuration is demonstra-
bly important. Call this the literary part of the unstable amalgam that is
electronic literature, the part that is invested in institutions, preservation,
tradition, and transmission. On the other side, dancing with the fleeting,
free-floating electrons, there is a predisposition to let bodies scatter where
they will—a sense that this release from center-holding constraint is flash-
coded onto the shifting DNA of literary enterprise. This idea is, as it hap-
pens, one of Jackson’s strongest aesthetic commitments. As she explains
toward the end of her Pathfinders interview:

It was one of my central theses in *Patchwork Girl* that there is no central thesis
[laughs]; there is no center, there is no self, there is only a temporary and contingent
coming-together of influences and borrowed pieces that could have as easily come
together in another form and will come together in another form; that the desire to
make oneself coherent and permanent is a doomed one, but not only doomed, but
also an unhealthy one; that part of our job is to learn to let go of ourselves, and lit-
erature is one of the ways we learn to let go of ourselves, learn to release ourselves
into the stream of other people’s thoughts and visions, and to enjoy that alienation
from our own monotonous stream of consciousness. And so when people asked me
early on whether I was bothered that technology was advancing and obsoleting
*Patchwork Girl*, my answer was that it was completely appropriate that that happen,
that I was willing to let it become obsolete because to try to hang onto it would be
inconsistent with my central argument. Like: this self, unlike other selves, this self
is really important, this self is eternal, this one is really going to last. That seemed
hypocritical to me. (Jackson 2015f)

Jackson elsewhere refers to the inherent ambiguity of *Patchwork Girl*,
the sense that it is, like electronic literature itself, at least partly self-
contradicting (Jackson 2015h). She comes by her ambivalence about pres-
ervation logically enough. In a sense, according to its first principles,
the work resists reduction to a singular or stable form. It is hard to hold
together, and perhaps for that reason it inclines to be forgotten. However,
fortunately for those of us committed to the future of *Patchwork Girl*, she dis-
tinguishes the degree of ambiguity in that earlier work from the situation
of *Skin*, which is more radically and formally dissipative. Shortly after
declaring herself content with the obsolescence of her hypertext, she
adjusts the position:

Having said that [laughs]—having said that [pauses, reflects]—if my work disappears,
I would like its disappearance to be recognized as part of the work, as a conscious
choice of the work, and a manifestation of its underlying argument rather than just
an accident of history. So I’m happy to have other people working on trying to
preserve it, so long as it doesn’t misrepresent my purpose in writing it in the first place. (Jackson 2015f)

This seems at least in practical terms a viable compromise. *Patchwork Girl* is not *Skin*: It remains nominally, tenuously connected to traditional forms of reception. It was published as a monograph (onomastic flourishes notwithstanding) and occupies shelf space with the minimal spine of its cardboard folio. It was deliberately shared with a wider world, as opposed to *Skin*, which is formally published only to its participants and thus remains responsible to that community and its posterity. So Jackson is able to make room for importunate preservationists, since the technical obsolescence of *Patchwork Girl* was never explicitly designed in. She offers a kind of escape clause limited only by one significant criterion: that preservation not misrepresent the “purpose” of the work.

Here the archivists find themselves closely rereading that escape clause. Jackson’s proviso may free us from the initial question of technical intervention, but it opens into a broader philosophical wilderness. How are we to understand that key obligation not just in terms of a specific author’s intention—which, after all, has never been much respected in the long history of scholars and critics—but also in a larger sense that speaks to the digital art of which *Patchwork Girl* is a paradigmatic expression? How can we outline the purposes of electronic literature?

**Monstrous Progeny**

Perhaps the best way to come at this question is by starting at the numinous Mary/Shelley seam, turning to a certain reflection by the author of *Frankenstein*. As it happens, Mary Wollstonecraft Shelley also had occasion to look back on her work a decade and a half after its composition, in her preface to a revised 1831 edition. She begins by recapitulating the “waking dream” that was ostensibly the origin of the story, a vision of the Promethean experimenter having animated his creation, collapsing in exhaustion only to find himself disturbed:

> He sleeps; but he is awakened; he opens his eyes; behold, the horrid thing stands at his bedside, opening his curtains and looking on him with yellow, watery, but speculative eyes. (Shelley 1818/1994, 196)

In the paragraphs that follow this recollection, Shelley recounts the fusion of this dream-vision with the ghost story she had been trying to construct for the famous contest at Villa Diodati. She credits her husband with encouraging her to turn the story into novel but limits his authorship to
the original preface. After this bit of literary memoir, she takes what might at first appear to be a standard rhetorical turn:

And now, once again, I bid my hideous progeny go forth and prosper. I have affectation for it, for it was the offspring of happy days, when death and grief were but words, which found no true echo in my heart. Its several pages speak of many a walk, many a drive, and many a conversation, when I was not alone; and my companion was one who, in this world, I shall never see more. But this is for myself; my readers have nothing to do with these associations. (Shelley 1818/1994, 197)

The last sentence is a working piece of promotional theater, transparently self-contradictory—building readership has everything to do with these associations—yet nonetheless affecting. Readers may have no moral right to the author's memories of her husband, Percy Bysshe Shelley, but they are invited to experience them vicariously, never mind the assertion of solitary grief. It is tempting at this point to let a certain word drift anachronistically from Shelley Jackson to Mary Shelley—"hypocritical"—but while that term may describe the passage's rhetorical situation, it cannot completely account for what is going on here. A different sort of double sense overshadows this conventional pretense. The epithet "hideous progeny," looming over the passage, represents more than an idle metaphor. The phrase identifies the Frankenstein story with its fictional nemesis. The creature stands (or looms) in place of the book that encodes him. The connection may seem superficially playful or conventional, but on any further consideration it blooms into something more substantial.

To begin with, the construction implies a logical anomaly resembling one of Hofstadter's "strange loops" (2007, 101–102). The speculative fiction of Frankenstein emerges from a primal scene of speculative intrusion. If we equate book with creature as "hideous progeny," then we are asked to imagine the vision itself gazing back at its seer. What was simple authorial valediction (go, little book) turns into a recursive hall of mirrors. Contradictions multiply throughout the passage. The offspring, though "hideous," is sent off with a blessing. The past is lost and yet present in language and memory. What was dead (the creature, Percy Shelley, the 1818 text) remains alive, at least for the discursive purposes of the new preface. Readers, the author absurdly insists, have nothing to do with this primal scene; but as distinctions collapse, we may find that the creature stands as much for us as for the book. We are involved in that same act of expectant speculation that marks the original dream. We too haunt the bedside, wondering how we came to be part of this story, implicitly demanding something more.
The first-person plural in the previous sentence certainly includes Jackson, who inherits Mary Shelley’s hideous progeny (not to mention Mary herself) and subjects them to her own electronic experiments. Almost two centuries later, the result of this engagement is, if not “hideous,” certainly monstrous. Jackson also quotes the 1831 preface in one of the threaded skeins of Patchwork Girl, dropping it into a story segment in which Mary Shelley receives a physical graft from the female monster then bids her farewell (see the lexias in Patchwork Girl named “mary,” “surgery,” “join,” “us,” and “hideous progeny”). Jackson’s fantastical narrator also interrogates Mary Shelley’s curious phrase:

I’ve learned to wonder: why am I “hideous?” They tell me each of my parts is beautiful and I know that all are strong. Every part of me is human and proportional to the whole. Yet I am a monster because I am multiple, and because I am mixed, mestizo, mongrel. (Jackson 1995, “why hideous?”)

This monstrous multiplicity has many implications. Just as the creature stands for Shelley’s text (and so much else), so the marvelous being of Jackson’s story might also serve as figure for its new hypertextual situation, and perhaps the set of social and readerly relations that form implies. From hideous progeny and “Modern Prometheus,” we come to Jackson’s “Modern Monster.”

Monster is from monere, to warn. Monsters in their primal sense are demonstrations, admonitions: curses, corrections, lessons from the gods or some other authority. As Jackson says in her manifesto, “Everyone listens to monsters” (Jackson, “Stitch Bitch”). Monsters have (dire) meaning and so in asking about the purposes of Patchwork Girl, we inevitably take on a larger question: Of what does electronic literature warn, or to what disruption does it testify?

We can take as read—or, better, unread—the late dispute about the end of books. Hypertext threatens no such extinction. Jane Y. Douglas’s complication of Coover’s broadside—books without end—seems more appropriate given the history (Douglas 2000). Since the coming of Jackson’s modern monster, there has been no dearth of experimental print fictions—Danielewski’s House of Leaves, Salvador Plascencia’s People of Paper (2005), Jonathan Safran Foer’s Tree of Codes (2010)—or critical works—from Douglas’s groundbreaking study through Hayles’s Writing Machines (2002) and Electronic Literature—tracing parallels and crossings between page and screen. Far from shutting down inquiry, the arrival of new practices invited what Douglas describes as reconsideration and recognition:
By bringing together disparate studies in the fields of psychology, narratology, artificial intelligence, and literary theory, we can begin to understand which elements of storytelling are changeable, open to further development and invention in interactive narratives, and which are changeless and immutable across media and millennia alike. (2000, 9–10)

As Bolter and Richard Grusin explain in their treatise on “remediation,” the history of media bends more toward discourse and appropriation than extinction: “Media are continually commenting on, reproducing, and replacing each other, and this process is integral to media. Media need each other in order to function as media at all” (1999, 55). Especially with the advent of digital representation and computing, media forms are less likely simply to displace one another than to engage in mutual adaptation. In this process some things change and some remain the same, but the process encompasses all. Grusin recently updated this point:

What has become increasingly apparent to me in the first decades of the twenty-first century is that these new technical media are not secondary concepts, agents, or apparatuses that come between or connect extant subjects and objects, cultures and natures, bodies and environments, or humans and nonhumans. Rather, like radical mediation itself, these new formations of technical media produce the mediations through which such oppositions, and more radically such multiplicities, are generated in continuous, but by no means seamless, feedback loops. (2015, 146)

Other ways of thinking about feedback include noise, stochastic chatter, and the chaotic intercourse of information with information. The moment of “radical mediation” Grusin describes may not be apocalyptic in any simple way, but it does expose former certainties, such as the human-centered, “correlationist” subject, to fundamental scrutiny. We have earlier discussed the way electronic writing seems to invite if not require an expansion of its cultural footprint, opening a separate domain of “the literary” in order to accommodate works for which not all the “changeless and immutable” features of traditional forms remain in place. Quite a bit of uncertainty enters with this remapping of the cultural terrain, but the aim of the project seems essentially recuperative. Once we leave the traditional and canonical, our surroundings change noticeably, yet certain axioms remain in force for at least some part of the journey. We still have texts, for instance, and we still think of our engagement with them as reading; though there may be a limit to these assumptions.
Illegible

To come at the meaning of Jackson’s modern monster, we need to entertain a yet more radical proposition, and to consider how Douglas’s “elements of storytelling” may not be simply changeable but alterable beyond recognition. This level of mediation, powered by a form of nonhuman-to-human feedback, brings us once again to Goldsmith’s “new illegibility.” We must consider texts designed primarily to be thought about rather than conventionally read.

To be clear, Goldsmith does not mean by this term simple unavailability or the brutal fact of obsolescence. *Patchwork Girl* may have briefly become a text more thought about than read because of technical barriers to new readings, but this predicament constitutes what we might call the old illegibility, a condition that includes the familiar lapsing of traditional works out of print or from critical currency. Goldsmith’s ideas about limits or failure of reading do resonate in important ways with *Patchwork Girl*, but the relationship involves factors more complicated than material barriers to access.

Goldsmith is more concerned with accessible works that refuse or complicate the conventions of reading. He focuses on “the enormity of the Internet” (2011, 158), even though his instances of the neo-illegible run from Gertrude Stein’s *Making of Americans* (1925) through Craig Dworkin’s *Parse* (2008), which literally parses or diagrams all the sentences in a nineteenth-century grammar book. Many of Goldsmith’s examples belong to the print world, but he asserts a powerful connection between these developments and the linguistic inflation that comes with digital networks and algorithmic processing:

> Our reading habits seem to be imitating the way machines work by grazing dense texts for keywords. We could even say that, online, we *parse* text—a binary process of sorting language—more than we *read* it. ... While there is still a tremendous amount of human intervention, the future of literature will be increasingly mechanical. (2011, 159)

Writing from a twenty-first-century perspective, Goldsmith is concerned with developments more recent and radical than self-contained hypertext fictions. When he echoes Christian Bök’s assertion that “the future of literature will be written by machines for other machines to read, or better yet, parse” (quoted in Goldsmith 2011, 174), Goldsmith means this literally, gesturing toward the cryptic textuality of digital inscriptions (e.g., system logs, image files) and the products of machine composition and
data mining. Yet Goldsmith’s notion of “parsing”—which begins as “graz-
ing dense texts for keywords” but seems to include much more—may be
applicable to texts such as *Patchwork Girl*, which proceed from a more
measured or constrained encounter between humans and machines. In
fact this relatively primitive example of network writing, confined within
its meager 800 kilobytes, furnishes an interesting case of linguistic sorting
(figure 4.2).

This image captures a particular state of one lexia within *Patchwork Girl*,
whose title is “phrenology.” The gray area at left shows the schematic, box-
and-line map with which Storyspace and other hypertext programs indi-
cate structural relations such as connection and subordination. The larger
rectangular area at right shows the contents of the selected lexia, a digi-
tized drawing by Jackson imitating those labeled crania typically used by
phrenologists. The upper part of the image is obscured in this view by an
interface element, a spreadsheet-like window showing three columns

![Figure 4.2](image)

Using the *Browse Links* tool in *Patchwork Girl*. 
of words headed “path,” “destination,” and “guard.” This selection box appears after the reader chooses the Browse Links command from the View menu in the application, which calls up a list of paths that may be followed from the current lexia, along with the names of the lexias to which they lead. (The “guard” column shows conditions that must be satisfied to activate a given link; “Textlink” indicates that nothing is required beyond a click on the given text.)

At first glance this scheme may seem less appropriate to reading than to writing or design. Indeed, this visual arrangement strongly resembles one sometimes used by Storyspace authors during composition. Hypertext does throw some confusion into the reader-writer distinction, though the extent of this effect is debatable. Jackson’s decision to expose the structural view was deliberate. The version of Storyspace available to her offered three options for presenting the text to the reader. Some earlier works, notably afternoon and Victory Garden, used a single-window format that omits the structure view. Jackson chose the option offering the most complexity and visual detail. On the evidence of her remarks in the Pathfinders interviews, the choice seems to have been driven in part from a desire to bring readers as close as possible to the composing environment, with a parallel interest in exploring the graphical potential of the interface (Jackson 2015g).

Goldsmith’s examples of parsing include Dworkin’s sentence diagramming—a schematic exposition of structure—and Derek Beaulieu and Perloff’s Flatland (2007), an asemic work in which the words of Edwin Abbott’s 1884 novel of the same name are replaced by line segments tracing the occurrence of individual letters in the text (see Goldsmith 2011, 170–171). Beaulieu and Perloff’s pages present a tissue of linear scrawls, which to most viewers may seem chaotically ugly, though they evoke a different response from an old hypertext hand. The jumbled cross-hatchings suggest a key visual element of hypertext systems—a network graph-minus its nodal points (in Beaulieu and Perloff’s scheme, the suppressed letters of Abbott’s text).

Resemblance is not identity: neither of these instances precisely matches what is going on in Patchwork Girl. The example of “phrenology” is multimodally polysemic rather than asemic, as in the graphical render of Flatland, and its level of detail is based on short passages, not single letters. Still, both the Storyspace map view and Beaulieu and Perloff’s linear interventions depict underlying relationships at some remove from an immediate context of visual encounter. Both foreground a problem of dimensionality. The scrawls of the treated Flatland emphasize the limitations of any page to
two dimensions, and Jackson’s multiple windows remind the reader that any momentary view of a hypertext necessarily involves the collapse of a higher-dimensional structure.

The congruence between the Browse Links view and Dworkin’s sentence diagrams seems a bit tighter. The selection window reveals something like a grammar of the lexia, or at least its underlying structure of possibility. Like the Dworkin renderings Goldsmith cites (e.g., “Noun comma compound arabic numeral comma Noun period”), Jackson’s link listings are also generic and formalized. The descriptor “Textlink” is in its own way as cryptic as “Noun,” and the names of destination lexias, while evocative, invoke an essentially abstract relationship that can be made concrete only by traversing the link. There does seem to be a kind of parsing, in Dworkin and Goldsmith’s sense, at work in Jackson’s fiction.

If Patchwork Girl fits even approximately into Goldsmith’s category of texts-for-parsing, it is logical to ask if the work, having escaped its unfortunate, first-order unreadability, might manifest illegibility of the newer kind. The retrospective writer “reads and unreads in the same scan,” Joyce observes in our epigraph. It remains to be seen how Patchwork Girl manages—and perhaps definitively articulates—this intersection of readable and unreadable, the hideous progeny of traditional, textual imagination and the modern monstrosity of hypertext. To investigate this aspect of Jackson’s work, we need to delve into its origins and history. The table below may be useful for reference:

<table>
<thead>
<tr>
<th>Date</th>
<th>Status</th>
<th>Storyspace version</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992–93</td>
<td>Early draft(s)</td>
<td>1.0 series</td>
<td>Diskette</td>
</tr>
<tr>
<td>1995</td>
<td>First publication</td>
<td>1.0 series</td>
<td>Diskette</td>
</tr>
<tr>
<td>2000</td>
<td>Reissue</td>
<td>2.0</td>
<td>CD-ROM</td>
</tr>
<tr>
<td>2014</td>
<td>Reissue</td>
<td>3.0 prototype</td>
<td>USB stick</td>
</tr>
</tbody>
</table>

**Erase All the Links**

Mary Shelley traced the conception of Frankenstein to a reverie, hallucination, or lucid dream (1818/1994, 196). Patchwork Girl has its own oneiric origin story, though it is set in very different circumstances. According to Jackson, the work began with a bit of mental wandering during a lecture in Landow’s class on hypertext theory (Jackson 2015a)—more evidence of hypertext’s ivory-tower roots. The best lectures have a way of overcharging
the mind. Highly creative people may divert the excess into parallel production—marginal notes, epigraphy, or in this case, the image of a modern monster (figure 4.3).

This is the ultimate development of Jackson’s initial sketch, the image that appears in Patchwork Girl as content of the lexia called “her.” It shows the body of a girl standing or lying supine against a ragged and transected ground, her skin similarly crossed by broken lines at irregular intervals. The image has the grainy texture of a woodcut, though according to Jackson it was produced, perhaps working from a hand-drawn sketch, in MacPaint, a basic Macintosh graphics application whose one-bit format lends itself to woodcut-like effects (Jackson 2015b).

In every sense, this image embodies the work. The sectioned, sutured anatomy offers a visual signature for Jackson’s method and for hypertext itself: “small pieces loosely joined,” as David Weinberger would later characterize the World Wide Web (2002, ix). The girl’s bits may appear tightly or securely stitched, but this effect is at least partly illusory. Her body is monstrous not simply in its unnatural assembly but also because the girl shares
memories with the donors of each part—a deconstruction of unitary self that qualifies her as modern monster. With this conceit Jackson applies a twist to the Shelleyan original. Just as the fundamental problem in *Frankenstein* is the burden of awareness—the creature’s acquisition of language and education, leading to moral demands—so in *Patchwork Girl* there is a more complex problem of the self: not a singular ego now but a multitude or confederation. This turn has an obvious parallel to the formal departure of hypertext from monologic narrative. “Hypertext is the banished body,” Girl/Jackson says in “Stitch Bitch.” “Its compositional principle is desire. It gives a loudspeaker to the knee, a hearing trumpet to the elbow. It has the stopped stories to tell, it mentions unmentionables, it unspeaks” (“Stitch Bitch”).

Unspeaking is a complicated business. It does not equate to silence but rather to an alternative form of expression. On the level of form, “unspeakable” does not imply “incomprehensible” or “unmanageable.” As we will see, Jackson organized her hypertext under several large categories she calls “threads.” One of these main threads is a set of lexias grouped under the heading “Graveyard,” comprising vignettes from the lives of the previous owners of each of the girl’s parts. Here for instance is the entry for her left leg:

My left leg belonged to Jane, a nanny who harbored under her durable grey dresses and sensible undergarments a remembrance of a less sensible time: a tattoo of a ship and the legend, Come Back to Me. Nanny knew some stories that astonished her charges, and though the ship on her thigh blurred and grew faint and blue with distance, until it seemed that the currents must have long ago finished their work, undoing its planks one by one with unfailing patience, she always took the children to the wharf when word came that a ship was docking, and many a sailor greeted her by name.

My leg is always twitching, jumping, joggling. It wants to go places. It has had enough of waiting. (Jackson 1995, “Left Leg”)

Time and sequence are largely notional in hypertext fiction, but there is at least one way to pass through the text, reflected in Jackson’s Pathfinders Traversal, that fulfills the restless leg’s vagrant impulse. This happens in a different threaded story, following the girl through nineteenth-century New York, where she suffers an alarming mishap:

A pair of horses veered toward me out of the darkness; they were wild-eyed, snorting steam. Something happened to my balance, a horse’s head struck me a glancing blow and I fell under stamping hooves. Tumult. Yelling; a horse’s frightened whinny. Rumbling and shadow as the cab passed over me; I saw light glint off the steel rim of the wheel just inches from my face, or so it seemed. Then the commotion was
on down the street, and diminishing. I saw my leg an impossible distance from me. I looked up from the street, and saw Chancy in silhouette against the light from the door, then she turned and I saw her face, showing alarm, and something stranger. It came to me that she thought I had thrown myself intentionally in the cabby's path. Or had she seen something amiss in the way my leg and I parted company? Was there a right way to go to pieces? I called to her, placatingly; she closed the door and left me there. (Jackson 1995, “an accident”)

This curiously nontraumatic amputation is a signature of Jackson's magic realism. The girl does not lose consciousness or bleed out. Her federated body appears to tolerate loss of limb without serious consequences. “My stump had healed, I sensed, uncannily fast,” the girl notes in a subsequent lexia (“fame”). The severed leg is eventually discovered and given somewhat dubious burial, after which the girl digs it up and sews it back in place. Later in her story, she will discover that most of her body parts are similarly detachable (Jackson 1995).

We never learn which leg suffered the injury. The right leg also has its memoir, but it is tempting to recall what we know about the left, the one that “wants to go places.” Perhaps the uncanny event here is less amputation than defection. The borrowed leg wants to go its own way, and it does so, given the opportunity. Chancy, the girl's companion, regards the event as bizarre or suspicious, though we do not know exactly why. Perhaps the so-called accident looks like a suicide attempt, the girl speculates. Or more interestingly, perhaps there was “something amiss in the way my leg and I parted company,” which leads to one of the most important questions of all: “Was there a right way to go to pieces?”

The question might be applied both diegetically to the girl and logically or rhetorically to the text that contains her. For the modern monster, it is an existential problem: how to manage her various pieces so impermanently joined. Since the monster metonymically embodies the text that embodies her, the problem might equally apply to hypertextual authorship. Is there a right and writerly way to go to pieces? In this sense the girl's query feeds into our main concerns in this chapter: What is the purpose of Jackson's text, and what does its modern monstrosity mean for “the future of the literary” (Liu 2004, 3)? Having at last sufficiently elaborated the key questions, we are now in a position to start on some answers—though they will need to be worked out across several contexts.

The first of these contexts is the text itself and the history of its composition, a subject into which Jackson provides insight in her Pathfinders Traversal and interview. The version of Patchwork Girl published in 1995 emerged from an informal process of experimentation and iterative design.
In its first incarnation, as an assignment for Landow’s seminar, the project was a “meta-hypertext” containing a “gnarl of theoretical concerns” about identity, embodiment, and materiality, themes that inform the work in its final form but which were not yet articulated to a clear narrative purpose at the time of the seminar (Jackson 2015a). Jackson was invited to publish this early product but resisted, knowing she wanted to explore its possibilities in greater depth. Her challenge at this point was to discover how hypertextual language might work. This was something of a blind leap: “Hypertext doesn’t know where it’s going,” Jackson would later reflect in “Stitch Bitch.”

There was a lot of trial and error involved, because when I first did the piece I had no idea how to link it together and I just thought … I’m just going to have to fool around and see what happens. So I linked together everything that seemed related [laughs]—which meant that I had the most impenetrable … Brillo-pad-like mass of links, and tons of repetition in the reading experience, because you were constantly being sent back to pieces that you’d already read before. And I realized that was totally shapeless and uninteresting. And I also realized that … though the reader was actively following links, they were passive in the sense that they weren’t being asked to make the connections themselves between the far-flung parts of the text that readers make when they’re reading even a print book. There’s a kind of mental hypertext that you do to decode a book … so there were some connections I didn’t want to underline to that degree, because I wanted the reader to have to make the stretch to understand how this part related to that part. (Jackson 2015c)

One instance of that “stretch” or “mental hypertext” is apparent in our reading of the lexias “left leg” and “an accident.” The two components are not linked through any explicit hypertextual connection, though it is possible to encounter them as part of an extended reading, and they do seem logically or inferentially related. As attentive readers we bring these “far-flung” parts together in order to understand the girl’s curiously dis-corporating condition. Nelson, who gave hypertext its name and first laid out its principles, begins with the notion that hypertext is the most general form of writing. Because in his view writing is a distillation of fundamentally holistic or nonsequential human thought, hypertext is “fundamentally traditional and in the mainstream of literature” (Nelson 1987, 1/17). In this conception, linear varieties of writing are produced by limiting hypertextual possibility. Jackson rephrases this notion in the context of fiction, noting that we use something like an implicit link-and-network structure to “decode a book.” “Hypertext just makes explicit what everyone does already,” she writes in “Stitch Bitch.” So the author of a gone-to-pieces text must anticipate this readerly process of reconfiguration, providing a
functional correlative for the reader’s mental construct. This is clearly one answer in an immediate and practical sense to the question of how to go to pieces. “I see no reason why hypertext can’t serve up an experience of satisfying closure not drastically different from that of reading a long and complicated novel,” the later version of the Patchwork Girl declares, “though it will do so differently” (Jackson, “Stitch Bitch”).

A contrasting, suboptimal path is embodied by the “Brillo pad,” the merely mechanical or indiscriminate proliferation of links that results in something “totally shapeless and uninteresting.” Recognizing the dangers of this regime, Jackson takes radical action:

So I just erased all of the links [laughs] and started over. And this time I told myself ... I would identify distinct threads, themselves linear, and then ... figure out the ways in which they necessarily had to join—but make no more connection between them than I thought would be either interesting or confuse or enhance the reading experience. So it became a much more rigorously structured text, with these distinct areas. And you can see actually ... how the “Broken Accents” section, that I didn’t go into in my reading, is much more complicatively interlinked than the rest of the project because it was the first, and I hadn’t started thinking then about how the links were part of the writing and how they could confer structure. (Jackson 2015c)

The published version of Patchwork Girl evidently represents a thorough reconception and reworking of earlier drafts. What was a “gnarl” and a “Brillo pad” is disciplined by imposition of distinct and linear “threads.” Most of these fundamental sets are named on the title page of the work:

- a graveyard,
- a journal,
- a quilt,
- a story,
- & broken accents

The order of items in this list is not deterministic for the most part. This is a hypertext, so the threads can be explored in a variety of sequences. The reader is free to click on any of the entries to begin an encounter. However, the sequence does seem material in one respect. “Broken accents” is listed last, tacked on with an ampersand. As Jackson notes, this part of the text is unlike the others. In a way it is like Jane's leg, appended to the body as an extremity, attached with the visible suture “&” but governed by a separate will or dispensation. We will consider this component of the text in greater detail in the next part of this chapter, but to understand its significance we need first to return to the problem of hybridity and monstrosity. What does
it mean for there to be something even more anomalous lurking within the already outlandish structure of the hypertext? In conceptual terms, this means asking what else there might be in the logic of *Patchwork Girl* besides the concept of the monstrous.

The answer depends, as usual, on our recognition that the text is not a uniform or homogeneous structure. In Jackson’s imagining, and in hypertext, unities are always deceptive. So while we are invited from the title page onward to consider *Patchwork Girl* in an intertextual relationship to *Frankenstein*, product of the “Mary/Shelley” dialogue, we should not forget that this part of the text’s signature also contains an ampersand appending its own curious final unit: “& HERSELF.” The modern monster is her own creation and speaks in her own voice—a point Jackson underscores with separate publication of “Stitch Bitch.” But just as the monster’s voice is produced with a secondhand tongue, the third person of Jackson’s authorial trinity also involves something borrowed. She is the patchwork girl of the hypertext, but her name echoes another creature of fantasy, L. Frank Baum’s patchwork girl of Oz.

**Monsters and Freaks**

Virtually all serious readers of *Patchwork Girl* have taken the Mary/Shelley encounter as primary, and, indeed, many if not most aspects of the work support this approach. The main story begins in the fictional universe of *Frankenstein*; passages from Shelley’s text are woven in at length; Mary Shelley enters not simply as a character but as correspondent in a macabre love affair that ends with consumption by her monster. The reference to Baum seems essentially a grace note, a minor complication of the intertextual dynamic, glancing reminder that there was once another patchwork girl.

In her subtitle (“a Modern Monster”), Jackson invokes the historically relative concept of modernity. Baum’s novel belonged in its own way to its moment. Published in 1913, *The Patchwork Girl of Oz* was the seventh of thirteen Oz novels that appeared during the author’s lifetime. It followed *The Emerald City of Oz*, in which Glynda the Good magically isolates Oz from the outside world, implicitly closing out the series. Popular demand demanded a revival, so the Historian of Oz turned to cutting-edge technology:

> Finally one of the children inquired why we couldn’t hear from Princess Dorothy by wireless telegraph, which would enable her to communicate to the Historian whatever happened in the far-off Land of Oz without his seeing her, or even knowing just where Oz is. (Baum 1913/2013, 6)
The Historian duly puts up a radio mast and familiarizes himself with relevant techniques. Demonstrating his mastery, he ends the preface with a distinctive sign-off:

L. Frank Baum.
“OZCOT”
At Hollywood
In California (Baum 1913/2013, 7)

In the context of 1913, the alias “OZCOT” appropriates the alphabetic codes commonly used in commercial telegraphy (Gleick 2011, 153–158). It is evidently also a wireless operator’s handle. Twenty-first-century readers will see something much like an Internet address, especially when they come to the word “at.” Thus we might imagine: ozcot@hollywood.california. Everyone has always been modern.

Baum’s novel seems contemporary in more substantial ways as well, if we situate it in a tradition of works intended for younger readers of all ages. With the great popularity of the Harry Potter phenomenon, this literary genre has gained considerable recognition in the new century (Fishelov 2010, 67). It is worth noting that Jackson herself has written for children.

Granted, two books could hardly differ more radically than Frankenstein and The Patchwork Girl of Oz. Baum’s novel is a genial fantasy produced by a writer more interested in family-friendly entertainment than moral controversy. It is loosely structured around a quest by a munchkin named Ojo the Unlucky, who seeks ingredients for a potion that will undo a magical accident in which his only relative, Unc Nunkie, has been turned to stone. This accident is also the origin of Scraps, the patchwork girl. A life-size doll made of fabric pieces, she is meant to be magically animated for domestic service, a plan that goes momentously wrong. The ensuing quest takes its participants to several major regions of Oz, including the Emerald City, where Ojo meets Ozma, the princess of Oz, her companion Dorothy, the wizard, and eventually Glynda the Good.

The story is overwhelmingly comic, in contrast to Frankenstein’s tragedy. The quest collapses when the heroes encounter a ban on harming butterflies (more uncanny modernity), but the questers’ problems are nonetheless resolved by magical intervention. As in the first Oz story, Glynda sets everything right in the end. No one is left suffering and, with a few exceptions, no one is left out of the social embrace.7 Where Frankenstein dwells relentlessly on solitude and exile, Patchwork Girl of Oz is compulsively gregarious. Oz is, generally speaking, a warm and welcoming place. One of its chroniclers boasts:
Just search the whole world over—sail the seas from coast to coast—
No other nation in creation queerer folk can boast;
And now our rare museum will include a Cat of Glass,
A Woozy, and—last but not least—a crazy Patchwork Lass. (Baum 1913/2013, 114)

The word *queer* and its variations occur thirty-three times in Baum’s text, and while it is tempting to point out that Princess Ozma is technically speaking transfigured, having spent part of her life magically transformed into a boy, Baum’s usage has nothing like the now-familiar theoretic or political meaning. Though “queer” as a term of abuse for homosexuals was current in Baum’s day, its relevance to *Patchwork Girl of Oz* seems at best oblique. Sex and gender do not register overtly in Baum’s world. There are powerful friendships in Oz, but romantic attachments are avoided. In *Patchwork Girl of Oz* “queer” marks the outlandish, the singular, and the “crazy.” There is therefore always a strange double sense involved when thinking about Baum’s use of this word—a way in which his modernity collides strangely with our own. Baum’s “queer” characters stand at the limit of the social, where they draw derision and hostility from some, but these reactions are always corrected by figures of wisdom such as Ozma, Dorothy, or the Shaggy Man.

This gentle antithesis to the stark moral conflict of *Frankenstein* brings us to the most important intertextual contribution of Baum’s novel. Jackson reshapes the discourse of *Frankenstein* by substituting a female creature, inventing a narrative turn in which Victor Frankenstein does not destroy his second creation but agrees to give her life. Bringing Baum into this scheme redraws the Mary/Shelley dyad as a triangle. It reminds us that female monstrosity has another precedent derived from a notably different fantasy world. Most important, Baum’s novel gives us something else to call the female creature. Shortly after her magical animation, Scraps sees herself for the first time in a mirror. She starts at the sight, and one of her observers interprets the reaction as horror, though she quickly demurs:

“Horrid?” she replied. “Why, I’m thoroughly delightful. I’m an Original, if you please, and therefore incomparable. Of all the comic, absurd, rare and amusing creatures the world contains, I must be the supreme freak. Who but poor Margolotte could have managed to invent such an unreasonable being as I? But I’m glad—I’m awfully glad!—that I’m just what I am, and nothing else.” (Baum 1913/2013, 41)

Baum’s patchwork girl calls herself “supreme freak.” “Freak” and “monster” are nearly identical in ordinary usage, but in Baum’s novel they are entirely distinct. “Monster” occurs four times in the book, always referring to some
threatening or violent figure, never the patchwork girl. A freak no doubt also signifies an “original” or singularity, but not in the dire or ominous sense of the monster. If she stands for anything other than herself, the supreme freak seems to represent autonomy and freedom. The girl is meant to become a household “slave” (Baum 2013/1913, 47), but her magical animation goes awry, leaving Margolotte, the would-be mistress, imprisoned in a petrified body. Meanwhile Ojo has secretly tinkered with the girl’s allotment of brains, turning her from a minimally conscious robot into a fully realized person. Later, when Ojo heroically violates the laws of Oz, Scraps takes initiative to conceal his offense. For all her self-celebrating swagger, the girl is capable of loyalty and a certain rebellious sense of justice.

Baum’s magical fantasy stands apart from Jackson’s magic realism, and so the psychology of his freak is less detailed and complex than that of Jackson’s modern monster. The former is defiant and self-affirming, pleased and proud to be what she is. Jackson’s girl tends more toward melancholy, but there are moments when the freakish impulse manifests in her as well, as when she resents being called “hideous” and asserts her identity in multiplicity. “I belong nowhere,” she announces in another introspective lexia. “This is not bizarre for my sex, however, nor is it uncomfortable for us, to whom belonging has generally meant, belonging TO” (Jackson 1995, “I am”).

A monster is a creature of paradox, answerable to her society by not belonging, the lonesome bearer of a mark of difference. By contrast, the freak may play well with others but she belongs to no one but herself. She is not lonely but singular, and she stands not for disruption, anxiety, and threat, but for all that is “comic, absurd, rare, and amusing.” The freak is a monster without apologies or regrets. Expanding the intertextual register of Patchwork Girl to include Baum’s creation shifts the balance between the normal and the monstrous to admit a third category. We no longer have to deal exclusively with monsters; or rather, we need to consider monstrousity as part of a continuum. She who would be a modern monster might, through a process of extended modernity, evolve into supreme freak.

This unabashedly freakish way of reading Patchwork Girl against its dominant literary grain may shed new light on the diegetic story. But, as we have repeatedly noted, this story is always in some degree an allegory of its textual situation, so there are further implications. Baum’s girl is called Scraps, which could as easily serve as nickname for Jackson’s opus, or indeed all hypertexts, those languorous bodies of questionable extent. In
the context of textual embodiment, introducing the possibility of the freak suggests that the work too may count as something more than hideous or monstrous progeny. The freak does not signify in the same way as the minatory monster. Signifying her supreme self, she unspeaks the monster’s threat. In coming to terms with this unspeaking we will have to consider once again the unread, the unreadable, and the illegible, perhaps in the old sense as well as the new. We will also find ourselves in need of visiting the oldest and strangest part of Jackson’s text, that curious so-called thread named “broken accents.” It is in this part of Patchwork Girl that the themes of monstrosity, freakishness, and discursive difference come to strongest expression.

**Breaking and Uttering**

Before trying to look closely at a particular thread within the hypertext, something needs to be said about this procedure, because hypertextual interpretation entails certain unusual or unique considerations. The term “thread” itself needs scrutiny. Jackson uses it in the Pathfinders Traversal and interview, and while the word is common among hypertext writers and theorists, its meaning is less consensually established than those of “link” or “lexia.” Discussion here follows Jackson’s working definition: a set of lexias formally identified as a local group and connected in a way that favors a single reading sequence.

This design is hardly absolute. The pattern of page-like succession is often complicated within the threads of Patchwork Girl, sometimes by links leading from a lexia within one sequence to another lexia outside it, or by lexias that have more than one possible exit. In some cases the situation is even more involved, as in “séance,” a sub-thread of the larger “story” thread. In her Pathfinders Traversal, Jackson demonstrates that “séance” contains subtly diverse, parallel accounts of the girl’s experience in New York, sometimes involving twin lexias with the same name, a curiosity allowed by Storyspace. These bifurcated steps lead down discrete paths until they converge in the episode of the cab and the lost leg (Jackson 2015i).

Understanding hypertextual narrative thus requires the traditional kind of reading, attention to language or imagery within the lexia, along with a version of Goldsmith’s parsing—looking at the logical or procedural flow of the text, the pattern of switches and pathways formed by its link structure. While this does not mean regarding the text as purely machinic, as
Goldsmith is inclined to do, it usually entails attending to the way the text cooperates with underlying hardware and software—requiring attention to schematic abstractions if not to programming code itself. In the case of *Patchwork Girl* and other early Storyspace texts, tools for this sort of inquiry are provided in the reading environment. Among the most powerful of these is the Roadmap feature (figure 4.4).

*Roadmap* presents a pop-up window with four panels, the one at left showing all lexias with links into the current lexia; the two in the middle showing the structure and content views of the current lexia; and the one at right showing all possible destinations. The lexia “revelations,” as shown here, can be reached either from “phrenology” or “a tail” and leads to only one possible successor, “revulsion.”

Informed by such schematic views, a full accounting of the thread would require multiple Traversals of the available paths. This is the sort of patient and meticulous work first demonstrated by Douglas in her comprehensive reading of Joyce’s *afternoon* and evident also in Bell’s account of *Patchwork Girl* and similar studies. As Joyce would later say of hypertextual reception, it involves both a kind of rereading and a kind of unreading. Literally, the reader of a hypertext often must repeatedly encounter the same lexia, since as Mark Bernstein memorably observed, repetition in this medium is not necessarily a vice (2003). Elsewhere he elaborates:

![Figure 4.4](image)

*Figure 4.4*
Using the Roadmap feature in the CD-ROM version of *Patchwork Girl*.
No passage [of a hypertext] stands alone: its meaning necessarily depends on what has come before, and what follows. In the presence of links, then, the passage depends on where we have already been, and on what we choose to see next. The hypertext writer lies at the mercy of the reader, as all writers do. (Bernstein 2009, 7)

In the case of such recursions, the reader is implicitly asked to set aside a previous reading—to approach the repeated text with different expectations, the better to find a different way forward. Joyce develops his notion of unreading considerably beyond this literal basis, and we may have to do something similar here, but simple repetition underscores the coherence of local reference. To return to a given point, we need to trace out a circuit, and this circuit implies an actual or conceptual volume: the file structure of the hypertext, the geometry of its directed graph, the threaded body of the text, the diegetic domain of the story.

Such procedural assumptions serve well enough for almost all the threads and sub-threads in *Patchwork Girl*. Emulating Douglas and Bell, we could produce comprehensive or synoptic compound readings of four of the main threads linked from the title page: “graveyard,” “a journal,” “crazy quilt,” and “story.” There is no particular reason to repeat that task, since it has already been ably handled by others. However, the case of the final link from the title page, “& broken accents,” requires a different level of attention. As Jackson reminds us, the aspect of the text to which it is connected, a supposed thread called “broken accents,” belongs somewhat dubiously to the monstrous body (Jackson 2015c).

“Broken accents” is indeed anomalous. All other threads in *Patchwork Girl* have certain common qualities. They are collections of lexias with a mainly linear link pattern, contained within a head lexia that bears the name of the thread. There are high-level lexias titled “graveyard,” “journal,” “crazy quilt,” and “story,” each of which holds all the lexias in its respective thread. There is no lexia anywhere in the work titled “broken accents,” which initially suggest that “broken accents” is no thread at all, though the situation is in fact more complicated.

The textlink from “& broken accents” leads to the previously encountered lexia “phrenology.” This lexia is one of six at the top level of the hypertext map, specially marked in the structure graph. Each of these lexias contains an image in place of a prose passage. Five of the six show versions of the signature graphic of the girl (“her”), cut up and remixed in various ways. Again, “phrenology” breaks the pattern. It shows a head in left profile. Possibly this is another portrait of the girl, but the head is left bare in order to display one of those reticulated maps used by phrenologists,
another sort of patchwork. There are thirty-seven labeled areas in the map. In the first two versions of *Patchwork Girl*, about two-thirds of these labels comprise clickable hypertext links. (In the 2014 version, the links are accessible only through *Browse Links* or another tool.)

The allusion to phrenology, with its claim of correspondence between cranial formations and human character, suggests rationality, coherence, and synopsis, offering one map to explain everything. Applying the metaphor to Jackson’s text, perhaps the image hints at a key to the girl’s psyche, memories, or internal monologue. Here is her brain in Storyspace. In this respect, “phrenology” recalls a roughly similar structure in another Storyspace fiction, *Victory Garden*, which offers reads a schematic index of entry points divided among three sections of a stylized labyrinth. In both cases the graphical depiction points away from itself, identifying points of ingress to other regions of the text. There are, however, important differences between these two instances. The map in *Victory Garden* was effectively an afterthought, among the last things added in final stages of composition. If “phrenology” is part—or, indeed, all—of the “broken accents” pseudo-thread, then by Jackson’s account this lexia was one of the earliest parts of the project, so it cannot be understood as simply a post-facto indexical map.

Maps and indices are in fact quite different. The cranial image suggests no organization beyond certain supposed facts of anatomy. If we want to understand its links according to some kind of order, do we start up at the forehead or down at the brainstem? Do we move horizontally or vertically, left to right, or otherwise? Should we spiral around the skull, gathering the links into skeins or layers? (That scheme has been arbitrarily adopted in the table below.) Is anyone expected to know how phrenological maps were meant to be read in the first place? It seems more likely that “phrenology”—which was after all named for a false science—is not meant to be indicative but rather suggestive or heuristic. It is less a schematic than an invitation.

This heuristic function must have something to do with the properties of the labeled image. Of thirty-seven marked terms on the diagram, only twenty-one are associated with working hypertext links. These are listed in the table below with the linked items italicized. As indicated, the separation into columns is mainly a typographic convenience. There seems to be no particular meaning in position or contiguity.
There is no straightforward way to explain why some phrases are linked while others are passed over. Perhaps the omissions are also artifacts of Jackson’s redesign, with its newly austere approach to linking. By the same token, those terms that have links seem cryptic and strangely assorted. Some are proper names (“jennifer,” “bronwyn,” “Agatha”), others are nouns of other sorts (“angel,” “mirth,” “secrets”), while some are typographic characters or logical operators (=, +, or). In the case of the names, we might assume reference to a particular character—some of these links lead to donor stories in “graveyard”—but what are we to make of a link on “abc,” or a plus-sign?

Cryptic they may be, though hardly more so than those in the *Victory Garden* map, and, like those links, they lead to various lexias within other threads. Points within all four main threads in the title-page list are reachable via links in “phrenology.” So are lexias within the fifth major thread, “body of text,” which has no other link from the title page. Three links from “phrenology” run to “graveyard,” two each to “journal” and “crazy quilt,” five to “story,” and nine to “body of text.” This distribution suggests something interesting about “phrenology” and the supposed “broken accents” thread.

Perhaps the problem with this structure is simply a matter of designation—a slippage of signified under signifier during the process of revision. Perhaps “body of text,” like “phrenology,” is also a survivor from earlier stages of composition. At some point “body of text” may have comprised most of the lexias in *Patchwork Girl*, with “phrenology” perhaps intended as an initial routing or circulating mechanism leading readers to them. In that
case this fifth thread may represent the technically missing body of “broken accents.” This assumption would renormalize “broken accents,” making it a more or less orthodox structure that somehow carries a different name, maybe as an artifact of revision. This anomaly might be easy enough to justify: *Patchwork Girl* is fundamentally experimental. Hypertext writers may not know where they are going any more than their texts do, and this was particularly true in the early 1990s.

However, several problems stand in the way of such reparative conclusions. If we consider “phrenology” and “body of text” components of the “broken accents” thread, we have to concede that this structure differs significantly from that of the other four threads. In their cases a single link from the title page leads to the first lexia in a generally linear series. The title-page link from “broken accents” runs instead to “phrenology,” which inserts a first stage or antechamber not found in the other threads. The nature of this preliminary lexia is also distinctive, in fact unique in Jackson’s hypertext. It has twenty-one outward links, more than ten times the average for the work. Finally, the destinations of this large array of links include lexias outside “body of text,” another important and singular departure from the architecture of the other threads.

Perhaps the best way to understand “broken accents” is to emphasize its first term. It is functional but at the same time something broken, a scrap, patch, or fragment. “Phrenology” is an extremity reachable only by a single link from the title page. A reader exclusively following the link structure of *Patchwork Girl* would encounter this element only once, or not at all if she chose not to click on that lowermost link on the title page. To some extent “phrenology” seems to coordinate with “body of text,” but inconsistently and with exceptions. If we must think of “broken accents” as a thread, it is one that immediately frays.

This peculiar sort of thread would not be an ordinary sequence but a hyperdimensional object, extended not in an immediate or contiguous plane or volume but across the broken, discontinuous space of the entire monstrous body. If we attempt the same parse-and-read procedure that seems appropriate to other threads, we come up against the hard fact that all links in this case radiate away. Diving in at “jennifer” leads to the entry for “right leg” in the “graveyard.” Entering via “fire” leads to one of the lexias called “revelations,” where Chancy and the girl reveal themselves to each other as women. The link from “abc” leads to “learn,” a passage in Mary Shelley’s imagined journal. Looking at all twenty-one possible connections reveals no common pattern beyond apparently random sampling. Various schemes might be proposed but only in the way one responds to a
Rorschach blot. The pseudo-thread ultimately signifies nothing but multiplicity. “Broken accents” is in every sense a way to go to pieces—the most direct and powerful of the five options offered at the start of the work.

“Broken accents” cannot be understood in the same way as other parts. The first four threads on the title page effectively stitch together limbs and organs of the monstrous hypertextual body, leading to extended continuities. The last option, dangling from its ampersand, appends a mark of difference. Considered as a false or imperfect thread, “broken accents” is unreadable—not in terms of inaccessibility or simple defect but in the sense of a cognitive enigma. We can experience Patchwork Girl by clicking first on “& broken accents,” but if we do so, what are we reading? In what voice or voices are these “accents” to be heard? The thread folds us immediately into the larger, multifarious system of the text. In this sense the object of our attention, the hypothetical substance of this thread, is nothing but the hypertext itself: all 323 lexias, 462 links, and roughly 45,000 words that lie within that anatomy. As noted in Chapter 1, Eskelinen observes a disruptive tendency in some forms of electronic writing, works that aim at negating the notion of a “textual whole” (2012, 70). As Jackson herself puts it, “The body is not one, though it seems so from up here, from this privileged viewpoint up top” (“Stitch Bitch”). “Broken accents” seems both to fulfill and defy Eskelinen’s prescription, refusing one sort of wholeness—that of the thread—and at the same time insisting on the indefinite mass of the monstrous textual body as the only frame of reference.

Complicated Shadows

Having begun to understand how the curiously unreadable fifth thread operates and what it may signify, we come again to the question of purpose. Why is this anomalous organ included in the textual body? How does its presence characterize Patchwork Girl and its way of constituting a hypertext fiction? If this is one way to go to pieces—or to design a hypertext—what do its particular conformations imply for literary discourse? Finally, what does it mean to attempt to preserve this literary achievement with methods (Traversal, memoir, reflection) involving that dubious process about which Joyce has warned us—rereading hypertext fiction?

We can begin at the top of the list, with the matter of what “broken accents” is doing in Patchwork Girl. According to Jackson, this part of the project is to some extent vestigial, a surviving trace from the work’s gnarly adolescence. Why leave this element in place? Why did Jackson not eliminate it during that massacre of links that banished the “Brillo pad”? From
remarks in her Pathfinders interview, it is fairly clear that Jackson wanted to
preserve something of the initial, unsustainably abundant approach. Per-
haps this decision reflects a genuinely experimental impulse. As Janet Mur-
ray observes, early examples of electronic writing are cradle-works or
incunabula (1997, 28; see also Hayles 2008, 59), and infancy demands a
certain freedom of expression. As Jackson says, hypertext never knows
where it is going, so perhaps it is good to build the multitudinous body in
layers, later structures overlying and communicating with earlier, without a
need to erase their differences. Even allowing that this hypertext is a
remarkable example of its form, that form has more to do with willful irreg-
ularity than mechanical precision. For all its formal accomplishments,
Patchwork Girl remains more improvisation than canon or concerto.

As we learned from our Baumian complication of the Mary/Shelley
interface, we must be prepared to think of freaks as well as monsters. There
is no simple way to apply those categories to Jackson’s text. Perhaps the
more conventionally threaded, orthodox organs of the text represent the
freakish aspect of the work, turning from the merely monstrous gnarl of
connections to something undeniably and defiantly literary. It seems just as
plausible to reverse the assignment, in which case the four or five standard
threads would constitute the monstrous body, with the willful anomaly of
“broken accents” standing unapologetically as supreme technological
freak—an outbreak of hypertext without regrets.

This latter view seems more helpful in attempting to line up the last of
our axes of discrimination, the tension between reading and unreading, or
utterance and the unspeakable. The freakish relapse of “broken accents”
into a structure that sets parsing ahead of conventional reading confronts
us with something like Goldsmith’s “new illegibility,” though not identical
to it. We have not yet passed into the moment of machines writing for
machines, but we may arrive on the threshold of that scene in which the
cybernetic aspect of human literary production momentarily comes for-
ward. Since it is a functional way to begin an encounter with the text, “bro-
ken accents” is not literally unreadable, though it entails an unspeaking or
renegotiation of the reading process. Elsewhere in the work, Jackson offers
largely linear threads as models or guides to that familiar process of deep
association in which all stories imply or emerge from hypertexts. In “bro-
ken accents” this dispensation is, if not totally withdrawn, at least deferred
by the baffling imposition of the heuristic map and its tenfold explosion of
links. Patchwork Girl thus expands the domain of reading to include new
and old, encompassing linear text and hypertext, the modulated thread-
body as well as the disruptive, freakish fabric of links.
However, this cannot be the last we have to say about unreading. “That which is reread is that which is not read,” Joyce tells us (1997, 596). This is a deeply figurative expression with a strong suggestion of Zen, and it is tempting to seek some elegant reading of its apparent paradox in answer to the question of purpose in *Patchwork Girl*. Unfortunately doing this would ignore a more salient—and literal—reading of Joyce’s apothegm, which begs even more urgently for application here. Factually speaking the version of *Patchwork Girl* that we have reconsidered is at least in part *that which was not read* by the author in 2013. As Jackson points out in her interview, she did not include “broken accents” in her Traversal.

Many plausible reasons could be offered for this choice. Demonstrating disruptive structures is inherently hard to do in performance, and it forces the writer to talk about the work instead of presenting it. Time thus spent would leave less for exploration of more coherent passages, for which any fiction writer may hold an understandable preference. If “broken accents” represents the radical or freakish side of *Patchwork Girl*, perhaps it is legitimately incompatible with performance. Then again, understanding that the Traversal was to some extent improvised, Jackson’s passage through the text simply may not have led her to the anomalous thread. On any given rereading, even the author may not know where her hypertext is going. The fact remains, however, that this part of the work, in which there is arguably so much significance, went unvisited and unvoiced—but yet not completely neglected. Jackson discussed it to important effect in her interview.

There are two important implications here for the project of preservation through Traversal and by extension for the posterity of electronic literature. First, the oral-historical aspect of the Pathfinders project—the requirement that a Traversal subject be interviewed either before or preferably after working through the text—has great importance. The interview is valuable because it can help correct for an inevitable deficiency of the Traversal itself.

This brings us to the second implication. Traversals are approximate. For any variably sequential work of even limited extent, the number of permutations may be far too large to be conveniently presented in total. Eskelinen is right to suggest that cybertexts fundamentally call into question the concept of textual integrity. The Traversal can only ever be a particular representation or sample. This is readily apparent for *Patchwork Girl* and the other first-generation electronic projects addressed in Pathfinders, but these works are finite compositions published in closed media sets. Cybertext theory assigns them an “interpretative” user-function (Eskelinen 2012, 21).
In more advanced works, for instance the “News Reader” by Wardrip-Fruin et al. (2003), the text may acquire information from updated, online sources, making its possibilities of expression literally infinite.

In either the closed or open case, the Traversal remains essentially a shadow—a projection onto a simpler geometry or substrate (linear video, in this case) expressing one aspect of a structure that possesses higher levels of complexity or dimensionality. To say this is to render Plato’s story of the cave not as allegory but as media technics. Dealing with texts that deny wholeness—as Patchwork Girl does both thematically and formally—is necessarily a loss-embracing process. The world of forms or systems can never be completely translated into the domain of ordinary expression. We can at best suggest what we cannot fully encompass.

Owing to its approximations and inevitable exposure to that-which-is-not-read, Traversal is best understood as one among several approaches to preservation. Oral storytelling and straightforward questioning have obvious value. A case might be made, too, for the necessity of later reflection on Traversals and interviews—the project of this book—since in trying to elaborate insights and discoveries, more gaps, omissions, and problems may also come to light. There is also evident complementarity between the Traversal project and the crucial work of collection, particularly when that effort preserves both hardware and software contexts for the work in question. Research for this chapter involved three laptop computers running distinct operating systems with dates of manufacture spanning a quarter century.

The third major method of software preservation, translation or emulation, also has a place in the scheme, though its relation to the Traversal project is more complex. From one perspective it is almost antithetical. Why should we preserve imperfect traces of a work through demonstration or performance when effort could instead go to recreating the work for unconstrained encounters on contemporary platforms? That said, there is no absolute reason—leaving aside shrinking budgets—to regard Traversal and emulation as mutually exclusive. We should encourage both. If nothing else, a Traversal of an emulated system can preserve however imperfectly a trace of what has been accomplished against the possibility that the work in question does not survive the next technological upheaval.

In the end, though, as Jackson says, there is something inescapably hypocritical about the preservationist impulse. We could not possibly save every aspect of any cybertextual work. Even as we acknowledge the imperfection of our method, we produce a limited if not singular document of record: a single website, an interview inevitably constrained by time and
stamina, a Traversal that may record several iterated passes but leave out more than it represents. In attempting to maintain these pioneering fictions, we may be maintaining a fiction of our own, pretending that the traces preserved are somehow definitive. This is an error—perhaps necessary but no less regrettable. Electronic literature is not inclined toward wholeness. Hypertext never knows where it is going. Every rereading is an unreading of those possibilities we do not choose to realize or that somehow escape the moment.

This moment—these century-spanning decades, the arcs of our careers, a certain stretch of three or four generations—is profoundly liminal. The moment slips from under itself, and who knows where it is going? Literature is exploding into the void, as Stanislaw Lem has it, or into the nebulae of the literary, according to Hayles and Liu. Thanks to the World Wide Web and other forms of networked media—after the invention of language, the greatest expressive activity in our species’ history—we are discovering forms of symbolic exchange that exceed simple comprehension. Here comes the new illegibility, looming like that speculative creature at our uneasy bedsides.

Maybe this is a moment for monsters. The importance—perhaps the purpose—of incunabula such as Patchwork Girl is that they cradle us in an instant still one beat removed from the machinic utopia or apocalypse of uncreative writing. We can see the new textuality on our virtual walls (or timelines, or whatever current technology provides). If we cannot read it, at least we can think about it. Surely one important aspect of that thinking is carried out in Patchwork Girl, especially in those anomalous moments that ask us to go directly to pieces, to dive straight into complexity, to parse before reading, to interrogate the unreadable. Maybe this strange state of affairs is that horror of which the monsters warn us. Just as plausibly, though, our modern monsters have no message, they are simply who and what they are—“hopeful monsters,” as Hayles suggests (2008, 4)—creatures of inexhaustible multiplicity, reader-writers of their own unreadable texts. Maybe, then, there being no monsters outside ourselves, we now need a different name, a new signature of weirdness.

Time to free the freak.
5 The Archives Pertaining to Bill Bly, Curator and Translator

Dene Grigar

“*If this document is authentic.*” This is the five-word phrase that came to Bill Bly, prompting him to write *We Descend*. The implications of the phrase led Bly to wonder about what a document is and what it means for one to be authentic. It made him curious about the people who determine the authenticity of documents: What are they like? What are their struggles? How do they come by their authority to determine a document’s authenticity (Bly 2015b)? These questions shaped his experiment in *We Descend*.
hypertext as an archive of documents. The result of this exploration into narrative form is a compilation spanning generations. Its 598 nodes of text, or lexias, connected by 864 links, “pertain” to a scribe named Egderus Scriptor.

Egderus’s collection is diverse. There are ruminations, bits of poetry, quotes, testimonies, and stories from his time. There are also earlier, pre- and postapocalyptic writings from a group identified only as the Ancients. Commenting is the Scholar, who discovers Egderus’s texts and is disturbed by the truths both suggested and overturned in their historical account. All of Egderus’s and the Scholar’s material is itself collected by an unnamed Annotator/Compiler/Selector/Redactor (“And a last (fore)word”). Finally Bly intercedes as Curator of the work, rendering the archives into hypertext along with a foreword, afterword, directions for reading (“Title Page”). The archives cover four bands of time: those of the Ancients, Egderus, the Scholar, and the Annotator. Bly’s intervention introduces a fifth period—the present. Because the work reflects many voices relating disparate texts over a long stretch of time, readers of We Descend are challenged to discern who is speaking and what the exact context is in the narrative, but this approach reflects the very issue scholars face when working with ancient texts: truth and authenticity are impacted by time.

Bly’s studies of ancient Greek inform We Descend. Released in 1997, its roots lie in archival research of ancient texts. It follows archival efforts of the mid-1990s, the most notable being the Perseus Project. Begun in 1987, Perseus was first published on CD in the early 1990s and to the Web in 1995. This rich archive of ancient Greek and later Roman texts was groundbreaking in scope and today continues to provide scholars with unparalleled access to ancient Western culture and tools for textual study. A word search of Homer’s Odyssey that, in 1993, had taken this author months of labor by hand, was reduced to fifteen minutes using a computer with access to Perseus, Greek Keys—the software classicists used to produce ancient Greek type with diacritical marks—and the word-search program Pandora (Grigar and Corwin, 1998). Among Bly’s personal possessions donated to the Electronic Literature Lab at Washington State University Vancouver were copies of a Perseus CD and Greek Keys.

Like the Perseus Project, We Descend is an archive of texts augmented by scholarly notation. But We Descend is fiction, and it experiments with the potential of hypertext by structuring multiple, nested narratives that unfold linearly, revealing truths in measured moments of myth, maxim, and testimonial. To read We Descend as a hypertext novel is to assume it
will deliver something it is not intended to. For it is not precisely a nonsequential work of fiction, but rather a compilation of interconnected archives relaying bits of information as incompletely as one would expect of an ancient text.¹

_We Descend_ has been the subject of reviews and essays since soon after its publication. Susana Pajares Tosca’s 1998 review provides a good introduction to the work and its approach. Jan Van Looy’s 2002 review for _Dichtung Digital_ argues that _We Descend_ is so linear as to constitute a hypertext “novella.” The most recent discussion of the work, in Astrid Ensslin’s _Canonizing Hypertext: Explorations and Constructions_, focuses on _We Descend_’s form as a mystery and crime novel, its linear structure, and its narrative strategy (Ensslin 2007, 86–87).

Both Tosca’s and Van Looy’s reviews were produced at a time when computers reading floppy disks and CDs were still readily available. Even in 2007 Ensslin could access the technology she needed for her research. By 2008, however, Apple began to phase out CD drives in its computers (Lownensohn 2013), and by 2009 CDs were falling into disuse (“How vinyl record sales stack up,” 2009). Today it has become very difficult to find a computer that can read them.

To write this chapter, this author used the CD version of _We Descend, Volume 1_ (produced with Storyspace 2.0 in 2006) in MacOS 10.3.9 on her vintage iMac G4—the model known as “sunflower,” manufactured in 2002–2004. Others wishing to read the work would likewise need a vintage computer. As with _Uncle Buddy’s Phantom Funhouse_ (chapter 3), it is ironic that a project exploring archival work and the authenticity of ancient documents should itself become obsolete in less than twenty years, and so in need of preservation.

In that regard we serve as a sixth round of scholars in an already long line of archivists examining and commenting upon the documents found in _We Descend_. But, without access, the archive and exploration Bly made into its form are both lost. This chapter, therefore, takes advantage of a specialized preservation laboratory in order to provide this in-depth look at _We Descend_ as a work that experiments with the archive as narrative form while this type of access is still available to us.

**Stories of the Archives, an Archive of Stories**

_We Descend_

_Archives Pertaining to_

_Egderus Scriptor_
Box 5.1
Publication History of *We Descend*, Volume 1

Volume 1, 1997, on floppy disk (and CD, after 2000), with Storyspace 1.0, sold and distributed by Eastgate Systems, Inc., $24.95; for Mac OS 9 and earlier.
Volume 1, 1998, on floppy disk, with Storyspace 1.0, sold and distributed by Eastgate Systems, Inc., $24.95; for Windows 95, up to Windows XP.
Volume 1 “*WeDescend_30node,*” 1998, with Storyspace 1.0; produced for readings and performances.
Volume 1, 2006, on CD, with Storyspace 2.0, sold and distributed by Eastgate Systems, Inc., $24.95; for Mac OSX 10.2 and later).

Figure 5.2
The nodes and links of Bill Bly’s *We Descend.*
Bly’s work begins with a title page, which gives way to an epigraph from Margaret Atwood’s poem, “Two Miles Away”:

Night rises from their bodies
and spreads over the hills;
musty; smelling of thunder;
the air around their heads
thickens with ancestors.

Alluding to the darkness and weightiness of the past, the poem presents readers with an ominous warning. Not unlike the inscription found at the entrance of Dante’s Hell, this note speaks of the dangers ahead and of the atmosphere readers are about to encounter.

The default path gives a tour of the writings in the archive. Readers enter the first section when they click on the box containing the lexia (see figure 5.2). This introduces the Scholar, who is inspecting Egderus’s archive. The nineteen lexias comprising the archive carry the foreboding tone and mood set by Atwood’s poem and hint at a major environmental disaster, where storms “last all night” (“Storms and haze”) and “the air is heavy and foul” (“The days are worse”). The ancient narrator describes a “dwindl[ing]” population. Then, the fourth lexia shifts the authorial voice: “If this document is authentic, then a complete reappraisal will be necessary.” We surmise that here the Scholar has taken over, with his assessment of an older “document” concerning the disaster.

Clicking on the fourth lexia takes us back to the ancient narrator, who laments the dire situation in which he finds himself and wishes to return to “history, music, words that mean something, and say them” (“Nobody knew what hit”). The voice shifts back again to the Scholar, who struggles with what to do with this writing that goes beyond ostensibly accepted facts like “lists, inventories, and fragments ... of poetry.” We learn that the ancient text was copied by a scribe who served as “director” of the
“Remnant,” a class of “slaves” who “no longer contribute to society, and who would be better off dead, or at least out of the way” (“So, it might be argued”). The Remnants are scraps of humanity, like the fragments of text he holds in his hand. At this point, we learn that the scribe is Egderus, “one of the first scribes of the Goliadic Age,” whose existence has been documented in a list, “dated” and “signed,” and, so, is accepted as truth.

Egderus’s document, however, is fraught with problems, for it contains information not yet accepted by the Scholar’s culture. Additionally, because it is a “copy made very recently” and not an “original,” its veracity is in doubt. Also puzzling is that the document treats the words of the Remnant like wisdom of the Ancients (“At first I thought”). The Scholar asks himself if he should come forward and risk his reputation or labor silently behind the scenes building his case to prove the writing’s authenticity. The narrator’s fragmented thoughts, where arguments are made and rejected with each click of the mouse, reflect inner conflict. A quote from Leviticus 26:36—“And as for those that are left, I will send faintness into their hearts … .”—warning against disobedience to God underscores the Scholar’s dilemma. Clicking on this lexia takes readers back to the ancient document copied by Egderus. In this text, the speaker contemplates the nature of history and ponders what is at stake with the loss of his heritage in the face of his world’s demise:

History used to be a question of finding out, not remembering. You read books, you took courses, you watched shows with actors in period costumes. Occasionally after dousing yourself with names and dates, you entered the realm of the historian’s secret delight: you got a feel for a time and place long ago and far away. That’s all over. Every time is gone now, every place infinitely remote. Without the past, what’s the present? In a shapeless present, where’s the future? (“Who cares what”; emphasis in original)

The use of the word “history” is ironic. Derived from the Greek historia, it refers to research or investigation. Greek philosophers and historians viewed historia as a rigorous examination of information, learning by inquiry, narrative involving the past from which we gain insight of the present and future. Those of us familiar with Herodotus’s Persian Wars or William of Poitiers’s History of William the Conqueror know that today’s historians have more respect for evidence than did their ancient and medieval predecessors, whose duty was as much to raise philosophical and religious questions as it was to align information to reality. Exactness does not necessarily equate to truth, as the passage suggests. Truth, or alethe in Greek, literally means “not forgetting” and carries with it the idea that things that are
true are really just those things we need to remember. Even with access to evidence for the purpose of remembering, how does one create a cultural narrative not built on lies when one cannot question the veracity of that evidence? Herein lies the problem, and it is the problem that leads to the ancient author’s (and, by association, the Scholar’s) rejection of history—“the mess and redundance of life made understandable.” Better, the speaker muses, is to call oneself a “musician” (“Nobody knew what hit”). Clicking on this lexia ends the ancient text abruptly. The story shifts to the phrase, “Here Beginneth The,” and we are taken to “the Testament of Egderus, 9th Superius Frater of Mountain House, in the 50th season of his tenure,” the second section of the archives.

The Testament relates a mystery unfolding over numerous nested stories. At the center lie the death of Gig, the Phylax of Mountain House, and the examination of the Historian, separate events that seem to be intertwined. The Testament also hints at Egderus’s rise to a position of authority. Already an archivist, he becomes secretary to the Superius Frater, and, along with other young scribes of Mountain House, is harassed by Gig. One day Gig finds Egderus, who is lame, alone and attempts to kill him with his axe. Waking up later in the infirmary, surprised to be alive, Egderus tells the patient in the bed next to him about the incident. The next day Gig disappears; later his decapitated body is found.

A new phylax named Robenc takes Gig’s place and decides to solve the mystery of his death. Because Egderus was the last person to see Gig alive, Robenc questions him. The Primus Frater—a man also known as the Good Doctor, who works under the supervision of the Superius Frater—becomes angry when he learns that Egderus confessed to seeing Gig before he disappeared. He punishes Egderus by forcing the young man to copy “more than two dozen books from the library” before the “Year’s End.” Egderus refers to these books as a “hodgepodge of scribbings”: “chronicles of the Old Kings, several Scriptures, the Songs, and a collection of miscellaneous writing—annals of Mountain House, receipts and accounts, inventories, even recipes from the kitchen” (“It was not my habit”). More punishments are handed down. Egderus is forced to join the Good Doctor at the older man’s new station away from Mountain House. Before Egderus’s journey, the Superius Frater gives him a piece of advice: “Believe what seems to your heart to be true, but be prepared to abandon that truth the instant it plays you false” (“My son I must”). And then it is time to leave: “the tree closed the Gate out of sight, and the descent began.” The drive to his new home gives Egderus time to contemplate his situation. He realizes that the Superius Frater is not omnipotent and lacks
power over the Good Doctor. Egderus concludes that, in fact, the Good Doctor more than likely was sent to Mountain House to keep an eye on the Superius Frater. Egderus also determines that the Superius Frater was sent to Mountain House against his will, owing perhaps to some scandal. The exile wishes to learn “where such power was generated” (“Finally: who was this”).

After another abrupt shift in time, Egderus has arrived at his new home and now serves as the Good Doctor’s secretary. The Good Doctor has been designated the Prior to the Chief Inquirer, a lofty position that allows him much freedom with his examinations. This position resembles that of a Grand Inquisitor, whose job is to eliminate heresy, presumably through torture. In We Descend, heresy is specifically historical heresy: scribes are expected to write the past as it should have been, not as it was (“The Good Doctor had”). The principle heresy is the belief that the Ancients were not gods but human beings (Bly, email to Grigar, August 21, 2015). Egderus’s job is to write down the information the Good Doctor gleans from his “clients”—heretics subjected to examination (“What I was cataloging”). These sessions seldom go well for the client, whose examiners seem to enjoy the process of prying out “realizations.” Egderus “loathe[s]” the examiners, who love the torture by which they extract truth rather truth itself. Over time, Egderus begins to see both the scriptors and examiners as hypocrites (“My contact”).

Years go by, and Egderus develops a romantic attraction to the Historian, a man the Good Doctor plans to examine for heresy. Sent out of the Good Doctor’s office one day, Egderus finds Robenc waiting for him. Robenc pumps Egderus for information about the identity of the Good Doctor’s client. Robenc, we learn, is no longer just a Phylax but has “ascended” to the rank of Praetor, Governor of the Bodyguard, protector of everyone, including Egderus (“Don’t be angry”). The Good Doctor is not happy to see Robenc but takes the man into his office to talk anyway. From a hiding place in a cabinet, Egderus listens in (“Even as I first crawled”). Robenc tells the Good Doctor that the Historian is a “friend of the Golias,” the highest-ranking leader, and wants the Historian freed. The Good Doctor refuses for lack of proof (“It should be”). When the Historian is mentioned, Egderus “jerk[s] upright,” his actions alerting the Good Doctor to his eavesdropping (“At the sound of my”). After the meeting the Good Doctor beats Egderus so severely that he must visit the infirmary for care.

The turning point in Egderus’s life comes when he decides to save the Historian. He realizes that he will need to bring down the Good Doctor (“The choice”). Egderus knows the Good Doctor will finish his examination
before Robenc can intercede on the Historian’s behalf, but Egderus also believes the Historian will not be tortured until Egderus returns from the infirmary. He is right. The Good Doctor needs Egderus to return in order to finish his job. While Egderus is in care Robenc visits a comrade, Aric, in the infirmary. This coincidence gives Robenc the opportunity to question Egderus about the Historian. Together, Aric and Egderus plot to save the man by having Egderus turn over to documents about the Historian’s examination.

From this scene, readers enter yet another story, about Gig. Aric tells Egderus that, at one time, he and Gig had found the body of a young soldier “by the spring.” His death was like Gig’s. Other bodies of young soldiers had also been found by the spring. Gig, it seems, was troubled after he found the first (“There had always been”). Blame for these violent deaths was assigned to the strange rocks that form the landscape of the area. Gig and Aric decided to investigate. On one of their journeys to the rocks, Gig and Aric spied the Good Doctor coming down the road, far from where others generally walked. They played a trick on the Good Doctor to scare him, but he disappeared. With some investigating, Aric and Gig discovered his potential place of escape—a room within the rocks. But instead of seeing the Good Doctor, Gig encountered something that changed him into the man who chased Egderus with the axe, and which may be the cause of his own death by dismemberment. We never learn what that something is.

Another shift occurs, and readers are taken to a story consisting of twenty-one lexias about an encounter between the Superius Frater and Robenc (“I had withdrawn”). We can tell from the conversation that the meeting takes place at the same time as Egderus and Aric’s plot to help the Historian; the meeting provides another perspective about the Golias’s motives for finding the Historian. Evidence suggests that the Historian was last seen with the Good Doctor at the Office of Inquiry. Robenc asks the Superius Frater help locate the Historian.

The story involving the mystery of Gig and the Historian ends abruptly (“Well, the investigation”). We never learn who killed the former Phylax or why the Golias was searching for and trying to save the Historian. We may not recognize it at first, but, based on the gloss—that is, the hyperlinked information that serves as the Annotator’s commentary of the text—we come to understand that the Abbot is another name for the Superius Frater, under whom Egderus served when he first lived at Mountain House. This passage hints at why Egderus himself eventually ascends to the position of Superius Frater: he has the temerity to tell Robenc that the Good Doctor
held the Historian in custody and was examining the man (“The very same. he”). He is willing to question authority and risk punishment to speak the truth—brave enough to be authentic to himself when others rely on him to be otherwise.

After yet another abrupt shift, readers arrive at the “articles of faith—to lose, to suffer, to learn”:

The more you appear the winner—the more humiliating will be your defeat. From this you learn. The more you have been broken by suffering—that much more suffering will be heaped upon you. From this you learn.

The more experience you have, the greater your mastery, the subtler your thinking the more abundant your knowledge—that much the more naïve, clumsy, stupid, and ignorant you will be shown to be. From this you learn.

For the hope of winning means everything until it has been achieved: the prize bestowed is no longer prized. Having won means nothing: A new challenge, a new test, must forever be proposed. This is vanity.

History … myth … the remnant, preserved for a later generation, not as an exemplar, but as an albatross. (“To lose, to suffer”)

Readers cannot be sure who is talking at this point; however, since we are still within the Testament of Egderus, we can assume he is speaking. We learn later that the first three paragraphs are indeed Egderus, but the last is the Scholar. Over the next eleven lexias, we learn that the world had been destroyed and that the documents Egderus has been copying reflect a worldview that the Golias envisioned after the dust settled and rebuilding began. In essence, the Golias controls the present and the future through the historical accounts of the scribes. Section two ends with Job 5:23: “For you shall be in league with the stones of the field, and the beasts of the field shall be at peace with you.” The context of this passage—Eliphaz’s reminder to Job that the truly good are never forgotten by God—further emphasizes Egderus’s strength of character as the source of his eventual rise to authority.

Via the default path, readers arrive at the third section of We Descend, “Sermon at the First Gathering.” There is some question about the context for this talk. As mentioned previously, we are not sure exactly what this information entails or why it is dangerous; we have to take the speaker at his word. Though it was supposedly given at a specific event, the content itself is highly provocative (“Sermon at the first”). It is, in fact, a pointed criticism of those who are “jealous and spiteful,” “boastful and self-serving,” and “wrong” (“They are jealous and”). When we click on the final lexia of the sequence, we evoke an image of four men examining a book. The title of this image, “Conference,” takes us back to the beginning of
the archives, where the Scholar struggles with how to present to the conference the controversial information he has discovered. Clicking on this image takes us back to the title page. This time there is no “start” link. We can only access the foreword, directions, and inventory. In the inventory, Bly as Curator has collected all of the commentary the Annotator provides about the eight major authors of the writings: Scholar, Egderus, Superius Frater, Historian, Robenc, Aric, Remnant, and Ancients. This material challenges the authenticity of the archives we have just read. Writings ascribed to the Remnants, for example, may have been written by Egderus or the Good Doctor; the story of Robenc as a young man may have been a “hoax” (“Young Robenc”). Readers can sustain belief in the archives because the Annotator endows it with some level of authenticity by arbitrating which information is correct. However, because curation (Cairns 2013) and translation (Raffel 1989, 50) are authorial acts, Bly ascends to a status higher than Egderus, the Scholar, and the Annotator who precede him.

The Functionality of the Archives

It is important to reiterate at this juncture that the version of *We Descend* used for this chapter is the 2006 version produced with Storyspace 2.0, accessed via a Macintosh computer dating from 2002 to 2004. This author also read the work using the default path as she did when she first bought her copy in the late 1990s. Anyone studying this work on this computer using this method would encounter functionality specific to it, functionality that affects the reading experience.

For example, the archives present a wide array of textual data organized into three main sections and seven sub-groupings. The default path reveals pieces of the archive bit by bit in linear fashion. Each node remains fixed on the computer desktop as another node appears on top of it, until there is no visible way to return to the beginning. Selecting the title in the bookplate opens an annotation on that particular writing, and clicking the navigation tool takes readers to the beginning of the writing itself, but locating any single lexia of the story amid the dense stack is more difficult. In this way the work reflects the messy detritus of existence and recalls the need of archeologists to dig deep—descending, so to speak—to find truth and meaning amid layers of remains (figure 5.3).

But, as Bly reports, he did not intend for the lexias to pile up as they do, reinforcing the essential point that the medium of interaction alters the functionality of a work. It was Bly’s understanding that readers using
Storyspace would be able to opt out of keeping windows open by setting a preference in the software. But this option is not available on the copy of *We Descend* used for this chapter (Bly, email to Grigar, August 20, 2015).\(^4\) Whether the effect of 108 lexias stacked atop one another on a computer screen is intentional or a byproduct of the system’s programming, we are provoked to ask how we can make sense of our past when the information comprising our present is nearly impossible to sift. The same challenge faces us now, with so much information piled up in our inboxes and available on the World Wide Web.

### The Structure of the Archives

The archives are introduced by the Epigraph, which sets the tone and mood for the entire compilation. Section one is made up of alternating prose and verse, resembling a *prosimetrum*.\(^5\) It includes five groupings of nineteen lexias introducing the Scholar. Section two consists of eighty-three lexias from Egderus’s Testament presenting the mystery of Gig’s death, the Historian’s examination, and the story of Egderus’s rise to a position of authority at Mountain House. Section three’s five lexias offer a sermon by an older and wiser Egderus.

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\(^4\) Bly, email to Grigar, August 20, 2015.

\(^5\) A *prosimetrum* is a text containing alternating prose and verse.
Table 5.1

| Section 1: Scholar’s commentary on Ancients’ texts, as copied and archived by Egderus |
|---|---|---|
| **Narrator** | **Lexias** | **Approach** |
| Ancients, preserved by Egderus | Storms and haze, The days are worse, I cannot bear this | Poetry, lament |
| The Scholar | If this document is authentic, My immediate problem, All this adds up, The next conference, It seems clear | Scholarly commentary |
| Ancients, preserved by Egderus | Catastrophe, I must get away from | Poetry, lament |
| The Scholar | The document purports, So it might be argued, And in a sense, At first I thought, If so, who were they | Scholarly commentary |
| Ancients, preserved by Egderus | Leviticus, Who care what, Nobody knew what hit, Kids never know | Biblical quotation, lament |

| Section 2: Egderus’s Testament: the story of Egderus’s rise to power at Mountain House |
|---|---|---|
| **Narrator** | **Lexias** | **Approach** |
| Egderus | “Here beginneth the” + 82 lexias | Testimony involving nested stories by Egderus and others about Gig’s murder and the Historian’s examination by the Office of Inquiry |

| Section 3: Egderus’s Sermon |
|---|---|---|
| **Narrator** | **Lexias** | **Approach** |
| Egderus | Sermon at the first gathering, One of these strategies, But then one day, But we are different, They are jealous and | Sermon |
At any juncture readers can reveal additional information provided by the Annotator by holding down the option and command keys (OPT-CMD), or the so-called Tinker and Bell keys.\textsuperscript{2} Readers familiar with electronic literature produced with Storyspace in the 1990s would have known that they could “see words that yield” (Joyce 1995) by using this keyboard command. As we have seen in previous chapters, electronic narratives fundamentally resist textual wholeness. They may be reduced to a single narrative relayed through nonsequential writing, as in our recorded Traversals, but only if one is prepared to omit or pass over parts of the text. We Descend takes this tendency even further than Malloy’s Uncle Roger, McDaid’s Funhouse, and Jackson’s Patchwork Girl. As its structure shows, its function as a narrative is almost incidental. The work is rather a compilation of archival writings held together by hypertextual links of which narrative reflects but one type of writing.

Considering that the work represents generations of historical documents about Egderus, there are understandably large gaps in time. Within the groupings of documents and in the stories reflected in those documents, time does not necessarily unfold chronologically. As contemporary readers accessing the archive, we encounter first a poet of our own time, Margaret Atwood, in the epigraph. In the next lexia, “Storm and haze,” readers are taken to a very ancient period representing the first grouping of texts in the section. As mentioned, it is difficult to discern who is talking or what the context is. Readers get an inkling of identity and situation only when they reach the second grouping: someone from a more recent past is reading those texts and commenting on them.

Using the option and command keys at this juncture of the story, readers discover yet another time period, that of the Annotator, who comes from a fourth past but is closer to us temporally than are the other two voices. The mix of pasts suggests the muddle scholars experience when trying to reconstruct textual fragments. Think of how one might tease out ninth-century Islamic commentaries from Aristotle’s treatises. This is the gist of what Bly demonstrates with his archives.

Section two, the Testament, offers four main stories, three of which occur within the physical space Egderus inhabits—Egderus’s youth at Mountain House and eventual exile, Egderus’s work and espionage at the Office of Inquiry, the plot at the infirmary. Whereas Section one is recounted in first person, Section two is told in third person. This distances readers from the text and calls into question who has written or copied this section and who acts as its narrator. If truth is indeed those things we remember, then truth is personal and specific and so contingent upon our willingness
to share it with others. From this perspective, third-person narrative—a story remembered by another and relayed to us—can never be proven true. We did not experience the situation firsthand, so we cannot know if it really happened. Lack of embodied knowledge makes others’ claims suspicious. We can only trust the ethics of the storyteller. Thus Bly sets his readers up for a state of disbelief at the outset of Egderus’s Testament. This is why the Annotator’s commentary becomes so important for imbuing the archives with some veracity and why Bly, as Curator and Translator, ultimately emerges as the major “scripotor” of the work.

To reiterate this section for the purpose of highlighting the structure of We Descend: The first story we encounter in this section involves Egderus as a youth living at Mountain House and serving as secretary to the Superius Frater. He is severely injured by Gig and learns, later, that Gig has been murdered. He is subsequently interviewed by Robenc who has taken Gig’s place and, then, punished by a man called the Good Doctor, who is angry with Egderus for revealing information to Robenc. The second story picks up after Egderus is forced to leave Mountain House and become the Good Doctor’s scripotor at the Office of Inquiry. Egderus witnesses examinations that involve torture and is moved to action when he falls in love with one of the men, a Historian, that the Good Doctor calls to his office. When Egderus is caught spying on the Good Doctor’s conversation with Robenc, the Good Doctor beats him so severely that Egderus needs medical attention. The third story begins in the infirmary where Egderus is taken. He meets Robenc, who has moved up in rank, again. Robenc pumps Egderus for information about the Historian before leaving the young man with Robenc’s friend, Aric, who is lying in the next bed. Together they plot against the Good Doctor. Within this story is nested Aric’s about Gig’s transformation from a respected watchman to the crazed monster he becomes. This story also involves the Good Doctor. The final story shifts from Egderus’s space to that of the Abbot’s office. It also takes place within the same time frame as the third story. In this story, after leaving Egderus at the Infirmary, Robenc visits the Superius Frater, who is also the Abbot, and recounts the Golias’s search for the Historian. Egderus’s presence is evoked when the men recognize his contribution to identifying the Historian as the client in the Good Doctor’s office.

Section two ends abruptly without resolving the mystery. Following the default path, readers never learn who killed Gig, why the Historian ended up at the Good Doctor’s office, why the Golias was so intent on finding the Historian, or even what happened to the Historian. This information is as lost to us as any number of stories we don’t know from the past. What is
clear is that all relate directly to Egderus, tracing his life from boyhood to young manhood and hinting at why the archives “pertain” to him. Each story is recounted in linear form, but because they move in time (as with Egderus in the Infirmary) and space (as with the Abbot and Robenc in the Abbot’s office), the overall effect is confusion—the confusion one would feel reading a compilation of archives. Egderus, whose presence is strong throughout, holds the archives together.

Section three moves on to sermons by Egderus. His rank is higher than it had been in the previous section, when he served as Secretary and then Scribe, but lower than the one he seems to hold in the first section, when he comes across as a learned scholar analyzing the provenance of an ancient text.

Why Hypertext? Why a Storyspace Hypertext?

*We Descend* unfolds largely as a linear text with hypertext links to commentary. Navigation via the default path occurs by clicking on the lexia in the structure map or on the arrow-shaped tool on the navigation palette. Some lexias allow readers to move nonlinearly to other lexias. For example, “Ah, but my productive,” a lexia that introduces the encounter between Robenc and the Abbot in the fourth story of Section two, includes the phrase “Yours had barely started,” which links back to the lexia, “When Robenc was a
young.” When readers arrive at this lexia, there is no hyperlink to another. Bly and others working with Storyspace used these so-called allusion links “to echo some other story but not totally interrupt [the] reader’s progress” (Bly, August 21, 2015). Readers reach a dead end and must go back to the previous lexia to continue.

Not surprisingly, criticism of *We Descend* has focused on it as a “static hypertext” (Van Looy 2002). Why then did Bly produce the work as a hypertext, and why as a Storyspace hypertext? To be certain, Bly anticipated some level of debate about his approach when he wrote in the foreword that:

Someday, when the gulf allegedly fixed between “linear” writing and hypertext has either been bridged or is at last shown never to have existed at all, essays like this one will be regarded as awkward and unnecessary, however quaint and/or evocative they may be. … That day is not yet. Everyone who proffers a hypertext to the work must still provide an explication of the apparatus. This foreword is no exception.⁶

Anyone reading this passage is warned that the mix of linear and nonsequential storytelling is intentional.

One of Van Looy’s criticisms focuses precisely on *We Descend*’s approach to hypertextuality. He recognizes the work’s “multilinear structure with a three-dimensional time frame and the possibility of inline thematic or associative linking” but complains that “there is only one … way of reading *We Descend* and that is the default way, following the path links.” In other words, *We Descend* is a “static hypertext” (Van Looy, 2002).

True, if one expects a fragmented, decentered novel possessing multiple paths, *We Descend* may disappoint. But that’s not what *We Descend* is, nor what Bly intended it to be. It is, rather, an experiment in archival writing, in which documents reflecting different historical times are held together with a technological mechanism native to late-twentieth-century scribal culture. Understood in these terms, the work’s approach to hypertext makes sense. This potential for apparently linear unfolding also was present in hypertext from the very beginning. In the preface to *afternoon*, Joyce similarly anticipates a reader who will “rid[e] a wave of returns”—that is, move through a predetermined path—by hitting the return key (1990), meaning that he envisioned readers who would attempt to read a hypertext narrative in a linear fashion, not realizing the potential for the text’s nonsequential feature. *Victory Garden* contains “something like 37 distinct pathways … that require the reader to do nothing more than press the Return key after reading one of its lexias” (Moulthrop 2011). Furthermore, while *We Descend* happens to contain, along with a lot of other types of writing, a murder
mystery, one cannot categorize the complete work as a “crime novel,” as Susana Pajares Tosca does (1998, 87).

To see how invidious the comparison to a novel really is, consider We Descend’s predecessor, the Perseus Project, now called the Perseus Digital Library. There, readers can, for instance, find two stories about the mythological Medea: Euripides’s, dating 431 BCE, and Seneca’s written, roughly, 400 years later. The two texts differ—Euripides’s Medea acts immoderately because she is wronged, while Seneca’s enjoys being cruel—but both tell the story of a fictional character and are linked in an archive about her. Yet one would hardly think of the Medea archives as a hypertext play.

A more interesting question than why Bly created We Descend as a hypertext is why he chose Storyspace, since this particular authoring system is associated with the kind of nonsequential writing experiments to which Van Looy and others were more accustomed. Some claims about Storyspace fictions—that they change each time you read them (Joyce 1995, 96); facilitate explorations of visual possibilities of spatial relationships, reflecting “how we really think” (Bolter et al. 1994, 23)—that is, associatively; and challenge meaning making (Bolter 1991, 151)—can be made about hypertext in general. However, what sets Storyspace apart is the way in which it structures and displays information. Text is organized into nodes resembling little boxes that can then be linked by a word or phrase inside the node as well as by the node itself, resulting in multiple paths that challenge a single progression through a work. As seen in the image below, nodes can be nested inside nodes, which allows for deeper structures. Nodes can be moved around, rearranged, and dragged into other nodes, making it possible to visualize structure. The chart and outline views augment visualization.

Bly found it easier to work with Storyspace than with other commercial systems, such as HyperCard. With Storyspace he could “double-click the workspace to create a text window that scrolled by default when it filled up with text.” HyperCard, by comparison, presented writers with “hard boundaries.” As Bly says, “When you’re writing, you want to think about what needs to be said, not whether it’ll fit in a predefined space.” He also found it easy to link text in Storyspace: “select an object or string of text, click a button on the tool palette to set the source anchor, then click again on the destination document, and you were done.” HyperCard, as he remembers it, involved more labor than “click-here-then-click-there.” Storyspace was also “forgiving” and liberating—it didn’t force writers to commit to an outcome before the work was done—“so much of early writing is groping & dithering, as we all know well,” Bly says. HyperCard would
have forced him to “build the territory before [he] could explore it.” Storyspace allowed him much more freedom to explore (Bly, email to Grigar, August 5, 2015).

Bly also did not want the slick look of a HyperCard text. “One factor that decided me against Hypercard is one of its greatest strengths,” he says, “its awesome (albeit one-bit) graphics. When you made a Hypercard thing, it really looked like something. And I didn’t want that, somehow” (Bly, email to Grigar, August 21, 2015; emphasis in original). Notably different is McDaid’s approach in the Funhouse. To some extent McDaid shares Bly’s archival principles, but McDaid’s concept of the “modally appropriate” is inflected through the personality of a multimedia artist. Van Looy’s critique of We Descend homes in on the work’s aesthetic, remarking that it is not “exactly visually stunning” (2002). However, his complaints confuse Eastgate Systems Inc.’s graphics—its logo and the included photograph of Bly—with Bly’s words. They, not images, are Bly’s focus. In the entire hypertext Bly only provides two images, both black-and-white and built from ASCII characters: the opening image of the SkyBanner and the image of the conference. Even if Bly had wanted to provide more robust media for We Descend,
he could not have done so. The work was limited by the 3.5-inch floppy disk's storage capacity of 1.44 MB. In 2002, when Van Looy reviewed *We Descend* using Storyspace Reader version 1.3.0 b 1, CD-ROMs with a storage capacity of 650 megabytes—equivalent to over 450 floppy disks—had replaced the earlier media. No matter which version of *We Descend* Van Looy was reading, the digital world he was experiencing in 2002 was vastly different than the world of black-and-white, text-based fictions from which *We Descend* originated. By the late 1990s, works of electronic literature published on CD-ROMS, such as *Myst* and *TOC*, were taking advantage of color images, animations, and sound in ways not previously possible. As Bly tells us:

The structure of *We Descend* is built of words not pictures, in part because I don’t think in images but in phrases—that is, aurally not visually—but I also didn’t want to interfere with the reader’s ability to imagine for herself what Egderus’s world looks like. I’ve long felt that the saying “a picture’s worth a thousand words” is a canard; rather, a thousand words create a thousand pictures. (Bly, email to Grigar, August 5, 2015)

Thus, when Bly conceptualized Egderus’s archives, he saw them as “writings, not images.” Writings, we must remember, “encodes a voice,” while “pictures are silent.” For Bly “a painting or photograph has rhythm and harmony” but “a voice speaking IS music.” In the end, Bly saw HyperCard as “too noisy for what *We Descend* wanted to be.” It would have forced him to “build the territory before [he] could explore it.” HyperCard’s look and feel would have “drowned out” the words—or so I thought. Or just decided” (Bly, email to Grigar, August 5, 2015). Bly chose Storyspace because it was the medium best suited to his vision of an archive.

**The Moment of Truth**

Bly’s intervention as Curator and Translator serves both as another story nested within the others and as a meta-narrative for the work. Of note, the page at the end of the default path is titled “Da Capo,” Italian musical notation for “go back to the beginning.” Indeed, we see what appears to be the same menu of items with which we started *We Descend*. But the foreword is replaced by an afterword, and the directions by credits. Clicking on the inventory, readers find the list of authors: Scholar, Egderus, Superius Frater, Historian, Robenc, Aric, Remnant, and Ancients. Missing is the Good Doctor.
This structure means that once readers finish reading the archives, they may not be aware at first how to return to them readily. However, clicking any of the names on the inventory’s list takes readers to that author’s “book plate,” where his writing or writings are listed. As the book plate shows, Bly color-coded the paths so that green titles designate the default path and anything titled in blue is off the path (Bly, email to Grigar, August 21, 2015). Clicking any title moves readers to the bookplate of that title. For example Aric is attributed with two Writings, “Aric: Gig's Death,” that is part of the default path, and “Aric: Aftermath,” that is not part of the default path. Clicking on the first of these takes readers to that Writings’ bookplate. Clicking on the words, “Aric Gig’s Death,” takes readers to the Annotator’s prologue for that title, but when readers click the lexia anywhere else, they are taken to directly the Writing.

Less intrepid travelers who avoid the inventory may be left at the end of their exploration of the archives with only the Annotator’s voice. In any case, the Good Doctor’s absence from the list can be interpreted as history’s revenge on the man who caused Egderus’s beloved, his former master, and Egderus himself so much pain. It is not some arbitrary gap in information that causes the Good Doctor’s omission but rather a decision made by an arbitrator of truth—the Annotator. Like the Golias, who is suspected of preserving only truths he deems acceptable, and like the Scholar and Egderus, whom the Annotator suspects of inventing some elements in the stories, the Annotator and Bly may be guilty of peddling falsehoods. Evidence of this shiftiness is found in Bly’s afterword, where he reminds us, “Every literate civilization believes itself to be the Remnant, descending from righteous, not to say divine forebears, from whom also it has descended … in glory, majesty, power, discernment, virtue.”

The use of the word “descending” is telling. In his Traversal interview, Bly points out that We Descend is concerned with “evolutionary descent” (Bly, 2015, “Interview, Part 3: The Excavation Explained”). We refer to ourselves, as Bly reminds us, as “descendants” of those who preceded us, rather than as their “ascendants.” Metaphorically, the word hints at Plato’s fallen souls of men, a downward spiral, and the journey downward into Dante’s hell full of sinners. Looking at the way we move through the archives, its three sections and hundreds of lexias, we see that all texts leading up to this narrative serve as layers of historical information that readers literally access one lexia at a time.

There is no way to get to the inventory than by the default path, using an appropriate vintage system. To arrive at this point of the story, this author had to click on precisely 108 lexias in succession. Each click creates a new
layer atop the last. We are not digging down when reading *We Descend*, but, rather, dredging up the story. There is no change of location. We are where we are for the duration. In our evolutionary journey, we are who we are. All of the evidence in the world cannot budge us from ignorance much less protect us from darkness and storms. The irony of this situation is captured in the title.

Bly ends his afterword by cautioning that “the act of recording a story may be just one way of telling it, true, but in the teller’s mind it’s a way of telling it once and for all.” This notion of multiple ways of “recording a story” is reflected in our Traversal methodology. Capturing first the author and then readers moving through a work provides a method of data collection resembling what Clifford Geertz describes as “thick description”—that is, “a multiplicity of complex conceptual structures, many of them superimposed upon or knotted into one another, which are at once strange, irregular, and inexplicit, and which he must contrive somehow first to grasp and then to render” (Geertz 1973, 10). As we learn from Bly in his interview, the complexity of *We Descend* occurred organically, using Storyspace as a “word processor” (Bly 2015c) rather than the hypertext authoring system that it was. Thus, he did not see himself programming a hypertext but instead authoring an archive of stories that used hypertext as its structuring system.

If indeed this is the case, then even the Annotator’s efforts to question the text and bring discrepancies to light can be read as futile. Readers of the default path may be fooled into thinking *We Descend* closes on a very depressing note, for, as pointed out previously, they never learn what happens in the various other plots. However, if they consider Bly’s focus on authenticity, they may realize that *We Descend* is at its core an existential work pondering what it means to be genuine to one’s self. Bly answers his original question—what does it mean for a document to be authentic?—with the claim that a document should adhere to the basic values of a culture, even as values are constantly shifting. Authenticity is not exactitude. It does not require evidence to support its veracity. It is essentially *mythos*, which in the classical sense simply means the story of a people, or the set of stories that best represent a culture’s beliefs, what lies deep in the hearts and minds of a people. To find authenticity, therefore, we must descend inside ourselves, dig past ambition, past desire for revenge, and past ego. According to *We Descend*, we may encounter as many authentic documents as we “believe ... [in our] heart to be true,” with the caveat that we must “be prepared to abandon that truth the instant it plays [us] false.”
It’s interesting to think about Bly’s notion of truth as it plays out in the Traversal. Our videos documenting author and reader performances provide a level of textual authenticity that future scholars can believe—or not. If they believe, then our project keeps the works performed alive and available to be studied, thus preserving an element of late-twentieth-century digital culture. If they don’t believe—and, given the susceptibility of video to doctoring, this is a possibility—then our work is folly: just as careful carbon-dating of dinosaur bones is discounted by those who believe humans existed alongside the beasts, so may be the idea that men and women made literature on little gray boxes called computers in some dark and forgotten past. We are like Egderus, scribes preserving the past with no idea of what the future brings. Perhaps we will succeed in convincing readers of the future that We Descend and the rest of the works in this volume are true and worthy of remembrance. Perhaps Bly is right when he claims, “Every literate civilization believes itself to be the Remnant, descending from righteous, not to say divine forebears, from whom also it has descended … in glory, majesty, power, discernment, virtue.” Returning to Bly’s statement, as redundant as it may seem, is part and parcel of hyper-text, for in these texts ideas may be revisited and so emphasized—and perhaps be remembered.
Afterword

The Sappho Syndrome, and Other Concerns in the Preservation of Born-Digital Media

Dene Grigar

Figure 6.1
Judy Malloy at her office at Princeton University.

Ex Nihilo, Nihil Fit

In a cabinet in the Electronic Literature Lab (ELL) at Washington State University Vancouver, David Clark’s 88 Constellations for Wittgenstein (2008), Christine Wilks’s Underbelly (2010), and Steve Tomasula’s TOC reside along with over a hundred other titles unreadable on current Apple computers. Many of the works in the collection, like these three, are less than a
decade old; all are born-digital, from 1984 and after. Others, such as the four examined in this book, date back to the 1980s and 1990s. The ELL maintains multiple copies of many works, so that when one fails—when we see the dreaded message, “This Disk Cannot Be Recognized. Do You Want to Initialize This Disk?”—there is another on which to fall back—with which to cheat the work's death, so to speak. The collection also includes mobile applications (apps) created less than five years ago—Erik Loyer’s Strange Rain (2010), Mark Amerika's Immobilité (2009), Jody Zellen’s Spine Sonnet (2011), and more—retained on first-generation mobile devices. These works must be preserved on the devices for which they were initially intended. Hardware and software must be held constant because upgrades of either type can render mobile applications inoperable. Since system software updates are regularly sent to mobile devices connected to the Internet, our archival systems must remain untethered from the network.

In other cabinets one finds vintage software—Apple's MacDraw and MacPaint, versions of Macromedia Director and Adobe Flash, ClarisWorks, and others—and stacks of 3.5-inch diskettes containing documents and art accessibly only via these early programs. Scattered around the room counters are twenty-two of ELL’s forty-seven vintage computers, plugged in and awaiting service to works of art. An Apple Ile sits beside an Apple IIGS. There are various Macintosh models: Plus, SE, Classic, Classic II, LC, Performa, “bubble,” “sunflower,” “cube,” G4 tower, and a contemporary flat-screen iMac. The perimeter of the room is a veritable tour of Apple's history, from Steve Jobs and Steve Wozniak through the period of Jobs's departure, triumphant return, death, and beyond. The Bondi-blue bubble, with its matching mouse and printer, is a favorite among guests, who respond nostalgically to the computer they grew up with or used in grade school. Others, taking in the totality of the room, wonder why we expend such effort in holding on to old media. “Why all the effort?” they ask. Indeed, why?

There is a method to what some see as madness—a rationale: to preserve and make available to the public works of early electronic literature in order to promote the understanding and study of this experimental medium. There are only a handful of collections like ELL. We’ve mentioned a few—Lori Emerson’s Media Archaeology Lab (MAL) at the University of Colorado Boulder; the Maryland Institute for Technology in the Humanities (MITH) at the University of Maryland College Park, directed by Matthew Kirschenbaum, which holds the Deena Larsen and Bill Bly collections; and Nick Montfort’s Trope Tank at MIT.
A range of scholars have taken advantage of these resources. Our Pathfinderers production session at MITH coincided with a visit from a leading software studies scholar, Jeremy Douglass, who was exploring the many boxes of Bly artifacts available at the collection, including his fiction, accessible on MITH’s vintage computers. Holdings of Joyce’s work at the University of Texas Austin and of Malloy’s, Strickland’s, and Rob Kendall’s at Duke University have a different but also important mission: the preservation of the artifacts themselves. In these contexts, the works are simply stored, unavailable to visitors. But MITH, ELL, and sister sites maintain working hardware precisely so their archives may be read.

For ELL, this means born-digital literary works dating from 1984. The idea behind ELL is this: the more people who know about and study our collection of works, the more that will be written about them; the more that’s written about them, the more documentation there will be; the more documentation, the more evidence we will have that these works existed; the more evidence we have, the more likely future generations will know these works and their authors. Thus we can promote awareness and understanding of late-twentieth and early-twenty-first-century media culture, art, and literacy.

We come at our work in digital preservation with the idea that “nothing comes from nothing” (*ex nihilo, nihil fit*). Every artifact has a context: a past, present, and intended future. It is part of a network of ideas, opinions, fears, and desires. It is shaped by materials and markets. Because they, too, are artifacts, early digital works provide insights about the media, art, and literary cultures from which they emerge. Early works of electronic literature represent an important moment when writers and artists began to make the leap from print to digital media for the purpose of creating art. This period resulted in great experimentation and innovation resulting in new artistic forms, which themselves will evolve in directions we cannot anticipate. As we write this book, students in Grigar’s program are experimenting with the virtual reality systems Oculus Rift and MetaVR to produce stories in a 3D virtual environment. Visitors to Grigar’s exhibit at the August 2015 International Symposium on Electronic Art in Vancouver, British Columbia, were fascinated by Amaranth Borsuk and Brad Bouse’s *Whispering Galeries* (2014), a story comprising diary entries that moves along in response to users gestures picked up by Leap Motion technology.

These innovations don’t come from nowhere. Directly or indirectly, they belong to a history of artistic development. As this author pointed out in a curatorial statement for an electronic literature exhibit at the Library of Congress:
Electronic literature is a natural outgrowth of literary experimentation and human expression with roots in print literary forms and, so, constitutes an organic form generating from the dynamic human spirit that is evolving, will continue to evolve through time and medium. No matter the medium—orality, writing, print, electronic, mobile—give an artist something, anything, to create with—air, animal skin, paper, computer screen—and she or he will find a way to use it for making art. This impulse is, after all, a feature of our humanity. (Grigar 2013)

Access to early electronic literature provides crucial insights into the shift from print to the electronic medium, what led early artists toward this type of experimentation, and, in the case of artists such as Shelley Jackson, what eventually led them away and may bring them back again.

The Sappho Syndrome

One may think emulator software could solve the access problem. But know this: for every Uncle Roger—which can be emulated, albeit imperfectly, via DOSBox—there are tens of works, such as Sarah Smith’s King of Space (1991), that are quickly becoming lost and forgotten because they have not been preserved through either migration or emulation. All that is left to preserve them at this moment in time is collection—a method some might consider a last resort after the first two resources are exhausted—which is exactly what ELL offers.

We are haunted by a condition we call the Sappho Syndrome: the disappearance of literary works to the extent that all that remains are fragments and references to them by others. Our concern is that at some point in the future, no one will know the extent of early experimentation in hypertext fiction and poetry, nor will they understand authors’ many new and different approaches to textuality and writing in electronic contexts. Even if a few works survive, there may be no way to appreciate the complexity of their working or design. How many of our readers even knew before encountering chapter 4 that the Funhouse packaging included two music cassettes? And as we showed in chapter 5, through careful assessment on a vintage platform, We Descend is not a novel, as some critics have argued, but a complex documentary archive. Both of those works challenge the notion that writing and other media forms serve a singular path or motive of expression. The impulse to preserve dates back as long as art itself, but it is that much more urgent with respect to electronic media. These strange and fragile works don’t stay technically current for long.

Electronic media are at risk for the Sappho Syndrome for two reasons: the loss of work can be accidental, and it can be purposeful.
Sappho is the seventh-century BC poet, often called the tenth muse—the original tenth, not Joyce’s late-arriving Goooglemena (Joyce 2011). She may have been among the first of her day to write deeply personal poetry about family, lovers, and adversity. What remains today of her work are mostly fragments and unverifiable references by followers—historians, philosophers, writers, theologians. Until recently, only one long fragment, from the poem “Hymn to Aphrodite,” was available. In 2014 two more, “The Brothers Poem” and “The Kypris Poem,” were discovered and published. Importantly, the first of these reveals that Herodotus drew “on earlier poetry for his historical evidence” (Obbink 2014). It also provides insight into Sappho’s life—specifically, her disappointment in her brother, who was attached to a woman of whom the family did not approve.

These three works constitute but a handful of the many we believe Sappho created during her lifetime. Other fragments remain on papyrus—some reused, all fragile. Additionally, we have lost the nine books of her collected work purported to have been produced after her lifetime. These were destroyed not by poor environmental conditions but by Christians, who burned them in 380 and 1073 AD (Hare 2000). Sappho’s work has been lost by accident—by the crumbling of papyrus—and has been purposely destroyed by those who would keep it from the public and from posterity.

Accidents still happen. The decay of electronic media cannot easily be prevented. Bits rot. Aristotle got it right: the contents of the sublunar realm are corruptible. People and floppies eventually fail. Efforts to prolong our lives and the lifetimes of our software and hardware may be folly. One day ELL’s last Macintosh Classic will stop working, and all parts available for it will have been exhausted. One day the last compact disk of McDaid’s Funhouse will become unreadable, and there will be no replacement. There is no way of knowing just how long ELL’s hardware and software will survive. It is therefore critical to maintain ELL for enough time to document its holdings. We accept this duty knowing full well that we cannot prolong life indefinitely. We are not fools.

The other type of loss, willful erasure of the past, worries us more. We cannot predict or control the actions of those who, for ideological reasons—perhaps masked as commercial necessity—might destroy artifacts and eradicate them from human memory. No amount of migration, emulation, or collection can guarantee the security of our heritage against politics run amok. The purposeful ruin of antiquities is not uncommon, even today. The recent destruction of the Temple of Baalshamin in Palmyra, Syria, is a case in point. In ancient times, Zenobia, the warrior queen who defied
ancient Rome, ruled that city, which, ironically, was known for its religious and ethnic tolerance (Manning 2015).

While any censoring of history and culture is alarming—Bly raises this issue in We Descend—erasure of women’s contribution to history and culture is especially troubling. Like papyrus, this history is being painstakingly recovered—layer by layer, strip by strip.¹ Women wrote, have always written. Sappho is proof. But how many more Sapphos, whose works we never knew, were also thrown into the fire? How many more such works will end up there, thanks to those who see women’s writing as a threat to society?

It is particularly important to document electronic writing by women because of its connection to computation, itself closely associated with science. Many of the women who produce electronic literature code their own work. As we pointed out in chapter 3, Malloy mastered many computing languages in order to create the six versions of Uncle Roger. The author of this chapter coded her own hypertext fiction, Fallow Field (2004), and non-fiction, The Jungfrau Tapes (2003), after teaching herself HTML in order to publish scholarship online.

Women’s electronic contributions contest the notion that science and technology are masculine endeavors to which women are ill-suited. Such claims are grounded in the Western philosophical tradition beginning with Plato’s Republic and Timaeus. In Republic, Plato characterizes science and mathematics as rational pursuits connected to mind, beyond and superior to the irrational material world of reflections, shadows, and objects. Implicit in his hierarchy is the assertion that women reside in the material world, unable to transcend the shackles binding them there. Timaeus, produced late in Plato’s career, claims that women cannot understand the transcendental world of math, science, and the ideal forms because they are morally incapable of doing so; they are at the core less than men (Plato, 42b–c).

These falsehoods still enjoy credence today. Women continue to face allegations that they are less able than male peers to handle the rigorous thinking the sciences require.² Preserving their technical achievements is that much more important as a result.

Early Attempts at Archiving

This author became involved with documenting women’s technological enterprises in the late 1990s and early 2000s, when she managed a MOO (multi-user domain object-oriented) at Texas Woman’s University
(figure 6.2). At that time, she collected email messages and other forms of electronic writing by authors Cynthia Selfe, Gail Hawisher, Cynthia Haynes, and others for a project called the Women’s Collection of Electronic Texts (WCET). WCET aimed to ensure that women’s electronic writing lived on, archived and available for study. Driving the project was concern that women, in some future, would not be seen as technologically savvy enough to have written in electronic spaces—that, like Sappho, only one female writer would project her legacy through the ages. And because alone, she would be seen as an anomaly, an exception to the rule.\(^3\) WCET preempts the idea that women did not produce electronic writing in the late twentieth and early twenty-first centuries, were incapable of mastering the technology needed to write in online spaces, could not learn to handle a computer much less learn to code. We cannot let such myths take hold.\(^4\)

WCET ended owing to lack of funding, but ELL, supported at a research institution and having a broader vision of collection, has fared better. Pathfinders and this book, both stemming from years of labor, have now documented two female writers among the many Strickland and Marjorie Luesebrink identify in their research.\(^5\) We have many more women to go.

![Figure 6.2](image1.png)

**Figure 6.2**
Opening screen of TWUMOO showing WCET.
Yet our concerns are not limited to women’s writing. Sappho stands for many, including men. Recognition of women is the primary challenge to patriarchy, but that challenge may make us aware of others subject to forgetting. We worry equally about the lost work of any racial, sexual, or intellectual outsider, and of those whose art strays too far from commercial or ideological mainstreams. Creatively, if not literally, our mothers were computers (see Hayles 2005)—those intimate links between the ideal world of numbers and the reality of animals and machines. Our mother-computers had daughters and sons, and we want the future to remember all of them, even though we know this can never be possible.

**A Broader Vision of Digital Preservation**

At the heart of our endeavor is concern for the preservation, archiving, and dissemination of digital objects. Our broader vision sits at the junction of two streams of thought.

On one side, scholars are asked to acknowledge the importance of physical objects and mechanisms. Here we follow Kirschenbaum’s insistence, in contrast to Friedrich Kittler, that software is a thing, a phenomenon linked to particular creations, institutions, and practices, thus amenable to systematic treatment even as circumstances rapidly evolve (Kirschenbaum 2014). At the same time, we affirm the ideas of D. Fox Harrell, for whom digital productions, like all aspects of culture, remain in a sense phantasmal, based partly on projection and inference, “results of the imagination” (2014, 4). Software is a thing but also something more. It is a set of processes that include affordances, emergent effects, and crucial indeterminacies. In this sense, digital objects require us to engage and to sustain engagement through commitment.

Kirschenbaum’s materiality and Harrell’s imaginary converge in the act of reception, a practice once understood as reading or interpretation but which now overflows those terms, as objects of digital expression take on elements of operation, configuration, and play. As Eskelinen observes, the general scheme in precomputational expression was *configure to interpret*: the text was unfolded or otherwise made available for parsing and consideration. But as expression becomes dynamically mediated, the figure once known as reader (now also user, operator, player) *interprets to configure*, evoking particular states from a phantasmal space of possibilities. In David Myers’s terms, this means engaging the system in “recursive contextualization” (Myers 2010; see also Eskelinen 2012, 21). This change in the textual frame poses a significant challenge for those invested in the posterity of
digital productions. How do we balance our desire to preserve software as material object against our understanding of that object as a container of multitudes—a phantasm, as Harrell would say? How do we save both the thing itself and the something more of its potentiality? These problems are exacerbated by our need to save the work of women and others exposed to the keen edge of forgetting.

From the beginning of our current work, we have identified collaboration as a logical response to the daunting challenges we face. In our Pathfinders project, we recorded experience of early works of electronic literature in their original technical contexts, with both authors and ordinary readers as participants. The results are intended to provide at least a nominal trace of these increasingly fragile objects, both in their materiality and their configurative possibilities. However, one incident in our earlier research caused us to expand our definition of collaboration. The migrated version of *Uncle Roger* allowed us to familiarize ourselves with Malloy’s text without relying on our limited stock of vintage computers, for which every minute of operation had become precious during that day of videotaping her traversal and interview. Though we did not intend to use the migrated version for recorded traversals, we were forced to do this for this part of the work after the single Apple IIe available at our filming location suffered a failed power supply. This failure was unfortunate in some ways—the migrated version does not preserve certain features of Malloy’s original work—yet it also had consolations. Availability of a backup version allowed us to record a Traversal of a second part of *Uncle Roger* in addition to the section for which we were able to use our vintage machine. More importantly, the change in plan focused our attention on two matters: the value of multiple approaches to preservation, archiving, and dissemination; but more than this, the complementarity of approaches based on their values and limits.

Obviously we were grateful that Malloy had migrated *Uncle Roger*. In addition to meeting our emergent need, the migrated version keeps her work directly available to scholars and casual readers. However, as discussed in chapter 2, we discovered important departures from the original design, in which writing was presented on the 50-space, character-mapped screen of the original Apple IIe. The migrated version uses longer line lengths that change the reading experience in subtle but important ways. We also discovered the migrated version is not compatible with current, 64-bit computer systems. To use the migrated version we relied on machines still running nearly ten-year-old software, again potentially raising problems of fragility and obsolescence. Malloy may soon have to rebuild a seventh
digital version of *Uncle Roger*. Clearly, migration is an ongoing commitment, not a singular solution.

And yet migration and its close cousin, emulation, which aims to deliver a completely seamless re-creation of an original system’s function on a newer platform, have value even to researchers interested in other means of preservation. Our experience with Malloy’s text—as well as conversations with colleagues working on other methods of preserving, archiving, and disseminating digital texts—got us thinking about a project beyond *Pathfinders*. We were inspired to pursue combined and coordinated approaches across multiple sites, underscoring the value of expanded collaboration and application to many types of digital art—including video games and virtual worlds. As a result, we have begun to frame what we believe are essential questions about digital preservation: What approach is most desirable for a given digital object? How can different approaches be combined or coordinated to best serve the interests of future scholars? What can researchers working on one sort of digital production (electronic literature, in our case) learn from those concerned with different but related areas (e.g., video games, digital writing more broadly conceived, or social-network discourse)? How, in other words, can researchers approaching the posterity of digital texts from diverse directions benefit from exchanges of perspectives and results?

In asking these questions, we believe we are responding to a key challenge of Digital Humanities generally: how to transmit the heritage of a culture whose objects are multiplying not simply in number but also in types of system or interface—and where the nature of those varying interfaces greatly complicates the task of identifying, collecting, and otherwise treating the object. No single approach is best in this situation. Multiplicity and diversity are required. Sappho is the patron poet and computer-mother of us all.

**Final Thoughts**

Over the span of our careers, our field has seen the critique of literary canon and its replacement by communities of interest or response, constituting what Richard Lanham has called an “attention economy” (2006, 70). As with Hayles’s and Liu’s migration to the literary, the attention of scholars has moved from universal or totalizing bodies of discourse to more contingent structures: protocols, platforms, and interfaces (see the work of Emerson, Montfort and Bogost, and Galloway). In his recent reflection on video games within a constellation of cultural forces, Bogost proposes a new
emphasis on “media micro-ecology,” in which any local type of semiotic production articulates in complex but significant ways to a larger universe of objects, technologies, and signs (2011, 6). We see the wisdom of this approach but believe it requires more than individual critical reflection. Media micro-ecologists may each have their own pieces of terrain to explore and preserve, but each patch of ground still belongs to a larger continent of expression. No matter how atomized our work, no matter how much branching it undergoes, we will need sooner or later to return to a common space.

As Liu observes, “Where postindustrialism extends its baseline back only as far as the last financial quarter or year, the humanities respond by asserting that the real value of knowledge can only be gauged across centuries and millennia” (2004, 381). Writing is the primary means by which humanists have extended their work through time, but with the advent of digital media, writing is challenged. Merged with software systems, writing and other forms of expression are subject to disruptive forces of obsolescence in material as well as social terms. Media objects themselves grow more complex, from the basic duality of cybertext—between encoded or latent text and what users see—to the intricacies of particular interfaces and architectures. If the humanities are to continue their contribution, it is essential that humanists evolve ways of dealing with relentlessly advancing media. It is also clear that multiple approaches are needed. Some objects may lend themselves to software emulation or migration, while others, constrained by property claims and other issues, may be better served by documentation of experience. Others may require preservation of original platforms. Each method brings unique affordances and limitations. Scholars committed to the posterity of computationally intensive expression need a frame of reference that integrates approaches across a broad domain of application. We are all together in this thing—art, history, technology, the culture of women, men, and machines. Though the task is impossible, we must struggle never to forget.
Notes

Introduction

1. The works by Daniel and Loyer and Herrero are both included in The Electronic Literature Collection, volume 2, accessible at collection.eliterature.org/2. Jason Nelson’s oeuvre can be found at thesecrettechnology.com. Nelson is currently converting his works to more widely supported platforms.

2. The support of our program officers, Jason Rhody and Brett Bobley, was invaluable. We also have to thank all those who consulted on the grant and assisted our work directly: Anne Balsamo, Joseph Tabbi, Tara McPherson, Ted Striphias, Will Luers, and the authors themselves—Judy Malloy, John McDaid, Bill Bly, and Shelley Jackson.

3. The encounter took place at the Media Systems Workshop organized by Noah Wardrip-Fruin and Michael Mateas at the University of California Santa Cruz, August 21–23, 2012.

4. The first Traversal, based on Moulthrop’s Victory Garden, was intended as a shake-down cruise or test shot and so has not been included in either the Pathfinders e-book or the present study. Also, Traversals for all five texts included both author and non-author participants. Because we focus in this book primarily on creative expression, we have limited our discussion to the author Traversals.

5. Readers more attuned to Baldwin’s theoretical approach may detect an additional resonance with Lacan’s traversée du fantasme (see, e.g., Žižek 1997, 10), with a possible further excursus to D. Fox Harrell’s notion of “phantasmal” media (2014). While this Traversal of “traversal” is compelling, it is not our focus here. For a project that goes some way toward unifying Lacanian theory and creative practice, see Paul M. L. Belanger’s dissertation, “Utopian (R)evolution” (2016).

6. These are detailed in the Pathfinders e-book at scalar.usc.edu/works/pathfinders/artist-traversal-protocol?path=introduction.
7. For more detail about this process see the Pathfinders site: scalar.usc.edu/works/pathfinders/traversals-and-interviews-documentation.

8. Further details can be found at scalar.usc.edu/works/pathfinders/interview-questions?path=introduction.

9. Rachael Sullivan and Brian Keilen, doctoral students at the University of Wisconsin-Milwaukee, performed a significant part of this work, as did Madeleine Brookman, an undergraduate at Washington State University Vancouver.

Chapter 1


2. Thanks here to members of English 813, New Media and the Literary, at the University of Wisconsin-Milwaukee in Fall, 2011: Mollie Boutell, Ching-In Chen, Dallas Fitzgerald, Joy Grimes, Rachel Haley Himmelheber, Katherine Morrissey, and Rachael Sullivan.

3. Scott Rettberg, principal founder of the Electronic Literature Organization, has remarked on this gender problem on many occasions, including in his opening remarks to the 2015 ELO Conference in Bergen, Norway.

4. In fact the example given here might not be strictly possible under Montfort’s rules, which may constrain selection of names to specific regions or time zones, link gender to name selection, and so forth. The main principle of variability seems evident in any case. No paragraph in World Clock is expressively definitive.


6. It might of course be possible to define “code” as something other than the control structure of an electronic computer.


8. As Goldsmith points out (2008), Issue 1 was initially distributed via email and the World Wide Web. Though many links to the document have become invalid, including one from the Poetry Foundation website, the full text is available from McLaughlin’s website: http://www.stephenmclaughlin.net/issue-1/Issue-1_Fall-2008.pdf. I am indebted here to Simon Waxman, who brought this link to my attention during editing of the manuscript.

9. Flarf poems are commonly made of found passages lifted wholesale from Internet searches. Issue 1 consists of generative poetry, which in most cases involves verbal content predetermined by the programmer.
10. The term “spineless books” was introduced by William Gillespie in the late 1990s as, among other things, the name of a publishing venture specializing in unconventional works. See http://spinelessbooks.com.


Chapter 2

1. “Lexia” describes a block of text evoked in a hypertextual experience. It was a term introduced in media theory in Hypertext: The Convergence of Contemporary Literary Theory by George Landow, who adapted it from Roland Barthes’s S/Z.

2. The work can be found in Box 3 as “Topic 14: A Party in Woodside, as first told on WELL 1986 December” in the series “Writing and Programming, 1968-2012.” For a complete list of its holdings for Malloy, see: http://library.duke.edu/rubenstein/findingaids/malloyjudy/.

3. We identified five copies of this version between the Duke collection and Malloy’s. There is no way to know who purchased any of the twenty copies sold through Art Com Catalog. There is an inventory of copies produced for exhibition and sent to curators.

4. The Electronic Literature Lab contains over forty vintage computers and a library of electronic literary works. For a complete list of computers and works, see http://dtc-wsuv.org/ell-catalog.

5. Malloy says that “Elsewhere on the Net” is not a publication but “the final section of Arts Wire Current.” She states, “Because Arts Wire Current was not copyrighted, ArtScope (without asking permission because it wasn’t needed) broke the issues into units which they republished separately, giving Arts Wire credit at the end. “The author of the article cited is actually Malloy herself, who “wrote everything in Current that isn’t bylined” (Malloy, email to Grigar, August 30, 2015). This is why we cite the reference in two ways.

6. For more information about Art Com, see http://groupjazz.com/netweaver/archive/nw87-43.html.

7. Hafner’s Wired article provides a good sense of the “technological stress” The WELL experienced. The system “could support 40 simultaneous calls, but once eight or so people logged on at the same time, the traffic barely inched along.”

9. The number of members ranges considerably. Rheingold reports in the *Atlantic* that The WELL audience “topped out at around 5000 at its height in the mid-1990s,” while Hafner reports in *Wired* that the number was about 16,000.

10. For *Pathfinders* Grigar and Moulthrop took photographs of the printout dated December 2, 1986.

11. Malloy generally used lowercase when using the word “file” when referring to the three files comprising *Uncle Roger*. This author follows that protocol in the essay.


14. Evidence that Malloy had originally planned to market the work for $30 can be seen in a promotional document held in the Duke collection.

15. See Stanford University Libraries: http://searchworks.stanford.edu/view/157646. Malloy believes that the library also holds the Art Com archives but thinks “they probably haven’t catalogued them.” It also holds the Datanet programs and text for Version 2 and has cataloged some of Malloy’s other work, such as *Molasses* (see http://searchworks.stanford.edu/view/157645).

16. “Bad Information,” which Malloy calls a “catchy title” (Malloy, “Traversal 1: Unpacking and Loading Uncle Roger”), is derived from “OK Research, OK Engineering, Bad Information,” the name of the first project Malloy did for ACEN. (See *Leonardo* 21, no. 4 [1988]: 371–375.) The use of the name on the packaging for *Uncle Roger* Version 3 has nothing to do with that project (Malloy, email to Grigar, May 12, 2015).

17. Malloy verifies that she toned down the sexual content in Version 5, for the Web. Prior versions would have contained more graphic sexual content (Malloy, email to Grigar, July 4, 2015).


19. Malloy did not find it “terribly difficult” to translate the code for Applesoft BASIC into GW-BASIC (Malloy, email to Grigar, May 25, 2015).

20. Hafner claims that there were 16,000 subscribers to The WELL in late 1994 while Rheingold reports in the *Atlantic* that there were 5,000 in the mid-1990s.

21. We understand this judgment, although we argue for the importance of all versions of the work for critical and historical purposes.
22. The Web has indeed provided Uncle Roger with a large audience. In the last six months it has been viewed by over 21,000 visitors (Malloy, email to Grigar, August 30, 2015).

23. In conversations, Malloy explains that Eastgate Systems, Inc., promoted critical reception of early electronic literature. She says, “No one ... even knew how to approach this work, outside of computer mag coverage of IF and first-person papers by researchers who explored digital authoring in scholarly journals. ... However, Uncle Roger did receive a fair amount of attention when it came out.” Malloy’s Leonardo article led to a Wall Street Journal feature on Uncle Roger in its June 23, 1989 centennial edition. This publicity led to further writing opportunities for Malloy. Notably Uncle Roger was funded by both the California Arts Council and Art Matters (Malloy, email to Grigar, August 30, 2015).

Chapter 3

1. Thomas’s If Monks Had Macs has been converted for more modern systems and is available for download at www.rivertext.com. Branwyn and Sugarman’s Beyond Cyberpunk is likewise available in an HTML version at www.streettech.com/bcp. Part of Rosenberg’s ongoing “Intergrams” project was published in the Eastgate Review of Hypertext 1, no. 1 (1993). The initial version of Larsen’s Marble Springs appeared that same year, also from Eastgate. A reworking of the project as wiki (Version 3.0) has since been made available on the Web at http://marblesprings.wikidot.com. The Voyager Company no longer exists as an electronic publisher, but a useful record of its Expanded Books can be seen at http://www.youtube.com/watch?v=aMuz5GDRSNM. Cyan’s Cosmic Osmo and The Manhole have been converted to the Steam game platform and are available through the platform’s online store.

2. As far as this writer knows, this saying originates with writer and designer Sean Ryan Cohen of Baltimore, Maryland, who wore it on a custom-made T-shirt during the late 1990s.

3. Grigar’s note on this point: “It’s hard to explain to our students, isn’t it, that this is what we felt. The only correlation perhaps is the introduction of the iPhone, which we all knew the moment we held it in our hands had changed the world yet again.”

4. See Pynchon’s Bleeding Edge (2013), e.g., the visit to “DeepArcher Central” beginning on page 74.

5. Thanks to Jim Rosenberg, poet, software engineer, and HyperCard author, for his professional opinion on conversion.

6. Dictionary of the Khazars was of interest to McDaid and his circle not simply because of its encyclopedic or lexicographic form, but also because it was reviewed in the New York Times by Coover. In words that could as easily have come from
Coover’s later *Times* review of the *Funhouse*, he begins: “There is a tension in narrative, as in life, between the sensation of time as a linear experience, one thing following sequentially (causally or not) upon another, and time as a patterning of interrelated experiences reflected upon as though it had a geography and could be mapped” (1988). Coover is another animating presence for the *Funhouse* and electronic literature, influential both in his teaching and organizational encouragement and through the example of his own experimental fiction.

7. Thirteen is always a significant number, but it is worth pointing out that it is also the number of cards in each suit of Buddy’s “Oracle” deck. (The actual Tarot deck is considerably larger.) Those who seek mathematical precision in the *Funhouse* are welcome to look. As will be apparent from later discussion, irregularities and asymmetries are probably more meaningful.

8. The phrase occurs as part of a HyperTalk script that can be run from the card “Pornography” in the “Writer’s Brain” stack. The script, a form of tame malware, repeatedly assigns an increasing amount of text to a variable. On earlier Macintosh systems, it would eventually overload memory and cause HyperCard to shut down. See my 1991 article “Toward a Paradigm for Reading Hypertext.”

9. Grigar notes how the theme of possibly dead bandmates resonates with certain 1970s-vintage urban legends about the Beatles, in which the *Abbey Road* (1969) album cover was said to announce the death of either Paul McCartney or John Lennon. We do not know if McDaid had this specific connection in mind, but given his age and background it is possible.

10. I introduce the topographic/topological distinction in passing here, but it can be applied much more rigorously, as by McKenzie Wark. See his 2007 *Gamer Theory*, sections 52–53.

11. The four levels laid out here comprise information that is concealed yet somehow discoverable. We could add a fifth row to the table for material that is not so much concealed as unavailable. Here we might list a number of broken or diverted hypertext links on cards in “The Writer’s Brain,” where clicking calls up a dialog box instead of a hypertext transition. Some of these seem to be deliberate elisions. A link on Card 21 elicits the message, “Stack ‘Life in AmeriKa’ not found”; one on Card 59 is met with “Oz not yet implemented,” supplying the response “Aw, shucks.” The first seems to refer to a piece of the *Funhouse* McDaid either cut because of data limits or never got around to building. The second may poke fun at the enormously ambitious OZ Project for artificial storytelling then underway at Carnegie Mellon University. These seem to be deliberate teases, though a few omissions may be something else. On Card 80 a link calls up the message “Link me to Emily end,” evidently a neglected note. On Card 74 a link summons a system-generated dialog with the curious question, “Where is The Rapture?” This could refer to another deleted stack (the message is triggered by genuine failure to resolve a link), or perhaps McDaid wanted to stir up religious controversy.
12. The occasion of McDaid’s remarks was the 2016 annual Symposium of the Rutgers University-Camden Archive of Digital Ephemera. I am deeply grateful to the organizers, James Brown, Jr. and Robert Emmons.

13. One notable exception is the ‘bot builder and social-media pioneer Darius Kazemi, who has microblogged extensively about the Funhouse. Kazemi has made his own deep dives into the work and has remediated the “Oracle” stack on Twitter. See https://twitter.com/tinysubversions/status/711428084247842816. To echo Pynchon’s Mario Schweitar, perhaps Kazemi and technically virtuosic explorers like him “are the wave of the future.” In that case, the Funhouse may ultimately find at least a few of the player-readers it imagines.

14. I am indebted to my colleague Nathan Humpal of the University of Wisconsin Milwaukee’s Golda Meir Library for first pointing out these affiliations.

15. Thanks to my doctoral student Justin Schumaker for researching latent content in Gone Home.

Chapter 4

1. Though the Boolean intersection of Mary Shelley and Andrew Jackson may seem fairly thin at first glance, one only has to read L. Frank Baum’s Patchwork Girl of Oz to correct that impression. Baum imagines a society of natural and artificial people, creators and creatures, all seen through the lens of American democratic pragmatism. For extended discussion of Baum’s novel, see the rest of this chapter.

2. At this writing, development of a Windows version is awaiting more widespread market penetration of the next major version of that operating system (Windows 10).

3. In my thinking about Skin, I am indebted to Cara Ogburn’s 2015 doctoral dissertation, “Corporeographies: Reading, Writing, Books, and Bodies,” which contains extensive and insightful treatment of this work. Among other things, I am grateful for the chance to discuss Skin with one of its active participants: Ogburn is herself “a word.”

4. This was the data capacity of the Macintosh-formatted 3.5-inch diskette on which the work was initially distributed.

5. Later versions of Storyspace used the structure view by default. The three original presentation types, called templates, were “Easy Reader” (so called because it omitted all but a few interface features), “Page Reader” (showing lexia content plus navigational tools), and “Storyspace Reader,” which is used for Patchwork Girl.

6. For many years Coover ran a literary arts festival at Brown called “Unspeakable Practices.” The title was borrowed from the story collection by Donald Barthelme and meant to emphasize experimental and conceptual works departing from
traditional forms of presentation. Several “Unspeakable” events in the 1990s featured hypertext writers.

7. Two figures are driven out of the society of Oz: a magically animated record player and a giant porcupine named Chiss. If these exclusions have deeper meaning, it is not readily apparent. Chiss seems a possible allegory for critics—he delights in flinging barbs. As for the record player, perhaps Baum simply disliked that technology.

8. The screen view shown here was produced using the version released on CD-ROM in 2000, running on a vintage computer and operating system. Roadmap and several other structure-revealing tools have a complex history in the Storyspace reader, the format used for Patchwork Girl. The earliest version of this reader (circa 1995) offers only one set of navigational tools, accessed from a small floating palette. One option from this palette is a tool that roughly approximates Roadmap, though it lacks some features. Bernstein redesigned both author and reader components for the release of Storyspace 2.0 (circa 2000). The Storyspace reader available in 2.0, from which the CD-ROM release of Patchwork Girl appears to have been generated, adds a number of additional browsing tools, including Roadmap. In the 2014 release of Patchwork Girl on USB stick, the Storyspace reader reverts to something closer to the Version 1 state, with Roadmap no longer included. However, the Browse Links tool is available in this version. All variations of Patchwork Girl provide some mechanism for browsing arrays of links, but there are differences, so it is important to examine all available versions.

9. Douglas famously discovered an apparently abandoned lexia in afternoon with no links in or out, which Joyce, Moulthrop, and McDaid christened “the Jane space.” Moulthrop added a “janespace” to Victory Garden as tribute, other writers followed suit, and the practice became something of a tradition. See Emerson 2014, 33–34.

10. Testing this conjecture would require inspection of prepublication versions of the work, which were not available for this project. A similar question could be answered for at least one of our other texts, Bly’s We Descend, since the Maryland Institute for Technology in the Humanities has developmental versions in its collection. The Electronic Literature Laboratory at Washington State University Vancouver has developmental versions of Victory Garden as well.

11. Patchwork Girl has on average 1.4 links per lexia, reflecting Jackson’s decision to adopt a largely linear structure. Bly’s We Descend has about the same ratio. The number for Joyce’s afternoon is 1.76 and for Victory Garden 2.8.

12. We know of at least one reasonably successful attempt at comprehensive demonstration: a video walk through of the Stanley Parable computer game that cycles through all possible endings. However, this presentation elides other entirely plausible modes of play, in which endings are deferred as long as possible. Those
scenarios do not make for watchable video. See http://www.youtube.com/watch?v=acqoDWD7afl.

Chapter 5

1. We have previously introduced this description of hypertext. See Nelson 1987, 117.

2. We first heard these nicknames for the Option and Command keys from Storyspace creators Michael Joyce and Jay David Bolter, who represented them as Apple developer slang. Repeated searches of the Web offer no confirmation, so the usage may be obscure or idiosyncratic.


4. As Bly reports, “The original interface for We Descend, i.e., the one in the 1997 version (for Mac Storyspace 1), presented none of these problems, but that changes in the software—for both Storyspace and the Mac OS—however necessary in general, in this case entailed some loss of functionality” (email to Grigar, August 21, 2015).

5. Bly’s use of the structure of the prosimetrum makes sense in light of the monastic setting of Mountain House. Both Dante’s Convivio and Boethius’s Consolation of Philosophy utilize this strategy.

6. After reading a draft of this chapter, Bly responded: “I’d intended the opening of the Foreword to sound tongue-in-cheek to some degree, and here am ironically apologizing for trying the reader’s patience with Yet Another Explication of the Apparatus! I suppose I was imagining an eventual reader for whom reading hypertext was as natural as reading print text, someone who would say, “Shut up about how the damn thing works, already! Gimme the story!” It was most edifying observing that Margo [Padilla], in her Traversal of WD at MITH, actually enjoyed figuring out for herself how the thing worked! That was most definitely not the situation when I wrote the Foreword (Cf. anything by that Know-Nothing Sven Birkerts, e.g.)” (Bly, email to Grigar, August 21, 2015; emphasis in original). See Padilla’s video at: http://scalar.usc.edu/works/pathfinders/bly-readers-traversals--interviews?path=bill-bly.

7. The default path contains 108 lexias, while the entire work includes 598. A lot of the story is missed if one only follows the default path. This may explain some of the misconceptions by critics of the work.
Afterword

1. Much work has been devoted to recovering women’s writing, especially in the last thirty-five years. See, for instance, the Women Writers Project, http://www.wwp.northeastern.edu/about/history. We are also influenced by the work of Tillie Olsen, especially her seminal 1978 book *Silences*.


3. When I took a high school world literature course in 1972, I was assigned few women to read. But a fragment of Sappho’s poetry was included in the syllabus. When discussing Sappho in class, a male peer claimed that, because only one ancient female writer was included in the course, she must have been an anomaly. He concluded that women were incapable of writing because, if they were, they would have been included. Because for him writing was connected to intelligence, he was arguing that women were less than men. As a young person not yet schooled in women’s history, I found it difficult to refute his claim about women’s literary output. But, since that time, feminist scholarship has gone far to explain the dearth of women’s writing in diverse times and locations, while recovering writers previously lost to us.

4. Interestingly, while women are “lead adopters of technology,” they are less likely to pursue computer science today than in the past. In 2012, 18 percent of collegiate computer science majors were women, compared to 37 percent in the mid-1980s (Gilpin 2014).

5. Their manuscript, in production, includes nearly 150 published female authors of electronic literature.
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