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INFORMATION TECHNOLOGY

Doing Scholarship on the Web: 10 Years of Triumphs and a Disappointment

By EDWARD L. AYERS

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In the fall of 1991, someone appointed me, a historian, to a committee that oversaw computing at my university. I had long been underfoot in the computer labs, consuming valuable time in front of UNIX workstations, making computerized maps, and running statistical tests for a history of the New South. Now it was time for payback.

Yet despite my years of working with computers, I had little idea at that time of the revolutionary promise that computing held for scholarship in disciplines like my own. More than a decade of living on the Web later, I recognize the potential of electronic media for the humanities. I'm just unsure whether we'll meet it.

I went to the first meeting of the computer committee, dominated by scientists, physicians, and engineers, with some trepidation. But I quickly learned the benefits: IBM wanted us to suggest a joint venture. We batted ideas around, and I timorously noted that many of us in the humanities had no computers on our desks; maybe we could do something with English or history, well-respected departments at the University of Virginia.

To my surprise, William Wulf, our committee chairman and a pioneer in the creation of the Internet, argued that if we could connect the talents of humanists with far-sighted computer scientists and robust computers, we might be on to something. What if we really could use computers to help make sense of the great store of human knowledge and striving locked away in archives and books?

Computers were getting good enough in the early 1990s for humanists to use, capable of dealing with images as easily as with numbers. They were becoming networked, with enough storage to hold the messy mounds of stuff historians habitually collected. What was I working on, Wulf asked? I had an idea for a book on the Civil War, a study of two communities, one in the North and one in the South, which would include enslaved people, women, deserters, and civilians. No place for any serious engagement with computing there. Or was there? After all, the book would pay close attention to patterns hidden in masses of scattered records -- the exact tasks databases were designed for.

From that step, I made a short leap based on my teaching experience. For years, I had required my students to read newspapers, letters, diaries, and account books in the archives. There was nothing like confronting the raw material of the past to understand history and feel its appeal. When I combined the idea of putting all the material necessary for my book in a large database with the idea of allowing other people access to that material, I had the basic idea for what quickly became the [Valley of the Shadow Project](#) -- named after the Shenandoah Valley and the haunting passage from the 23rd Psalm.

Fueled by a gift from IBM, we raced ahead. Jerome J. McGann of our English department signed on to head another trial project, and, together with computer scientists willing to take a risk with humanists, we created the [Institute for Advanced Technology in the Humanities](#). Now we had the basic idea, the machinery, the raw material, and talented allies. But no good sense of how to distribute what we were building.

That changed one day in the fall of 1993, when one of our computer scientists summoned me to his office. There, he showed me Mosaic, a new tool for something its creator called the "World Wide Web." The Web, an overlay of linked text and image that used the Internet for its vehicle, redefined the experience of being online. It was immediately apparent that everything had changed for our digital project. Our material could be shared even as we gathered it and reach anywhere in the world that people could tie into the Internet, a network that was expanding exponentially.

The first research report of the Valley Project on the Web was not pretty: long stretches of text with a few grainy images, large red icons, numbers in blue, and brackets for hyperlinks. Unprepossessing, yes,

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but ambitious in our invitation to readers "to construct their own narratives, connecting things we have not thought to connect, coming up with ideas that eluded us, adding to the ongoing construction of this history."

By this time, the Web was spreading rapidly, giving us new audiences every day. Ironically, it also restricted what we could do. The limits of bandwidth faced by those who viewed the Web via modems -- pretty much everyone outside universities or corporations -- meant that it took many minutes for images to slowly fill screens. We built a CD-ROM, creating a multimedia environment rich with color photographs, music, voice, and animations. Meanwhile, the Web kept growing, computers kept getting better, and we kept tearing down the Valley Project and rebuilding it.

The project has been lucky: positioned to catch the wave of the Web, fortunate at several junctures in raising funds, with dozens of students pouring in their energies. It has become a staple in classes around the world, used by middle-school and graduate students alike, winning prizes and considerable news coverage, and attracting a large audience beyond the classroom as it pulls in people with an interest in the Civil War.

A book based on the archive, part of the plan from the beginning, has just appeared: *In the Presence of Mine Enemies: War in the Heart of America, 1859-1863*, published by W.W. Norton. The Valley Project's Web site presents links from the book's notes to primary sources (perhaps the first history book to make its entire evidentiary base available to all readers), and a second volume will be coming.

William G. Thomas III, director of the Virginia Center for Digital History, and I have also worked with a team to write a scholarly article built expressly for a digital environment for *The American Historical Review*. Recently published, "The Differences Slavery Made: A Close Analysis of Two American Communities" is designed to see what professional scholarship on the Web might be able to do that could not be done as well, or at all, on paper. In print, there is only a brief description, while the actual article appears only [online](#). Because it challenges many of the conventions of normal scholarly publication, the article seems likely to generate debate in a way that the Valley Project has not. But we believe that this kind of digital work is necessary to take advantage of all that computers and networks afford.

I would do the last decade all over again, even knowing the anxieties, delays, and frustrations. The chance to collaborate with my graduate students -- not as common in the humanities as in the sciences -- has been, by itself, worthy of the effort. Moreover, things are a lot easier on the Web now than they were back in 1993. Standards have been set, networks built, servers strengthened, computers vastly improved -- and everything except time is actually cheaper now than then. The numbers and variety of people who use the Web have kept pace with predictions that once seemed wildly extravagant. A digital divide still separates people of low income and education from the wealth of the Web, but schools, libraries, senior citizens' centers, and philanthropists are making progress on that front.

Still, 10 years out, I do have a major disappointment. Relatively few scholars have undertaken projects the size and scope of the Valley of the Shadow. Libraries are carrying on remarkable undertakings in digitization and tool building, but it is hard for individual scholars to conceive of large digital projects.

Few granting agencies offer funds for efforts that do not fit into existing categories. Few colleges and universities have constructed the infrastructure to make complex digital undertakings possible. (Generally, humanities scholars interested in such projects provide their own support staff, research space, and specialized equipment.) Not many institutions, despite encouragement from the Modern Language Association and the American Historical Association, have aggressively broadened tenure and promotion procedures to encourage the risk taking of digital projects. How should those projects be evaluated? As teaching? Scholarship? Service?

Colleges and universities are willing to invest in laboratories and workshops to build teaching materials -- but not to build original scholarship. And until we build scholarship that can hold its own with the best work done on paper, tenure and promotion will not follow. Yet teaching that is isolated from scholarship cannot remain vital. People want to innovate but can't.

Meanwhile, faculty members who have withstood all the excitement and possibility up to this point have decided that they can withstand whatever else the Web might offer. Who can blame them? They go to their professional meetings and see only a few workshops, attended by

those who already see the potential. They look at the job ads and note that positions require exactly the same credentials as a quarter-century ago. Young scholars who dream of new kinds of scholarship can read the situation: Steer clear of the major technological change of our time. Play it safe. Stick to paper.

To break the cycle, deans and provosts need to provide opportunities by providing leadership, creating opportunities beyond departmental boundaries that can constrain innovation. Colleges and universities need to form alliances and consortia, both temporary and longer lasting, to bring faculty members together. They also need to find productive ways to work with information-technology companies to create new forms of scholarship. And they need to ensure that our libraries are sustained as they struggle with the demands of a whole new world of digital media.

The last decade, in short, has seen a global revolution of unprecedented speed and reach in the creation and transmission of knowledge. It remains to be seen if scholarship has a role in that revolution or will be merely a bystander.

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WEB RESOURCES ON DIGITAL SCHOLARSHIP

The Valley of the Shadow Project

Home page: <http://valley.vcdh.virginia.edu>

A previous version:

<http://www.iath.virginia.edu/vshadow/vshadow2.html>

Footnotes, with links to primary sources, from *In the Presence of Mine Enemies: War in the Heart of America, 1859-1863*, a book based on the project: <http://valley.vcdh.virginia.edu/usingvalley/interpretations/presence/presence.html>

Institute for Advanced Technology in the Humanities

Home page: <http://www.iath.virginia.edu>

The American Historical Review

Home page: <http://www.historycooperative.org/ahr>

Article, "The Differences Slavery Made: A Close Analysis of Two American Communities," prepared for a digital environment and available in full only online:

<http://www.historycooperative.org/journals/ahr/108.5>

(Note: American Historical Association membership or research pass required to view entire article.)

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