These critical operations are enabled not by a database or a set of databases but by an open-source toolset, Collex, that represents data as a function of the histories of their use.

Reflecting on digital technology, McKenzie saw that its simulation capacities were forcing him to rethink a "primary article of [his] bibliographical faith," the material self-identity of the archival object. He did not live to undertake an editorial project in digital form. Had he done so, he would have found that his "social text" approach to scholarly work was greatly and practically advanced by the resources of digital technology. He would have seen and embraced these technologies because he understood the dynamic structure of all archives and all their materials.

Editors and scholars engage with works in process. Even if only one textual witness were to survive—say that tomorrow a manuscript of an unrecorded play by Shakespeare were unearthed—that document would be a record of the process of its making and its transmission. Minimal as they might seem, its user logs have not been erased, and they are essential evidence for anyone interested in engaging with the work. We are interested in documentary evidence because it encodes, however cryptically at times, the evidence of the agents who were involved in making and transmitting the document. Folsom is right when he says that "*Leaves of Grass* is actually a group of numerous things. . . ." This is why databases cannot model such complex works. Scholars do not edit or study self-identical texts. They reconstruct a complex documentary record of textual makings and remakings, in which their own scholarly investments directly participate.

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Remediating Whitman

MEREDITH L. McGILL

Ed Folsom's prediction that digital databases will produce an "epic transformation" of archives is based on his firsthand knowledge of the benefits that new-media projects such as *The Walt Whitman Archive* offer to scholars and critics: unprecedented access to rare or inaccessible materials; comprehensiveness—that is, their seemingly infinite capacity to collect scattered texts and commentary, a capacity so much vaster than a book's that

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it holds out the promise of completeness; consolidation of different media, such as manuscripts, images, and printed texts, into a single, easily navigable digital format; and the open-endedness of the digital medium itself, a quality that points toward a utopian future in which archival scholarship is bound not by financial or physical constraints but by the imaginations of its creators and users. While Folsom does not claim that we have arrived at this future, he thinks we are considerably further along this trajectory than I do. Folsom sees the digital database as an opportunity to liberate Whitman's writing from "the constraints of single book objects," and yet, as I hope to demonstrate, digital projects such as *The Walt Whitman Archive* are significantly more dependent on print conventions than they need to be. Weighing Folsom's claims against the example of the Whitman archive, I will argue that Folsom describes not a transformation but a "remediation" of archives. Jay David Bolter and Richard Grusin coined this term to point to a persistent characteristic of new media—their imitation and incorporation of the medium they seek to supersede. Despite the revolutionary capacities of the new technologies, pioneering digital projects such as *The Walt Whitman Archive* hew surprisingly closely to normative ideas of the author and the work, a conceptual and structural horizon that keeps such projects from functioning in the radical ways that Folsom describes.

I am a long-term, devoted user of *The Walt Whitman Archive*. I simply can't imagine studying or teaching nineteenth-century American literature without it.[1] But however grateful I am for its existence and however invested I am in its future, I don't think that the archive delivers on the claims Folsom makes for digital databases. Folsom is right to assert that his archive offers scholars, teachers, students, and ordinary readers unprecedented access to Whitman's texts, from dispersed, remote, and inaccessible manuscripts to photographs, engravings, and printed editions that are rare, expensive, unwieldy, or out of print. The general availability of these texts in digital form will undoubtedly transform Whitman scholarship. As Michel Foucault observes in describing the classificatory function of the author's name,[2] the addition of a significant number of texts to the oeuvre—making them newly or more readily part of the canon—cannot help changing fundamentally what we mean by "Whitman."

But will the availability of these texts on a single digital platform transform our ways of reading, permitting readers to follow "the webbed roots" of Whitman's writing as they "zig and zag with everything"? Whatever centripetal forces might be unleashed by the poetry itself, *The Walt Whitman Archive* relies on the centrifugal force of the idea of the book in order to consolidate and make coherent a far messier archive of printed works. While this database is a work in progress and the editors promise to add Whitman's other published writing as time and funding permit, the archive is currently organized around the six major American editions of *Leaves of Grass* (1855, 1856, 1860, 1867, 1871–72, 1881–82, 1891–92). It is perhaps easiest to perceive the consolidating force exerted by this series of identically titled books by considering the numerous other freestanding volumes that might otherwise be listed under the heading *Books*: Whitman's temperance novel *Franklin Evans* (1842); the Civil War poetic sequences *Drum-Taps* (1865) and *Sequel to Drum-Taps* (1865); the prose treatise *Democratic Vistas* (1871); *Passage to India* (1871), a collection of poems published as a supplement to the 1871 edition; the chapbook *As a Strong Bird on Pinions Free* (1872); and the prose-heavy later work, such as *Memoranda during the War* (1876), *Two Rivulets* (1876), *Specimen Days and Collect* (1882), *November Boughs* (1888), and *Good-Bye My Fancy* (1891). While detailed headnotes to each of the archive's editions of *Leaves of Grass* specify how poems from these

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other volumes were incorporated and rearranged within them, the effect of the archive's design is to streamline Whitman's writing so that it begins with, gravitates toward, or orbits around the masterwork *Leaves of Grass*. The example of *The Walt Whitman Archive* suggests that digital databases cannot in and of themselves realize Wai Chee Dimock's vision of "an archive that errs on the side of randomness rather than on the side of undue coherence" (qtd. in Folsom). Indeed, the promise of comprehensiveness and the sense of simultaneity produced by digital databases pose problems for scholars interested in recapturing the provisionality of Whitman's writing—the experiments that were ventured and abandoned—as well as Whitman's conviction at various points in his career that a particular edition of *Leaves of Grass* would be his last. The comprehensiveness of the database is a liability as well as a strength. Digitizing archives makes it harder to see the partial nature of the printed record, the limited reach of print at any moment in history, and the supersession of one edition by another.

There are good reasons for the editors of *The Walt Whitman Archive* to have focused on *Leaves of Grass* in the project's initial stages. In an essay written to commemorate the tenth anniversary of the project (and posted on the Web site), Folsom's codirector, Kenneth M. Price, details how the editors launched *The Walt Whitman Archive* with threadbare funding, struck deals to acquire digital texts at minimal cost so that they could continue to offer free access to the site, won grants, recruited contributors, and substantially redesigned the site in response to improved technologies and changing digital standards. Their editorial choices have clearly been shaped by such contingencies but also by the need to make the project legible and valuable to scholars, teachers, and students still operating in a codex-dominated world. In remediating Whitman, they have staked the value of the digital database on fidelity to the conventions of the book, intensifying rather than sundering the ties between the two media.

The digital medium doesn't necessarily deliver us from the perceived rigidities of print.[3] Indeed, the editors of *The Walt Whitman Archive* have reproduced in the architecture of their site many of the constraints that Folsom claims in his essay to want to leave behind, including mass culture's reductive treatment of genre. Far from providing an antidote to the identification of Whitman with poetry, the archive fosters this equation by failing to signal its own partiality, its noninclusion of the vast corpus of Whitman's prose. The editors' decision to amplify the section of the Web site devoted to Whitman's biography before editing the prose suggests how mutually reinforcing and productive the closed circuit of life-and-work criticism can be. Consider by contrast the "rhizomorphous" connections that might have been encouraged by providing hyperlinks to Whitman's editorials in the *Brooklyn Daily Eagle* (www.brooklynpubliclibrary.org/eagle) or to his short fiction that is available through public-domain Web sites such as *Making of America* (cdl.library.cornell.edu/moa/).[4] Expanding its purview beyond *Leaves of Grass*, *The Walt Whitman Archive* recently added a section on Whitman's poems published in periodicals, complete with an image of the page on which each poem appeared. And yet this welcome addition to the site doesn't really enable readers to "follow other root systems into the unknown." Readers of the archive can summon an image of a poem as it appears on a page of the *Atlantic Monthly* or the *New York Herald*, but they cannot turn that page. Periodicals are marshaled as important contexts for Whitman's texts, but they are not independent nodes capable of launching a new investigation. *The Walt Whitman Archive* gestures toward the world outside Whitman's writing but zigs and zags mostly within itself.

What would it take to realize Folsom's vision of a database that allows readers to follow Whitman's writing as it "darts off in

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unexpected ways"? New ideas about database architecture and new developments in technology promise to take the digital humanities beyond the familiar confines of the author and the work. Take, for example, *The Vault at Pfaff's* (digital.lib.lehigh.edu/pfaffs), a Web site that focuses on the literature and social commentary of a group of nineteenth-century bohemians, including Whitman, who met at Pfaff's beer cellar to drink, cruise, argue, and exchange ideas. This digital project is built around the *Saturday Evening Press*, a literary weekly that published the writing of many of the Pfaff's bohemians. The site is designed not only to provide access to this rare periodical but also to encourage readers to track the intersecting lives of more than 150 individuals who crossed paths at the beer hall and to call critical attention to the handful of literary and social groups that formed or met there. *The Vault at Pfaff's* provides access not to the works of an author but to the social locations of culture, drawing readers' attention to the jostling of coteries and to points of overlap between and among discourses. In *The Vault at Pfaff's*, a reader encounters Whitman's poems alongside other poems, tales, and social commentary; one can follow his response to criticism, imitations, and parodies and catch the poet in the process of developing a recognizable style. *The Vault at Pfaff's* breaks new ground by venturing beyond the mutually stabilizing categories of author and work, mapping cultural and social connections that have yet to be adequately traced in print.

More dramatically, the Collex interface developed at the University of Virginia and launched as part of Jerome McGann's NINES project (www.nines.org) is designed to break down barriers between digital databases. Accessing *The Walt Whitman Archive* through the Collex interface allows readers to search relevant databases, such as *The Rossetti Archive* and *The Swinburne Project*, at a single stroke. When a user conducts a search with the Collex interface, the program generates "cloud visualizations" of related search terms created by other readers, terms that invite the reader to use the database in unanticipated ways. Readers can also create their own tags for the items they retrieve. The system's incorporation of the connections that readers construct between and among texts produces a distributed database, one that responds to the ways it is used. The Collex interface promises to decenter the architecture of the database.

These are still early days for the digital humanities. It seems premature to call database a genre—to assimilate it to a system of literary classification—when we are only just discovering what databases can do for the study of literature. Rather than take Whitman's interchangeable lines to be the primary data of a poetic algorithm that boldly defies narrative, why not use hypertext to enable readers to identify and compare the many rhetorical structures, both smaller and larger than the line, that Whitman uses to hold his poem together? Scholars such as Folsom who have done the hard work of marking up Whitman's texts know better than anyone how complexly organized—at multiple levels—they are. Digital technology could be used to create an edition of *Leaves of Grass* that would allow the comparison of modes of address in the poems, or one that would track Whitman's shifting of poems into different sections and subsections, his construction and dismantling of clusters and enumerated series. Or a database that would place the 1856 edition in the company of other books published and sold by the phrenologists Fowler and Wells—if a group of scholars willing and able to take on the task of producing one could be found. Like their printed predecessors, digital scholarly tools are limited by financial and physical constraints as well as by the imaginations of their creators and users. If we misconstrue media shift as liberation, we are likely to settle for less than the new technologies can offer us.

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Notes

1. In the interests of full disclosure and of collegial encouragement, I should also note that I am a financial contributor to the archive. At some point last fall when finishing an essay on Whitman, I realized I had depended so heavily on this database that it was only appropriate to support it financially. I would encourage all regular users of the archive to help the editors meet the three-to-one matching requirements of the grant they were recently awarded by the National Endowment for the Humanities. The Web site makes contributing easy by including a link to the University of Nebraska Foundation on the home page.

2. Foucault delineates some of the relations we might expect critics to find between and among texts that are marked by the author's name: "homogeneity, filiation, authentication of some texts by the use of others, reciprocal explication, or concomitant utilization" (107).

3. Virginia Jackson argues that even experimental electronic editions of the writing of Emily Dickinson rely on and perpetuate assumptions about printed lyric poems (50–53).

4. That a good deal of Whitman's early prose is digitally available only to those who have access to the subscription database *American Periodical Series* (*APS*) suggests that there are significant material obstacles to tying the threads that digital media can weave so well. And yet including a bibliographic list of Whitman's prose fiction in *The Walt Whitman Archive* would help counteract its emphasis on Whitman's poetry and might encourage readers with access to *APS* to toggle back and forth between the two sites.

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Whitman, Database, Information Culture

JONATHAN FREEDMAN

I'M WRITING THESE WORDS FROM MY OFFICE AT the University of Michigan, next door to the massive Harlan Hatcher Memorial Library, somewhere in whose bowels (no one knows exactly where) books are being carted off to—well, again, no one knows exactly where—to be digitized by the new thousand-pound gorilla of the American high-tech industry, Google. The cloak-and-dagger quality of the project (also under way at seven other libraries around the world) might strike us as oddly antithetical to the celebratory spirit of Ed Folsom's invocation of database not just as a new way of organizing bits and bytes of knowledge but as the basis of a new genre—a contemporary version of epic—that generates a new process of cultural, social, and (it seems) global community making. Indeed, Google has come in for some trenchant criticism of late, most notably from the Society of Authors, worried about the violation of copyright laws, and from the chief librarian of the Bibliothèque Nationale, Jean-Noël Jeanneney, who complains that Google's endeavor extends the imperatives of the market and of United States cultural imperialism into the information society of the future. But Google's aspiration—and much of its rhetoric—has the same utopian ring as Folsom's. According to Mark Sandler, a researcher at the University of Michigan, the digitizing project

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